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**Department of Defense
Fiscal Year (FY) 2010 Budget Estimates
May 2009**



**Research, Development, Test and Evaluation, Defense-Wide
Procurement, Defense-Wide**

Volume 4

Chemical Biological Defense Program (CBDP)

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Fiscal Year (FY) 2010 Budget Estimates
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Procurement, Defense-Wide

Volume 4

Chemical Biological Defense Program (CBDP)

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Fiscal Year (FY) 2010 Budget Estimates

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Department of Defense Chemical and Biological Defense Program Overview

Fiscal Year (FY) 2010 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, 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 FY10 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 Joint Concept Technology Demonstrations (JCTDs), Joint Service Sensitive Equipment Decontamination (JSSSED), Sensor Suite Integration (SSI) for NBC Reconnaissance Systems (Stryker) Joint Platform Interior Decontamination (JPID) Human Remains Decontamination System (HRDS), Next Generation Chemical Standoff Detection (NGCSD), Chemical, Biological, Radiological, Nuclear (CBRN) Dismounted Reconnaissance Systems (CBRN DRS), Joint Biological Point Detection System (JBPDS), Joint Biological Stand-off Detection System (JBSDS) Increment 2, 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 Bio Tactical Detection System (JBTDS), Joint Warning and Reporting Network (JWARN), Joint Expeditionary Collective Protection (JECPP), Joint Service Aircrew Mask (JSAM) and Medical Radiological Countermeasures.

In FY10, the CBDDP 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 Systems continuing procurement include, Joint Service Transportable Decontamination System - Small Scale (JSTDS-SS), the Joint Effects Model (JEM), Joint Service General Purpose Mask (JSGPM), JWARN, Joint Service Protective Clothing (PROT CLTH) technology, CBRN DRS, Joint Bio Point Detection System (JBPDS), biological defense vaccines, CB Protective Shelters (CBPS), Collective Protective Field Hospitals (CPFH), Collective Protection System Backfit (CPSBKFT), and chemical and biological defense equipment for installation force protection.

Overall, the FY 2010 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/Biological Defense Procurement Program Summary

	<u>(\$ in Millions)</u>
FY 2008 Estimate	519.134
FY 2009 Estimate	455.654
FY 2010 Estimate	372.045

Purpose and Scope of Work

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.

Justification of Funds

Funding for this program was transferred from individual Service NBC defense procurement programs pursuant to Public Law 103-160, Title XVII.

NBC Contamination Avoidance/CB Battle Management - Procurement of equipment to enhance U.S. capability to detect, collect samples, identify and provide warning of imminent WMD threats on the battlefield.

- o FY10: Initiates Chemical, Biological, Radiological and Nuclear (CBRN) Dismounted Reconnaissance Systems (CBRN DRS) as a stand alone program which was formerly Joint NBC Reconnaissance System 2 (JNBCRS 2). The CBRN DRS program will provide enhanced dismounted reconnaissance platoon capabilities and provide detection, presumptive identification, sample collection, marking and immediate reporting of standard NBC hazards.**

- o FY08/09/10: Continues procurement of Joint Biological Point Detection System (JBPDS); the JNBCRS, a NBC detection and identification system; the Joint Warning & Reporting Network (JWARN) which integrates NBC legacy and future detector systems, NBC Warning and Reporting Software Modules, and NBC Battlefield Management Modules in the Joint Services Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) general-purpose, accredited model for predicting NBC hazards associated with the release of contaminants into the C4ISR systems; the Joint Effects Model (JEM), a general-purpose, accredited model for predicting NBC hazards; and the Joint Chemical Agent Detector (JCAD) is an automatic, lightweight, man-portable, point-sampling, chemical warfare agent vapor detection/warning system.**

- o FY08/09: Continues procurement of Joint Bio Standoff Detector System (JBSDS), a system capable of providing near real-time detection of biological attacks/incidents and standoff early warning detection/warning of BW agents at fixed sites or when mounted on multiple platforms; the Multi-Service Radiacs (MSR), a family of nuclear radiation detectors that are used by the Army, Marines and Navy to detect and measure various forms of nuclear radiation in the battle space and in Operations Other Than War.**

- o FY08: Continues procurement of Joint Operational Effects Federation (JOEF) a modeling and simulation tool required to determine the effects and assess the impact and risks associated with CBRN hazards, as well as Toxic Industrial Materials (TIM), on military operations; Critical Reagents Program (CRP) to ensure the quality and availability of reagents critical to the successful development, test, and operation of BW warfare detection systems.**
- o FY08: Completes procurement of NBC Recon Vehicle (NBCRV) a dedicated system of nuclear and chemical detection and warning equipment, and biological sampling equipment.**

Force Protection - Procurement of Individual/Collective protection equipment and Vaccines (troop equivalent doses) to protect the soldier, sailor, airman or marine allowing personnel to operate in a contaminated CB environment.

- o FY08/09/10: Continues procurement of the Joint Service General Purpose Mask (JSGPM) a lightweight, protective Nuclear Biological Chemical mask system that will provide above-the-neck, head, eye/respiratory protection against CB agents, radioactive particles, and TIM; the Protective Clothing (PROT CLTH) program which integrates technological improvements in protective military garments including gloves and footwear and provide Service members CB protection in all combat theaters; the CB Installation/Force Protection Program, a suite of tiered sampling/collection, detection, identification and warning response designed to provide early, indoor/outdoor collection, detection, presumptive identification and warning capabilities; the Collective Protection System back fit installation on three Navy amphibious ship classes (LHA, LHD, and LSD); the CB Protective Shelter (CBPS) a highly mobile, self-contained collective protection system which provides a contamination free working area; CP Field Hospitals (CPFH) which provides Joint Service medical personnel NBC collectively protected medical treatment facilities; the Biological Vaccine Program that protects U.S. forces with FDA approved vaccines to**

protect against current and emerging WMD threats, which could be deployed against maneuver units or stationary facilities in the theater of operations.

- o FY08: Continues the Joint Service Aircrew Mask (JSAM) system a lightweight, CB protective mask for all aircrew; the Joint Service Chemical/Biological/Radiological Agent Water Monitor (JCBRAWM) program which will provide the ability to detect, identify, and quantify chemical, biological, and radiological contamination; and Joint Bio Agent Identification and Diagnostic System (JBAIDS) a common medical test equipment platform for all the Military Services which will identify both BW agents and pathogens of operational concern, and will be used as a diagnostic tool by medical professionals to treat patients.**

- o FY08: Completes production of and the Joint Protective Aircrew Ensemble (JPACE) garment, which will provide aviators with improvements in protection from CB warfare agents, radiological particles, and TIMs.**

NBC Decontamination Systems - Procurement of a more transportable, less labor intensive, and more effective system for applying decontaminating solutions, removing gross contamination from vehicle and equipment surfaces, and maximizing the ability of units to remove contamination both on the move and during dedicated decontamination operations.

- o FY08/09/10: Continues procurement of the Joint Service Transportable Decontamination System - Small Scale (JSTDS-SS) which will be transportable by a platform capable of being operated in close proximity to combat operations.**

- o FY08/09: Continues the production of the Joint Service Personnel/Skin Decontamination System (JSPDS), which will be used by the war fighter to perform immediate decontamination of skin, field protective masks, mask hoods, chemical protective gloves, chemical protective boots and small scale weapons (under .50 caliber).**

**DEFENSE-WIDE
FY 2010 PROCUREMENT PROGRAM**

**APPROPRIATION: 0300D PROCUREMENT, DEFENSE-WIDE
BUDGET ACTIVITY 03: CHEMICAL/BIOLOGICAL DEFENSE**

**EXHIBIT P-1
DATE: MAY 2009**

LINE NO.	ITEM NOMENCLATURE	IDENT CODE	MILLIONS OF DOLLARS			
			FY 2008	FY 2009	FY 2010	
			QUANTITY COST	QUANTITY COST	QUANTITY COST	
CBDP						
092	INSTALLATION FORCE PROTECTION - JS1000		92.9	88.3	65.6	
093	INDIVIDUAL PROTECTION - GP1000		114.6	80.0	92.0	
094	DECONTAMINATION - PA1500		36.8	25.5	22.0	
095	JOINT BIO DEFENSE PROGRAM (MEDICAL) - MA0800		55.6	38.6	12.7	
096	COLLECTIVE PROTECTION - PA1600		39.6	37.7	27.9	
097	CONTAMINATION AVOIDANCE - GP2000		179.6	185.6	151.8	
	TOTAL CHEMICAL/BIOLOGICAL DEFENSE		519.1	455.7	372.0	

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Budget Line Item #92
INSTALLATION FORCE PROTECTION

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Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JS1000) INSTALLATION FORCE PROTECTION
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost	407.2	92.9	88.3	65.6						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	407.2	92.9	88.3	65.6						
Initial Spares										
Total Proc Cost	407.2	92.9	88.3	65.6						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Installation Force Protection Program provides Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE) protection for CONUS/OCONUS DoD installation physical structures as well military personnel and others within the perimeter of the military reservation. Also, this program supports the acquisition of CBRNE defense equipment requirements for the National Guard Bureau's Weapons of Mass Destruction Civil Support Teams (WMD-CST) and the United States Army Reserve (USAR) Reconnaissance and Decontamination Platoons.

The Chemical, Biological, Radiological, and Nuclear (CBRN) Installation Protection Program (IPP) provides military installations with a highly effective and integrated CBRN installation protection and response capability. This capability consists of a Family of Systems (FoS) that includes detection, identification, warning, information management, individual and collective protection, restoration, medical surveillance, protection and response. The FoS sensor and communications network will leverage existing installation capabilities and will be integrated into the base operational command and control infrastructure. The program will procure a common suite of equipment that will be tailored for each installation utilizing both commercial sources and readily available Government Furnished Equipment (GFE). The final delivery of protection suite equipment and capability will vary for each site based upon individual installation requirements, threats and equipment already on-hand. The program will procure the CBRN systems, Emergency Responder Equipment Sets, New Equipment Training (NET), Contractor Logistics Support, spares, and associated initial consumable items required to field an integrated installation protection capability.

The WMD-CST program supports the acquisition and delivery of an integrated chemical, biological, radiological, nuclear and explosive (CBRNE) rapid response capability for National Guard Bureau's Weapons of Mass Destruction Civil Support Teams (WMD-CST) and Special Purpose Units - Chemical Biological Equipment (SPU-CBE) which consists of the CBRNE Enhanced Response Force Package (CERFP), the United States Marine Corps Chemical Biological Incident Response Force (CBIRF) the United States Army Reserve (USAR) Chemical Recon Platoons, Decon Platoons and CBRNE Consequence Management Resource Force (CCMRF), the 20th Support Command Nuclear Disablement (NDT) and Chemical Biological Radiological Nuclear and Explosive (CBRNE) Teams. The purpose of this program is to address legacy requirements gaps/deficiencies, satisfy minimum performance standards, utilize commercial-off-the-shelf (COTS)/government-off-the-shelf solutions (GOTS), and focus on technology upgrades when required.

JUSTIFICATION: Installation Force Protections primary objective is to strengthen efforts for improving DoD installations against Chemical and Biological (CB) threats. WMD-CST allows for the equipping of Reserve Component units to provide enhanced response capabilities and to provide for additional support against the threat of terrorist CB attacks to American cities and communities in emergency and disaster situations. Also, this effort allows selected National Guard and other reserve component units to respond to and contain the effects of CB incidents in this country. Advanced chemical defensive equipment is required to enhance US capability to detect and identify threat agents in the battle space and the homeland.

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JS1000) INSTALLATION FORCE PROTECTION			Weapon System Type:		Date: May 2009		
Weapon System Cost Elements	ID	FY08			FY09			FY10				
	CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
WMD - CIVIL SUPPORT TEAMS (WMD CST)		9729			8300			11801				
CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)		83200			80004			53789				
TOTAL		92929			88304			65590				

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JS0004) WMD - CIVIL SUPPORT TEAMS (WMD CST)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost	112.2	9.7	8.3	11.8						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	112.2	9.7	8.3	11.8						
Initial Spares										
Total Proc Cost	112.2	9.7	8.3	11.8						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: This program supports the acquisition and delivery of an integrated chemical, biological, radiological, nuclear and explosive (CBRNE) rapid response capability for National Guard Bureau's (NGB) Weapons of Mass Destruction Civil Support Teams (WMD-CST) and Special Purpose Units - Chemical Biological Equipment (SPU-CBE) which consists of the CBRNE Enhanced Response Force Package (CERFP), the United States Marine Corps Chemical Biological Incident Response Force (CBIRF) the United States Army Reserve (USAR) Chemical Recon Platoons, Decon Platoons and CBRNE Consequence Management Resource Force (CCMRF), the 20th Support Command Nuclear Disablement (NDT) and CBRNE Teams. The overall capability package includes held detection, protection, decontamination, situational awareness software assessment and sampling tools, as well as, an integrated analytical laboratory system (CALs) and communications suite. The purpose of this program is to address legacy requirements gaps/deficiencies, satisfy minimum performance standards, utilize commercial-off-the-shelf (COTS)/government-off-the-shelf solutions (GOTS), and focus on technology upgrades when required. Key activities include ongoing product life cycle assessments for the portfolio of fielded COTS CBRNE detection, protection and decontamination equipment, identification and evaluation of emerging technologies, fielding of improved capabilities to meet established requirements, as technology develops, and establishment of institutionalized training.

Major end items for this COTS based acquisition program include the CALs and the Unified Command Suite (UCS). The CALs provides a mobile analytical detection and evaluation capability that is modular, scalable and adaptable to a variety of Concept of Operations (CONOPS) and environmental conditions. The system under development utilizes an open architecture that accommodates rapid upgrades or replacement of equipment as mission requirements dictate. As well, it provides the ability to quickly develop a common operating picture allowing first responders and DoD officials to establish an appropriate course of action through the integration of Laboratory Information Management System capabilities and automated special text procedures. The analytical detection package fielded will be tailored to the specific mission and CONOPS of the gaining unit and be able to detect and identify chemical warfare agents (CWAs), toxic industrial chemicals (TICs), toxic industrial materials (TIMs), biological warfare agents (BWAs), lower explosive limits (LEL), and radioactive particles in all sample types. The CALs will succeed the ALS for the NGB CSTs and provide the Department of Defense (DoD) - Army 20th Support Command NDTs and CBRNE Teams, the Army Medical Laboratories Unit and the Marine Corps Chemical Biological Incident Response Force (CBIRF) - with a common laboratory capability that can be leveraged to meet multiple mission requirements. The UCS is interoperable with CALs and provides a state-of-the-art Command, Control, Communications, Computer, and Intelligence (C4I) system that facilitates secure communications and reach back capability with federal, state, and local authorities from a WMD incident site.

JUSTIFICATION: FY10 funds will validate and procure 104 COTS hand held Biological detection systems and 69 Situational Awareness software tools for the WMD CSTs (57) and SPU CBE (49) first responder community.

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JS0004) WMD - CIVIL SUPPORT TEAMS (WMD CST)
Program Elements for Code B Items: 0604384BP/Proj CM5	Code: B	Other Related Program Elements:

RD&E Code B Item

This program supports the acquisition and delivery of an integrated chemical, biological, radiological, nuclear and explosive (CBRNE) rapid response capability for National Guard Bureau's Weapons of Mass Destruction Civil Support Teams (WMD-CST) and Special Purpose Units - Chemical Biological Equipment (SPU-CBE) which consists of the CBRNE Enhanced Response Force Package (CERFP), the United States Marine Corps Chemical Biological Incident Response Force (CBIRF) the United States Army Reserve (USAR) Chemical Recon Platoons, Decon Platoons and CBRNE Consequence Management Resource Force (CCMRF), the 20th Support Command Nuclear Disablement (NDT) and Chemical Biological Radiological Nuclear and Explosive (CBRNE) Teams. The overall capability package includes held detection, protection, decontamination, situational awareness software assessment and sampling tools, as well as, an integrated analytical laboratory system (CALs) and communications suite (UCS). The purpose of this program is to address legacy requirements gaps/deficiencies, satisfy minimum performance standards, utilize commercial-off-the-shelf (COTS)/government-off-the-shelf solutions (GOTS), and focus on technology upgrades when required.

Major end items for this commercial off-the-shelf (COTS) based acquisition program include the Common Analytical Laboratory System (CALs), and the Unified Command Suite (UCS). The system under development utilizes an open architecture that accommodates rapid upgrades or replacement of equipment as mission requirements dictate. The analytical detection package fielded will be tailored to the specific mission and CONOPS of the gaining unit and be able to detect and identify chemical warfare agents (CWAs), toxic industrial chemicals (TICs), toxic industrial materials (TIMs), biological warfare agents (BWAs), lower explosive limits (LEL), and radioactive particles in all sample types. The (UCS) is interoperable with (CALs) and provides a state-of-the-art Command, Control, Communications, Computer, and Intelligence (C4I) system that facilitates secure communications and reach back capability with federal, state, and local authorities from a WMD incident site.

RDT&E FY08 and Prior - 19.8M; FY09 - 0.8M; FY10 - 5.8M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES	START	COMPLETE
CALS Program Initiation	1Q FY10	1Q FY10
CALS Design, Development and Integration	1Q FY10	2Q FY12

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Exhibit P-5, Weapon		Appropriation/Budget Activity/Serial No.			P-1 Line Item Nomenclature:			Weapon System Type:			Date:			
WPN SYST Cost Analysis		PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			(JS0004) WMD - CIVIL SUPPORT TEAMS (WMD CST)						May 2009			
Weapon System	Cost Elements	ID	FY08			FY09			FY10					
			Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
	SPU CBE													
	BIO Validation Testing							152						
	SPU CBE BIO Detection							4841	49	98.796				
	SPU CBE Situational Awareness Software							127	14	9.071				
	WMD CST													
	BIO Validation Testing							533						
	WMD CST BIO Detection							5631	57	98.789				
	WMD CST Situational Awareness Software							517	57	9.070				
	ALS INCREMENT 1													
	System Verification Test		265											
	ALS Increment 1 Upgrade Fielding		2597			2300								
	Filtration System Upgrade		250	63	3.968									
	Engineering Support		292			253								
	System Fielding Support		228			169								
	LOUISIANA CST - CONGRESSIONAL													
	Integrated Communications System		800	1	800.000									
	20TH SUPPORT COMMAND - NDT / CBRNE													
	20th Support Command - NDT / CBRN		2017											
	OTHER COSTS													
	Fielding Support		328			543								
	COTS Modernization		656			2515								
	Engineering Support		2296			2520								
	TOTAL		9729			8300		11801						

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Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JS0004) WMD - CIVIL SUPPORT TEAMS (WMD CST)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
SPU CBE BIO Detection FY10	Unknown	C/FFP	RDECOM, Edgewood, MD	Feb-10	May-10	49	98796	Yes			
SPU CBE Situational Awareness Software FY10	Unknown	C/FFP	RDECOM, Edgewood, MD	Feb-10	May-10	14	9071	Yes			
WMD CST BIO Detection FY10	Unknown	C/FFP	RDECOM, Edgewood, MD	Feb-10	May-10	57	98789	Yes			
WMD CST Situational Awareness Software FY10	Unknown	C/FFP	RDECOM, Edgewood, MD	Feb-10	May-10	57	9070	Yes			
Filtration System Upgrade FY08	Unknown	MIPR	RDECOM, Edgewood, MD			63	3968	Yes			

REMARKS: WMD CST and SPU CBE quantities and unit costs are estimates and will be dependent upon evaluation of cutting edge technologies and determination of relative priorities in the year of execution.

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JS0500) CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost	287.8	83.2	80.0	53.8						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	287.8	83.2	80.0	53.8						
Initial Spares										
Total Proc Cost	287.8	83.2	80.0	53.8						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Chemical, Biological, Radiological, and Nuclear (CBRN) Installation Protection Program (IPP) provides military installations with a highly effective and integrated CBRN installation protection and response capability. This capability consists of a tiered Family of Systems (FoS) that includes detection, identification, warning, incident management, individual and collective protection, medical surveillance, protection, response and initial recovery. The Baseline Tier consists of non-material solutions to include training materials, military and civilian Concept of Operations (CONOPS) and Memorandum of Agreement (MOA) templates, and exercise plans and scenarios. Tier 1 adds to the Baseline Tier by providing material solutions to include CBRN portable and handheld detection, mass casualty response capability, individual protective equipment, incident management systems, and first responder pharmaceuticals. Tier 2 consists of the Baseline and Tier 1 capabilities and adds collective protection, decision support systems, and fixed radiological, chemical, and biological sensors. This approach is flexible enough to accommodate the needs of specific services and their installations, while standardizing major system elements to provide cost effective solutions. The program will procure a suite of service unique equipment that will be tailored for each installation using both commercial sources and readily available government furnished equipment (GFE). The final delivery of protection suite equipment and capability will vary for each site based upon individual installation requirements, threats and equipment already on-hand. The contractor is responsible for the preparation and conduct of new equipment training (NET), table top, and fielding exercises. One year of Integrated Logistics Support (ILS) following fielding completes the overall system. The program will procure and field tiered systems to approximately 180 high priority CONUS and OCONUS DoD installations through FY 15.

JUSTIFICATION: FY10 funds will procure, install and field 12 installation equipment sets (seven IPP T1s CONUS, four IPP T1s OCONUS and one IPP T2 OCONUS).

Exhibit P-40C, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JS0500) CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)
Program Elements for Code B Items: 0604384BP/Proj CM5	Code: Other Related Program Elements:

The Chemical, Biological, Radiological, and Nuclear (CBRN) Installation Protection Program (IPP) provides military installations with a highly effective and integrated CBRN installation protection and response capability. This capability consists of a tiered Family of Systems (FoS) that includes detection, identification, warning, incident management, individual and collective protection, restoration, medical surveillance, protection and response. The tiered FoS sensor and communications network will leverage existing installation capabilities and will be integrated into the base operational command and control infrastructure. The program will procure a common suite of equipment that will be tailored for each installation utilizing both commercial sources and readily available government furnished equipment (GFE). The final delivery of protection suite equipment and capability will vary for each site based upon individual installation requirements, threats and equipment already on-hand. The program utilizes a contractor to procure the commercial off-the-shelf (COTS) CBRN systems and sensors and emergency responder equipment sets. The contractor is responsible for the preparation and conduct of new equipment training (NET) and fielding exercises. The contractor will assemble, deliver and install the specific items of equipment needed to optimize CBRN protection and response capability at each targeted installation and provides one year of integrated logistics support (ILS) to the installation following fielding. The Government Joint Project Manager (JPM) procures government off-the-shelf systems from existing program managers or item mangers and delivers these systems/items to the contractor for integration with required COTS equipment and fielding to the installation.

RDT&E FY09 - 2.4M; FY10 - 2.9M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES	START	COMPLETE
Technology Evaluation	1Q FY09	4Q FY09
System Architecture Development	1Q FY10	4Q FY10
Bio-Collection/Detection Evaluation	1Q FY10	4Q FY10

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Exhibit P-5, Weapon		Appropriation/Budget Activity/Serial No.			P-1 Line Item Nomenclature:			Weapon System Type:			Date:		
WPN SYST Cost Analysis		PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			(JS0500) CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)						May 2009		
Weapon System		FY08			FY09			FY10					
Cost Elements		Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
IPP TIER 1 (T1) INSTALLATIONS - CONUS													
T1 CONUS Contract Site Survey and Design		5184	14	370.286	2477	7	353.857	2577	7	368.143			
T1 CONUS Contract Prime Mission Equipment		13002	14	928.714	7303	7	1043	6367	7	909.571			
T1 CONUS Contract Integration and Fielding		4997	14	356.929	2727	7	389.571	2464	7	352.000			
T1 CONUS Contract Test and Evaluation		852	14	60.857	453	7	64.714	393	7	56.143			
T1 CONUS Contract Systems Engineering/ Program Management		1423	14	101.643	741	7	105.857	771	7	110.143			
T1 CONUS Contract Integrated Logistics Support		754	14	53.857	343	7	49.000	357	7	51.000			
T1 CONUS Contract Training and Exercise		4274	14	305.286	2227	7	318.143	2504	7	357.714			
T1 CONUS Government Training and Exercise		252	14	18.000	142	7	20.286		7	0.000			
IPP GOVERNMENT FURNISHED EQUIPMENT (GFE) -- CONUS													
Portable Dry Filter Unit		313	112	2.795				31	8	3.875			
Bio Sample Collection Kit		5	81	0.062	3	40	0.075	4	46	0.087			
Bio Sample Collection Kit (Training)		1	11	0.091									
ICAM		273	49	5.571	167	30	5.567	121	21	5.762			
APD-2000 Chemical Detector		183	19	9.632									
First Defender Chemical ID		84	2	42.000									
Portable Chemical Monitor (M22 and auxiliary equipment)		866	70	12.371	520	37	14.054	526	36	14.611			
AN/PDR-77 Radiation Detector and Subassembly		77	13	5.923				53	6	8.833			
AN/PDQ-1 Portable Radiation Detector with Radiac Probe		50	16	3.125	43	10	4.300	27	6	4.500			
AN/UDR-14 Radiation Dosimeter		78	109	0.716				42	57	0.737			
EPD Mark II Radiation Dosimeter and Accessories		59	160	0.369									
EPD N-2 Radiation Dosimeter and Accessories		43	56	0.768									
Radiological Identification (GR-135)		247	33	7.485									
IrDA Dosimeter Reader		12	14	0.857									
M256 Chemical Agent Detector Kit		4	28	0.143		8	0.000	1	16	0.063			
M256 Training Kits		5	19	0.263	1	4	0.250	2	10	0.200			
Hand Held Assays		26	560	0.046	9	180	0.050	23	460	0.050			
Hand Held Assays, Training		28	560	0.050	7	230	0.030	9	270	0.033			

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JS0500) CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)			Weapon System Type:			Date: May 2009			
Weapon System Cost Elements		ID	FY08			FY09			FY10					
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
Medical Response Pharmaceuticals			233	14	16.643	117	7	16.714	122	7	17.429			
M279 Surface Sampler			56	70	0.800	30	37	0.811	31	36	0.861			
Lightweight Decon System			36	2	18.000									
M295 Decon Kit			14	420	0.033	4	120	0.033	8	240	0.033			
M291 Decon Kit			13	537	0.024	3	120	0.025	6	240	0.025			
M34A1 Sampling Kit						3	7	0.429	4	8	0.500			
ADM 300 Medical Kit						34	6	5.667	53	9	5.889			
ADM 300 Verification Kit						3	4	0.750	5	6	0.833			
IPP TIER 1 (T1) INSTALLATIONS - OCONUS														
T1 OCONUS Site Survey and Design			1607	3	535.667	3396	8	424.500	1708	4	427.000			
T1 OCONUS Contract Prime Mission Equipment			3628	3	1209	7197	8	899.625	3888	4	972.000			
T1 OCONUS Contract Test and Evaluation			197	3	65.667	621	8	77.625	260	4	65.000			
T1 OCONUS Government Test and Evaluation			89	3	29.667									
T1 OCONUS Contract Integration and Fielding			1313	3	437.667	3740	8	467.500	1633	4	408.250			
T1 OCONUS Government Integration and Fielding			51	3	17.000									
T1 OCONUS Contract Systems Engineering/ Program Management			2226			847	8	105.875	441	4	110.250			
T1 OCONUS Contract Integrated Logistics Support			173	3	57.667	470	8	58.750	236	4	59.000			
T1 OCONUS Contractor Training and Exercise			1837			3054	8	381.750	1659	4	414.750			
T1 OCONUS Government Training and Exercise			84			163	8	20.375						
IPP TIER 2 (T2) INSTALLATIONS - OCONUS														
T2 OCONUS Contract Site Survey and Design			1358	1	1358	1698	2	849.000	883	1	883.000			
T2 OCONUS Contract Equipment Procurement			1151	1	1151	1799	2	899.500	1224	1	1224			
T2 OCONUS Contractor Test and Evaluation			385	1	385.000	689	2	344.500	358	1	358.000			
T2 OCONUS Government Test and Evaluation			146	1	146.000									
T2 OCONUS Contract Integration and Fielding			1901	1	1901	3500	2	1750	1821	1	1821			
T2 OCONUS Government Integration and Fielding			560	1	560.000									
T2 OCONUS Contractor Systems Engineering/Program Management			742			212	2	106.000	110	1	110.000			

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JS0500) CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)			Weapon System Type:			Date: May 2009			
Weapon System Cost Elements		ID	FY08			FY09			FY10					
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
T2 OCONUS Contractor Integrated Logistics Support			344	1	344.000	743	2	371.500	386	1	386.000			
T2 OCONUS Contractor Training and Exercise			798			1444	2	722.000	751	1	751.000			
T2 OCONUS Government Training and Exercise			28			49	2	24.500						
IPP GFE -- OCONUS														
Fixed Site Dry Filter Unit			23	6	3.833	46	12	3.833	24	6	4.000			
Portable Dry Filter Unit			67	24	2.792	217	56	3.875	95	24	3.958			
Fixed Site Chemical Detector			200	10	20.000	276	12	23.000	147	6	24.500			
Radiation Portal Monitor -- POV			143	2	71.500	285	4	71.250	152	2	76.000			
Radiation Portal Monitor -- Commercial Vehicle			109	1	109.000	218	2	109.000	116	1	116.000			
Bio Sample Collection Kit			2	28	0.071	4	46	0.087	2	26	0.077			
Bio Sample Collection Kit, Training			1	4	0.250		6	0.000		5	0.000			
ICAM			33	6	5.500	122	21	5.810	89	15	5.933			
First Defender Chem ID			83	2	41.500									
Portable Chemical Monitor (M22 and Associated Equipment)			222	18	12.333	574	39	14.718	300	20	15.000			
AN/PDR-77 Radiation Detector and Subassembly			71	12	5.917	339	38	8.921	164	18	9.111			
AN/PDQ-1 Portable Radiation Detector with Radiac Probe						36	8	4.500	9	2	4.500			
AN/UDR-14 Radiation Dosimeter			81	114	0.711	237	319	0.743	129	171	0.754			
EPD Mk II Radiation Dosimeter and Accessories			22	60	0.367									
EPD N-2 Radiation Dosimeter and Accessories			28	36	0.778									
Radiological Identification (GR-135)			106	14	7.571									
IrDA Dosimeter Reader			3	4	0.750									
M256 Chemical Agent Detector Kit			2	16	0.125	2	40	0.050	1	16	0.063			
M256 Training Kits			3	12	0.250	6	34	0.176	3	14	0.214			
Hand Held Assays			7	160	0.044	103	2080	0.050	47	900	0.052			
Hand Held Assays, Training			8	160	0.050	16	540	0.030	8	250	0.032			
Medical Response Pharmaceuticals			67	4	16.750	175	10	17.500	89	5	17.800			
M279 Surface Sampler			16	18	0.889	33	39	0.846	17	20	0.850			
M295 Decon Kit			8	240	0.033	21	600	0.035	9	240	0.038			

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JS0500) CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)			Weapon System Type:		Date: May 2009		
Weapon System Cost Elements		FY08			FY09			FY10				
ID		Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
CD		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
M291 Decon Kit		6	240	0.025	25	1000	0.025	6	240	0.025		
M34A1 Sampling Kit					6	13	0.462	4	8	0.500		
ADM 300 Medical Kit					54	9	6.000	18	3	6.000		
ADM 300 Verification Kit					5	6	0.833	2	2	1.000		
OTHER COSTS												
Contract Source Selection		689										
Acquisition Documentation and Analysis		541										
Government Program Management		12238			14990			10493				
Tier 0 Baseline Products		1929			1794			877				
Bioanalysis Facility Operations		1937			2029			1420				
Government Logistics Support		3961			4357			2770				
Government Systems Engineering		6467			7055			4939				
Government OCONUS Mass Notification/Telephone Alerting System		365	3	121.667								
JOS CBRNE Program Management Stand Up		1700										
TOTAL		83200			80004			53789				

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Exhibit P-5a, Budget Procurement History and Planning									Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JS0500) CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)				
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date
IPP Tier 1 (T1) Installations -- CONUS										
FY08	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Jun-08	Feb-09	14	2751500	Yes		
FY09	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Oct-08	Jul-09	7	2344714	Yes		
FY10	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Oct-09	Jul-10	7	2204571	Yes		
T1 CONUS Contract Integrated Logistics Support										
FY08	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Aug-08	Aug-09	14	53857	Yes		
FY09	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Apr-09	Apr-10	7	49000	Yes		
FY10	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Apr-10	Apr-11	7	51000	Yes		
EPD N-2 Radiation Dosimeter and Accessories										
FY08	SAIC, Abingdon, MD	C/FFP	SMDC, Huntsville, AL	Mar-08	Apr-08	56	768	Yes		
Radiological Identification (GR-135)										
FY08	SAIC, Abingdon, MD	C/FFP	SMDC, Huntsville, AL	Mar-08	Apr-08	33	7485	Yes		
IPP Tier 1 (T1) Installations - OCONUS										
FY08	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Jun-08	May-09	3	3743000	Yes		
FY09	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Nov-08	Oct-09	8	2436000	Yes		
FY10	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Nov-09	Oct-10	4	2456500	Yes		
REMARKS: Service specific equipment types and allocations drive variations in equipment quantities and types through the BES period. The Joint Program Office is procuring the Radiological Identification equipment and ADM 300s separately on a competitive basis for delivery to the IPP LSI for integration and fielding to installation sites.										

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Exhibit P-5a, Budget Procurement History and Planning									Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JS0500) CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)				
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date
T1 OCONUS Contract Integrated Logistics Support										
FY08	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Apr-08	Feb-09	3	65667	Yes		
FY09	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Dec-08	Oct-09	8	58750	Yes		
FY10	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Dec-09	Oct-10	4	59000	Yes		
IPP Tier 2 (T2) Installations - OCONUS										
FY08	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Jun-08	Nov-09	1	7413000	Yes		
FY09	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Feb-09	Aug-10	2	5066500	Yes		
FY10	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Dec-09	Jun-11	1	6262000	Yes		
T2 OCONUS Contractor Integrated Logistics Support										
FY08	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Feb-09	Feb-10	1	344000	Yes		
FY09	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Dec-09	Dec-10	2	371500	Yes		
FY10	SAIC, Abingdon, MD	C/FP	SMDC, Huntsville, AL	Feb-10	Dec-10	1	386000	Yes		
EPD N-2 Radiation Dosimeter and Accessories										
FY08	SAIC, Abingdon, MD	C/FFP	SMDC, Huntsville, AL	Mar-08	Apr-08	36	778	Yes		
Radiological Identification (GR-135)										
FY08	SAIC, Abingdon, MD	C/FFP	SMDC, Huntsville, AL	Mar-08	Apr-08	14	7571	Yes		
REMARKS: Service specific equipment types and allocations drive variations in equipment quantities and types through the BES period. The Joint Program Office is procuring the Radiological Identification equipment and ADM 300s separately on a competitive basis for delivery to the IPP LSI for integration and fielding to installation sites.										

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Exhibit P21, Production Schedule					P-1 Item Nomenclature: (JS0500) CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)														Date: May 2009												
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08												Fiscal Year 09												L A T E R
							Calendar Year 08												Calendar Year 09												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
IPP Tier 1 (T1) Installations -- CONUS	1	FY07	J	9		9																									
IPP Tier 1 (T1) Installations - OCONUS	2	FY07	J	3		3	A							3																	
IPP Tier 1 (T1) Installations -- CONUS	3	FY08	J	14		14									A																
IPP Tier 1 (T1) Installations - OCONUS	4	FY08	J	3		3									A																
IPP Tier 2 (T2) Installations - OCONUS	6	FY08	J	1		1								A													1				
IPP Tier 1 (T1) Installations -- CONUS	3	FY09	J	7		7																									
IPP Tier 1 (T1) Installations - OCONUS	4	FY09	J	8		8																									
IPP Tier 2 (T2) Installations - OCONUS	6	FY09	J	2		2																									

MFR Number	NAME/LOCATION	PRODUCTION RATES				UOM	LEAD TIMES				TOTAL After 1 Oct	REMARKS Production Rates are Quarterly
		MIN.	1-8-5	MAX.	Initial / Reorder		Administrative		Production			
							Prior 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct		
1	SAIC, Abingdon, MD	1	3	6	E	Initial / Reorder	0 / 0	16 / 4	9 / 9	25 / 13		
2	SAIC, Abingdon, MD	1	3	6	E	Initial / Reorder	0 / 0	12 / 2	10 / 10	22 / 12		
3	SAIC, Abingdon, MD	1	4	10	E	Initial / Reorder	0 / 0	9 / 0	8 / 9	17 / 9		
4	SAIC, Abingdon, MD	1	3	6	E	Initial / Reorder	0 / 0	9 / 2	11 / 11	20 / 13		
5	SAIC, Abingdon, MD	1	2	4	E	Initial / Reorder	1 / 1	0 / 0	11 / 11	11 / 11		
6	SAIC, Abingdon, MD	1	2	4	E	Initial / Reorder	0 / 0	9 / 4	18 / 18	27 / 22		
7	SAIC, Abingdon, MD	1	2	4	E	Initial / Reorder	0 / 0	2 / 2	11 / 11	13 / 13		
8	SAIC, Abingdon, MD	1	2	4	E	Initial / Reorder	0 / 0	4 / 4	11 / 11	15 / 15		

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Exhibit P21, Production Schedule						P-1 Item Nomenclature: (JS0500) CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)																	Date: May 2009				
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 10										Fiscal Year 11										L A T E R
							Calendar Year 10										Calendar Year 11										
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	
IPP Tier 2 (T2) Installations - OCONUS	6	FY08	J	1		1																					
IPP Tier 1 (T1) Installations -- CONUS	3	FY09	J	7	5	2			2																		
IPP Tier 1 (T1) Installations - OCONUS	4	FY09	J	8		8	1	2	1	2	1	1															
IPP Tier 2 (T2) Installations - OCONUS	6	FY09	J	2		2									1	1											
IPP Tier 1 (T1) Installations -- CONUS	3	FY10	J	7		7	A							1	1	2				2	1						
IPP Tier 1 (T1) Installations - OCONUS	4	FY10	J	4		4		A										1	1	1	1						
IPP Tier 2 (T2) Installations - OCONUS	7	FY10	J	1		1			A																1		

MFR		PRODUCTION RATES				UOM	LEAD TIMES			TOTAL	REMARKS Production Rates are Quarterly
Number	NAME/LOCATION	MIN.	1-8-5	MAX.	Administrative		Production	After 1 Oct			
					Prior 1 Oct		After 1 Oct		After 1 Oct		
1	SAIC, Abingdon, MD	1	3	6	E	Initial / Reorder	0 / 0	16 / 4	9 / 9	25 / 13	
2	SAIC, Abingdon, MD	1	3	6	E	Initial / Reorder	0 / 0	12 / 2	10 / 10	22 / 12	
3	SAIC, Abingdon, MD	1	4	10	E	Initial / Reorder	0 / 0	9 / 0	8 / 9	17 / 9	
4	SAIC, Abingdon, MD	1	3	6	E	Initial / Reorder	0 / 0	9 / 2	11 / 11	20 / 13	
5	SAIC, Abingdon, MD	1	2	4	E	Initial / Reorder	1 / 1	0 / 0	11 / 11	11 / 11	
6	SAIC, Abingdon, MD	1	2	4	E	Initial / Reorder	0 / 0	9 / 4	18 / 18	27 / 22	
7	SAIC, Abingdon, MD	1	2	4	E	Initial / Reorder	0 / 0	2 / 2	11 / 11	13 / 13	
8	SAIC, Abingdon, MD	1	2	4	E	Initial / Reorder	0 / 0	4 / 4	11 / 11	15 / 15	

Budget Line Item #93
INDIVIDUAL PROTECTION

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Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (GP1000) INDIVIDUAL PROTECTION
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost	1512.7	114.6	80.0	92.0						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	1512.7	114.6	80.0	92.0						
Initial Spares										
Total Proc Cost	1512.7	114.6	80.0	92.0						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: Program provides for protective masks, respiratory systems, and protective clothing. The Joint Service General Purpose Mask (JSGPM) is a lightweight, protective Nuclear Biological Chemical (NBC) mask system. It incorporates state-of-the-art technology to protect the Joint Forces from anticipated threats. The JSGPM will provide above-the-neck, head, eye/respiratory protection against Chemical and Biological (CB) agents, radioactive particles, and Toxic Industrial Materials (TIMs). The JSGPM mask system will replace the M40/M42 series (Army and Marine Corps), the MCU-2/P series (Air Force and Navy), and the M45 mask in the Land Warrior program. The Joint Service Aircrew Mask (JSAM) system is a lightweight, CB protective mask which can be worn as CB protection for all aircrew. The warfighter's capability will be enhanced with the addition of anti-G features, the system will provide simultaneous CB and anti-G protection in high performance aircraft. The Joint Service Mask Leakage Tester (JSMILT) is a portable, unit-level device to determine proper fit and identify defective components of current and future protective masks. In the area of protective clothing: The Joint Service Lightweight Integrated Suit Technology (JSLIST) program will procure and field a common chemical protective ensemble (suits, boots, socks, and gloves) to US Forces. JSLIST promotes commonality and standardization to maximize resources and eliminate redundancy among the Services. The Joint Protective Aircrew Ensemble (JPACE) garment will provide protection from Chemical and Biological (CB) warfare agents, radiological particles, and toxic industrial materials to aircrew of all military services and special forces. JPACE provides aviators with improvements in protection, reduced heat stress in CB environments, and extended wear and service life.

JUSTIFICATION: Operational forces across the continuum of global, contingency, special operations/low intensity conflict, counternarcotics, and other high risk missions have an immediate need to survive and sustain operations in a CB threat environment. Individual protection is provided by means of masks, protective clothing, and aircrew respiratory systems and ensembles. The Joint NBC Defense program includes individual protection equipment that both improves current protection levels and reduces the physiological and logistical burden on the individual soldier, sailor, airman or marine. The goal is to procure equipment that will allow for the individual to operate in a contaminated CB environment with minimal degradation in his/her performance.

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (GP1000) INDIVIDUAL PROTECTION			Weapon System Type:			Date: May 2009		
Weapon System Cost Elements		ID	FY08			FY09			FY10				
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
JS AIRCREW MASK (JSAM)			4576						23116				
JOINT SERVICE GENERAL PURPOSE MASK (JSGPM/JSCESM)			45533			42490			48432				
JOINT PROTECTIVE AIRCREW ENSEMBLE (JPACE)			15890										
JOINT SERVICE MASK LEAKAGE TESTER (JSMLTS)			9854										
PROTECTIVE CLOTHING (JSLIST)			38745			37484			20456				
TOTAL			114598			79974			92004				

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JI0002) JS AIRCREW MASK (JSAM)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty				3713						
Gross Cost	2.5	4.6		23.1						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	2.5	4.6		23.1						
Initial Spares										
Total Proc Cost	2.5	4.6		23.1						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Service Aircrew Mask (JSAM) system is a lightweight Chemical and Biological (CB) protective mask consisting of mask, filter, blower and accessories incorporating state of the art technology to protect U.S. Forces from anticipated threats. The mask is optimized to minimize impact on the wearer's performance, maximize its ability to interface with aircrew protective clothing, and provide improved field of view when compared to current protective masks.

The JSAM is being developed and procured in 3 variants: Type I (MPU-5) for rotary wing aircraft except the Army AH-64A/D helicopter; Type IA (MPU-6) is designed specifically for use in the Army AH-64A/D Apache attack helicopter, and Type II, for fixed wing aircraft. All variants integrate with aircraft subsystems, Aircrew Life Support Equipment (ALSE), seating, portable aircrew systems, restraint systems, night vision goggles (NVGs) and communications systems. The Type IA will integrate with the Apache Integrated Helmet and Display Sighting System (IHADSS). Type II will integrate with Pressure Breathing for G (PBG) systems, providing both CB protection and protection against Gravity Induced Loss of Consciousness (GLOC).

JUSTIFICATION: FY10 will procure 2,992 JSAM Apache Type IA and 721 JSAM Fixed Wing Type II Navy AR-5 to meet joint service CBRN equipment requirements.

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JI0002) JS AIRCREW MASK (JSAM)
Program Elements for Code B Items: 0604384BP/Proj IP5	Code: B	Other Related Program Elements:

RD&E Code B Item

The Joint Service Aircrew Mask (JSAM) system is a lightweight Chemical and Biological (CB) protective mask consisting of mask, filter, blower and accessories incorporating state of the art technology to protect U.S. Forces from anticipated threats. The mask is optimized to minimize impact on the wearer's performance, maximize its ability to interface with aircrew protective clothing, and provide improved field of view when compared to current protective masks.

The JSAM is being developed and procured in 3 variants: Type I (MPU-5) for rotary wing aircraft except the Army AH-64A/D helicopter; Type IA (MPU-6) is designed specifically for use in the Army AH-64A/D Apache attack helicopter, and Type II, for fixed wing aircraft. All variants integrate with aircraft subsystems, Aircrew Life Support Equipment (ALSE), seating, portable aircrew systems, restraint systems, night vision goggles (NVGs) and communications systems. The Type IA will integrate with the Apache Integrated Helmet and Display Sighting System (IHADSS). Type II will integrate with Pressure Breathing for G (PBG) systems, providing both CB protection and protection against Gravity Induced Loss of Consciousness (GLOC).

RD&E FY08 and Prior - 105.1M; FY09 - 22.2M; FY10 - 15.0M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

	START	COMPLETE
MS C FRP Decision Type IA Apache	3Q FY09	3Q FY09
IOC Type IA Apache	2Q FY10	2Q FY10
Milestone C (LRIP) Type II Fixed Wing	3Q FY10	3Q FY10

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JI0002) JS AIRCREW MASK (JSAM)			Weapon System Type:			Date: May 2009		
Weapon System Cost Elements	ID CD	FY08			FY09			FY10					
		Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
JSAM APACHE IHADSS TYPE 1A JSAM Apache IHADSS Type 1A Hardware	A							10472	2992	3.500			
JSAM ROTARY WING TYPE I													
JSAM FIXED WING TYPE II JSAM Navy AR-5	A							7400	721	10.264			
OTHER COSTS													
Integrated Logistics Support		2600						1350					
Engineering Support (Gov't)								1250					
Toxic Industrial Chemical Protective and Decon Equipment (TICPDE) Training Set		1976	8	247.000									
Mask Associate Items of Equipment								1097					
System Fielding Support								1547					
TOTAL		4576						23116					

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Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (J10002) JS AIRCREW MASK (JSAM)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
JSAM Apache IHADSS Type 1A Hardware FY10	AVOX, Lancaster, NY	C/FFP	Brooks, City-Base, TX	Jan-10	Jun-10	2992	3500	No			
JSAM Navy AR-5 FY10	CAM LOCK LTD, Aldershot, UK	C/FFP	Patuxent River, MD	Feb-10	Jun-10	721	10264	Yes	Dec-09		
REMARKS:											

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JI0003) JOINT SERVICE GENERAL PURPOSE MASK (JSGPM/JSCESM)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	235970	142058	134362	151723						
Gross Cost	89.7	45.5	42.5	48.4						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	89.7	45.5	42.5	48.4						
Initial Spares										
Total Proc Cost	89.7	45.5	42.5	48.4						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The JSGPM is a lightweight, protective Nuclear Biological Chemical mask system. It incorporates state-of-the-art technology to protect US Joint Forces from anticipated threats. The JSGPM will provide above-the-neck, head, eye/respiratory protection against Chemical and Biological (CB) agents, radioactive particles, and Toxic Industrial Materials (TIMs) as specified in the Joint Service Operational Requirements Document (JSORD), dated September 1998 and Capabilities Production Document (CPD) approved December 2005. The mask design will be optimized to minimize impact on the wearer's performance, and to maximize its ability to interface with fielded and future Joint Service equipment and protective clothing. The JSGPM mask system will replace the M40/M42 series of masks for Army and Marine ground and combat vehicle operations, and the MCU-2/P series for Air Force and Navy ground and shipboard applications. In addition, the JSGPM will replace the M45 mask in the Land Warrior program. This will significantly reduce the number of masks that will have to be logistically supported by the Department of Defense.

JUSTIFICATION: FY10 funds support procurement of 9,000 JSGPM Combat Vehicle Crewman (CVC) and 142,723 JSGPM Ground/Ship.

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JI0003) JOINT SERVICE GENERAL PURPOSE MASK (JSGPM/JSCESM)
Program Elements for Code B Items: 0604384BP/Proj IP5	Code: B	Other Related Program Elements:

RD&E Code B Item

The JSGPM is a lightweight, protective Nuclear Biological Chemical mask system. It incorporates state-of-the-art technology to protect US Joint Forces from anticipated threats. The JSGPM will provide above-the-neck, head, eye/respiratory protection against Chemical and Biological (CB) agents, radioactive particles, and Toxic Industrial Materials (TIMs) as specified in the Joint Service Operational Requirements Document (JSORD), dated September 1998 and Capabilities Production Document (CPD) approved December 2005. The mask design will be optimized to minimize impact on the wearer's performance, and to maximize its ability to interface with fielded and future Joint Service equipment and protective clothing. The JSGPM mask system will replace the M40/M42 series of masks for Army and Marine ground and combat vehicle operations, and the MCU-2/P series for Air Force and Navy ground and shipboard applications. In addition, the JSGPM will replace the M45 mask in the Land Warrior program. This will significantly reduce the number of masks that will have to be logistically supported by the Department of Defense.

RD&E FY08 and Prior - 39.4M; FY10 - 1.5M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

	START	COMPLETE
Milestone C LRIP	2Q FY06	2Q FY06
JSGPM Sorbent Testing	1Q FY10	2Q FY10
JSGPM Filter Qualification Testing	3Q FY10	1Q FY11
ROPE Market Survey Analysis	1Q FY10	2Q FY10
ROPE Method Verification	3Q FY10	4Q FY10
ROPE Candidate Screening	3Q FY10	3Q FY11

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Exhibit P-5, Weapon		Appropriation/Budget Activity/Serial No.			P-1 Line Item Nomenclature:			Weapon System Type:		Date:		
WPN SYST Cost Analysis		PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			(JI0003) JOINT SERVICE GENERAL PURPOSE MASK (JSGPM/JSCESM)					May 2009		
Weapon System	ID	FY08			FY09			FY10				
		Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
Cost Elements	CD	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
JSCESM												
JSCESM Hardware	A	2365	18248	0.130								
JSGPM - GROUND/SHIP												
JSGPM (Ground/Ship) Hardware	A	24534	113060	0.217	27203	125362	0.217	30971	142723	0.217		
JSGPM - COMBAT VEHICLE												
JSGPM (Combat Vehicle) Hardware	A	3846	10750	0.358	3222	9000	0.358	3222	9000	0.358		
OTHER COSTS												
Engineering Support		3087			2092			2170				
First Article Test (FAT)/Production Test		20										
System Fielding Support (Total Package Fielding (TPF), First Destination Transportation (FDT) & New Equipment Training NET))		2558			2190			1558				
Initial Spares (System Fielding Support)		5691			4100			4500				
Govt Program Management		2675			2876			5811				
Surveillance Test		227			277							
Production Acceptance Test		530			530			200				
TOTAL		45533			42490			48432				

Exhibit P-5a, Budget Procurement History and Planning								Date: May 2009		
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		Weapon System Type:			P-1 Line Item Nomenclature: (JI0003) JOINT SERVICE GENERAL PURPOSE MASK (JSGPM/JSCESM)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date
JSGPM (Ground/Ship) Hardware FY09	AVON Protection Systems, Cadillac, MI	C/FPI Opt/3&4	RDECOM, APG, MD	Mar-09	Jun-09	125362	217	Yes		
FY10	AVON Protection Systems, Cadillac, MI	C/FPI Opt/3&4	RDECOM, APG, MD	Mar-10	Jun-10	142723	217	Yes		
JSGPM (Combat Vehicle) Hardware FY09	AVON Protection Systems, Cadillac, MI	C/FPI Opt/3	RDECOM, APG, MD	Mar-09	May-10	9000	358	Yes		
FY10	AVON Protection Systems, Cadillac, MI	C/FPI Opt/3	RDECOM, APG, MD	May-10	May-11	9000	358	Yes		
REMARKS:										

UNCLASSIFIED

Exhibit P21, Production Schedule							P-1 Item Nomenclature: (JI0003) JOINT SERVICE GENERAL PURPOSE MASK (JSGPM/JSCESM)																	Date: May 2009										
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 10												Fiscal Year 11												L A T E R			
							Calendar Year 10												Calendar Year 11															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
JSGPM (Ground/Ship) Hardware	1	FY09	AF	74000	27000	47000	7000	7000	7000	7000	7000	6000	6000																					
JSGPM (Ground/Ship) Hardware	1	FY09	MC	51362	18000	33362	4500	4500	4500	4500	4500	4500	6362																					
JSGPM (Combat Vehicle) Hardware	1	FY09	A	9000		9000								9000																				
JSGPM (Ground/Ship) Hardware	1	FY10	AF	92123		92123						A		8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	8900	3123								
JSGPM (Ground/Ship) Hardware	1	FY10	MC	50600		50600						A		4600	4600	4600	4600	4600	4600	4600	4600	4600	4600	4600	4600									
JSGPM (Combat Vehicle) Hardware	1	FY10	A	9000		9000							A														9000							

							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MFR		PRODUCTION RATES					LEAD TIMES					TOTAL	REMARKS																	
Number	NAME/LOCATION	MIN.	1-8-5	MAX.	UOM	Administrative					Production	After 1 Oct																		
						Prior 1 Oct	After 1 Oct	After 1 Oct		After 1 Oct	After 1 Oct																			
1	AVON Protection Systems, Cadillac, MI	3000	20000	30000	E	Initial / Reorder	0 / 0	7 / 5	4 / 4		11 / 9																			
2	Quick Protective Systems INC, Stuart, FL	3000	10000	25000	E	Initial / Reorder	0 / 0	10 / 3	5 / 4		15 / 7																			

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JI0015) JOINT PROTECTIVE AIRCREW ENSEMBLE (JPACE)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	35551	27000								
Gross Cost	42.7	15.9								
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	42.7	15.9								
Initial Spares										
Total Proc Cost	42.7	15.9								
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Protective Aircrew Ensemble (JPACE) garment will provide protection from Chemical and Biological (CB) warfare agents, radiological particles, and toxic industrial materials to aircrew of all military services and special forces. The JPACE garment ensemble will be used in conjunction with above-the-neck, individual head-eye-respiratory protection by rotary wing, fixed wing aircraft and combat vehicle personnel. JPACE will allow aircrew and combat crew to fly throughout their operating envelope in an actual or perceived CB warfare environment. The ensemble will be able to perform all normal and emergency procedures, both in-flight and on the ground. It will provide the ability to fully exploit combat capabilities in a CB environment while reducing heat stress induced by existing aircrew CB garments. JPACE replaces the Navy MK-1 undergarment, the Army Aviator Battle Dress Uniform - Battle Dress Overgarment (ABDU-BDO) system, and the Air Force CWU-66/P overgarment. JPACE will provide aviators with improvements in protection, reduced heat stress in CB environments, and extended wear and service life. The JPACE Combat Vehicle Crew (CVC) garment is for Army and Marine Corps armored combat vehicle crews. This operational capability will support all Services. FY08 is the final year of joint funding procurement.

UNCLASSIFIED

Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JI0015) JOINT PROTECTIVE AIRCREW ENSEMBLE (JPACE)			Weapon System Type:			Date: May 2009		
Weapon System Cost Elements		ID	FY08			FY09			FY10				
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
JPACE - NAVY/MARINE CORPS													
JPACE - USN/USMC		A	4981	9397	0.530								
JPACE - ARMY													
JPACE - USA		A	9345	17603	0.531								
OTHER COSTS													
Quality Assurance (Gov't)			1209										
Total Fielding Support			355										
TOTAL			15890										

UNCLASSIFIED

Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JI0015) JOINT PROTECTIVE AIRCREW ENSEMBLE (JPACE)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
JPACE - USN/USMC FY08	Creative Apparel Assoc. Morrill, ME	C/FFP	Natick, Natick, MA	Nov-08	Mar-09	9397	530	Yes			
JPACE - USA FY08	Creative Apparel Assoc. Morrill, ME	C/FFP OPT/3	Natick, Natick, MA	Dec-07	Sep-08	17603	531	Yes			
REMARKS:											

Exhibit P21, Production Schedule							P-1 Item Nomenclature: (JI0015) JOINT PROTECTIVE AIRCREW ENSEMBLE (JPACE)																				Date: May 2009										
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08												Fiscal Year 09										L A T E R								
							Calendar Year 08												Calendar Year 09																		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL		AUG	SEP						
JPACE - USA	1	FY06	A	9232		9232																															
JPACE - USN/USMC	1	FY07	MC	1603		1603		320	320	320	320	323																									
JPACE - USN/USMC	1	FY07	N	3674		3674		500	500	500	500	500	1174																								
JPACE - USA	1	FY07	A	6000		6000					1500	1500	1500	1500																							
JPACE - USN/USMC	1	FY08	MC	5221		5221														A									622	622	622	622	622	622	622	867	
JPACE - USN/USMC	1	FY08	N	4176		4176														A											522	522	522	522	522	522	522
JPACE - USA	1	FY08	A	17603		17603					A							1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1103			

							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
MFR						PRODUCTION RATES					LEAD TIMES				TOTAL	REMARKS															
Number	NAME/LOCATION					MIN.	1-8-5	MAX.	UOM			Administrative		Production		After 1 Oct															
1	Creative Apparel Assoc. Morrill, ME					300	10000	15000	E	Initial / Reorder		Prior 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct	15 / 12															

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Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JSM001) JOINT SERVICE MASK LEAKAGE TESTER (JSMLTS)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	2873	333								
Gross Cost	60.5	9.9								
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	60.5	9.9								
Initial Spares										
Total Proc Cost	60.5	9.9								
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Service Mask Leakage Tester (JSMLT) is a joint program among the Air Force, Navy, and Marine Corps. The JSMLT is a Commercial off-the-shelf (COTS) item. JSMLT will be a portable, unit level device, capable of determining proper fit and identifying defective and/or unserviceable components of current and future negative pressure NBC protective masks. The JSMLT alleviates the need for five different test devices (M14 Mask Leakage Tester, M4A1 Outlet Valve Leakage Tester, Q204 Drink Train Leakage Tester, Q179 Drink Train/Quick Disconnect Leakage Tester, and Q79A1 Air Flow Leakage Tester). Operating forces currently lack the capability to verify their Preventative Maintenance and Checks and Services (PMCS) on negative pressure NBC protective masks at the unit level. Currently, only the Joint NBC Defense Equipment Assessment Units possess the equipment necessary to verify PMCS. As a result, unacceptable numbers of masks do not receive correct PMCS and the readiness of operating forces is severely hampered. JSMLT will give the operating forces the ability to check whether masks are receiving the proper PMCS and will greatly increase the confidence of commanders in their masks. The ability to verify PMCS will also ensure that the lives of warfighters are not unnecessarily compromised. It will also promote greater awareness of proper PMCS, and therefore, have a positive impact on operating force readiness. The TDA-99M, which meets the JSMLT requirements is currently available as a COTS item, has contractor logistics support, and is on the GSA schedule. FY08 is the final year of joint funding procurement.

UNCLASSIFIED

Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JSM001) JOINT SERVICE MASK LEAKAGE TESTER (JSMLTS)			Weapon System Type:		Date: May 2009			
Weapon System Cost Elements		ID	FY08			FY09			FY10				
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
JSMLTS													
JSMLTS Hardware		A	9301	333	27.931								
OTHER COSTS													
Engineering Support (Gov't)			378										
Quality Assurance			102										
System Fielding			73										
TOTAL			9854										

UNCLASSIFIED

Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JSM001) JOINT SERVICE MASK LEAKAGE TESTER (JSMLTS)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
JSMLTS Hardware FY08	Hamilton Associates Inc., Owing Mills, MD	C/FFP Opt/3	US Army, RDECOM, APG, MD	Dec-07	Mar-08	333	27931	Yes			
REMARKS:											

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (MA0400) PROTECTIVE CLOTHING (JSLIST)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	3305246									
Gross Cost	1054.8	38.7	37.5	20.5						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	1054.8	38.7	37.5	20.5						
Initial Spares										
Total Proc Cost	1054.8	38.7	37.5	20.5						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Service Protective Clothing program is a Joint Service chemical protective ensemble development, testing, and production program. The Protective Clothing program integrates technological improvements in protective military garments. These improvements provide Service members Chemical and Biological (CB) protection in all combat theaters. In addition, the program provides commonality, standardization, and full compatibility of all interfacing equipment. The Protective Clothing program provides production of the following protective clothing ensembles: (1) The Joint CB Coverall for Combat Vehicle Crewmen (JC3) will meet the armored vehicle crew CB requirement; (2) The JSLIST Block 2 Glove Upgrade (JB2GU) Non-Flame Resistant (NFR) and Flame Resistant (FR) will meet the Services CB glove requirements for a 30 day glove; (3) The Alternative Footwear Solutions (AFS) and Integrated Footwear System (IFS) programs that will satisfy the need for a CB protective overboot and a sock/liner.

JUSTIFICATION: FY10 will procure 181131 JB2GU NFR, 263155 AFS and 7345 JC3 to meet joint service CBRN equipment requirements.

NOTE: Proc Qty Prior Years reflect only quantities for JSLIST Overgarment.

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (MA0400) PROTECTIVE CLOTHING (JSLIST)			Weapon System Type:			Date: May 2009			
Weapon System Cost Elements		ID	FY08			FY09			FY10					
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
JSLIST COMBAT VEHICLE CREWMEN COVERALLS (JC3)														
JC3		A	10692	12000	0.891	8523	9566	0.891	6544	7345	0.891			
AFS														
AFS Hardware		A	10002	339955	0.029	11825	419192	0.028	6708	263155	0.025			
JB2GU FR														
JB2GU FR Hardware		A	2058	35031	0.059	1949	32370	0.060						
JB2GU NFR														
JB2GU NFR Hardware		A	6137	219164	0.028	7170	239004	0.030	4528	181131	0.025			
OTHER COSTS														
Contract Support			2480			2169			853					
Engineering Support (Gov't)			3286			2363			749					
Quality Control (Gov't)			1687			1165			482					
System Fielding Support (NET/FDT/TDY)			1443			1360			200					
Production Lot Testing (PLT)			960			960			392					
TOTAL			38745			37484			20456					

Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (MA0400) PROTECTIVE CLOTHING (JSLIST)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
JC3											
FY09	Group Home, Belfast, ME	C/FFP OPT/1	Natick, Natick, MA	Feb-09	May-09	9566	891	Yes			
FY10	Group Home, Belfast, ME	C/FFP OPT/2	Natick, Natick, MA	Jan-10	Apr-10	7345	891	Yes			
AFS Hardware											
FY09	AirBoss- ACTON, Acton Vale, Quebec, Canada	C/FFP OPT/1	Natick, Natick, MA	Jan-09	Mar-09	419192	28	Yes			
FY10	AirBoss-ACTON, Acton Vale, Quebec, Canada	C/FFP OPT/2	Natick, Natick, MA	Jan-10	Mar-10	263155	25	Yes			
JB2GU FR Hardware											
FY09	AirBoss-ACTON, Acton Vale, Quebec, Canada	C/FFP OPT/1	Natick, Natick, MA	Jan-09	Feb-09	32370	60	Yes			
JB2GU NFR Hardware											
FY09	AirBoss-ACTON, Acton Vale, Quebec, Canada	C/FFP OPT/1	Natick, Natick, MA	Jan-09	Mar-09	239004	30	Yes			
REMARKS:											

Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (MA0400) PROTECTIVE CLOTHING (JSLIST)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
JB2GU NFR Hardware (cont) FY10	AirBoss-ACTON, Acton Vale, Quebec, Canada	C/FFP OPT/2	Natick, Natick, MA	Jan-10	Mar-10	181131	25	Yes			
REMARKS:											

Exhibit P21, Production Schedule	P-1 Item Nomenclature: (MA0400) PROTECTIVE CLOTHING (JSLIST)	Date: May 2009
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COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 10													Fiscal Year 11													L A T E R													
							Calendar Year 10																											Calendar Year 11												
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N		D	J	F	M	A	M	J	J	A	S	O		
AFS Hardware	1	FY10	N	16670		16670									A	1667	1667	1667	1667	1667	1667	1667	1667	1667	1667	1667	1667																			
JB2GU NFR Hardware	1	FY10	A	66491		66491								A	6650	6650	6650	6650	6650	6650	6650	6650	6650	6650	6650	6650	6641																			
JB2GU NFR Hardware	1	FY10	AF	50000		50000								A	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000																			
JB2GU NFR Hardware	1	FY10	MC	25000		25000								A	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500																			
JB2GU NFR Hardware	1	FY10	N	39640		39640								A	3964	3964	3964	3964	3964	3964	3964	3964	3964	3964	3964	3964	3964																			

MFR	NAME/LOCATION	PRODUCTION RATES				UOM	LEAD TIMES													TOTAL	REMARKS		
Number		MIN.	1-8-5	MAX.	Administrative						Production												
					Prior 1 Oct		After 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct						
1	AirBoss-ACTON, Acton Vale, Quebec, Canada	9600	24000	56666	E	Initial / Reorder	0 / 0	8 / 3	7 / 3	15 / 6													
2	AirBoss- ACTON, Acton Vale, Quebec, Canada	14000	50400	120000	E	Initial / Reorder	0 / 0	8 / 3	7 / 4	15 / 7													
3	Wolemine World Wide INC., Rockford, MI	500	2101	3200	E	Initial / Reorder	0 / 0	9 / 9	3 / 3	12 / 12													
4	Group Home, Belfast, ME	500	1000	1333	E	Initial / Reorder	0 / 0	9 / 4	3 / 4	12 / 8													
5	AirBoss-ACTON, Acton Vale, Quebec, Canada	9600	24000	68000	E	Initial / Reorder	0 / 0	5 / 3	4 / 2	9 / 5													

Budget Line Item #94
DECONTAMINATION

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Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (PA1500) DECONTAMINATION
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost	142.3	36.8	25.5	22.0						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	142.3	36.8	25.5	22.0						
Initial Spares										
Total Proc Cost	142.3	36.8	25.5	22.0						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The decontamination program provides equipment to facilitate the removal and detoxification of contaminants from materials without inflicting injury to personnel or damage to equipment or environment. This Joint Service program facilitates the procurement of a more transportable, less labor intensive, and more effective system for applying decontaminating solutions and removing gross contamination from vehicle and equipment surfaces. Contamination control techniques have been developed which minimize the extent of contamination pickup and transfer and maximize the ability of units to remove contamination both on-the-move and during dedicated decontamination operations. The Joint Service Family of Decontamination Systems (JSFDS) programs will provide this capability. The JSFDS consists of the (1) The Joint Service Personnel/Skin Decontamination System (JSPDS) will be a United States Food and Drug Administration (FDA) approved individually carried skin decontamination kit. JSPDS will provide the same or greater capabilities (number of decontamination operations and area of coverage) as the currently fielded M291 Skin Decontamination Kit (SDK). (2) The Joint Service Transportable Decontamination System Small-Scale (JSTDS-SS) will be transportable by a platform capable of being operated in close proximity to combat operations [i.e., High Mobility Multi-purpose Wheeled Vehicle/Trailer, Family of Medium Tactical Vehicles/Trailer] off-road over any terrain.

JUSTIFICATION: Operational forces, facilities, and equipment must be decontaminated to safely operate, survive, and sustain operations in a nuclear, biological and chemical agent threat environment. Key factors are reduced weight, increased transportability, decreased labor intensity, reduced water usage, and a more effective system for applying decontaminating solutions to vehicle and equipment surfaces. Decontamination of facilities frequently requires a large area to be covered, but weight, water usage, and labor intensity factors may not be as important as mobility and the ability to decontaminate large areas rapidly.

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (PA1500) DECONTAMINATION			Weapon System Type:			Date: May 2009	
Weapon System Cost Elements	ID	FY08			FY09			FY10				
	CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
JOINT SERVICE PERSONNEL/SKIN DECON SYSTEM (JSPDS)		18487			8280							
JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)		18275			17224			22008				
TOTAL		36762			25504			22008				

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JD0055) JOINT SERVICE PERSONNEL/SKIN DECON SYSTEM (JSPDS)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	409612	581248	202960							
Gross Cost	11.5	18.5	8.3							
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	11.5	18.5	8.3							
Initial Spares										
Total Proc Cost	11.5	18.5	8.3							
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Service Personnel/Skin Decontamination System (JSPDS) is a Food and Drug Administration (FDA) cleared individually carried skin decontamination kit. The JSPDS provides the warfighter the ability to decontaminate the skin, after exposure to Chemical/Biological (CB) warfare agents, in support of immediate and thorough personnel decontamination operations. Reactive Skin Decontamination Lotion (RSDL) provides the warfighter with improved capability over the existing M291 Skin Decontamination Kit (SDK) to reduce lethal and performance degrading effects of Chemical Warfare agents. Additionally it can be used to decontaminate individual equipment, weapons, and casualties on unbroken skin.

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Exhibit P-5, Weapon		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JD0055) JOINT SERVICE PERSONNEL/SKIN DECON SYSTEM (JSPDS)			Weapon System Type:		Date: May 2009		
WPN SYST Cost Analysis												
Weapon System	ID	FY08			FY09			FY10				
		Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
Cost Elements	CD	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
JSPDS COMBAT KITS												
JSPDS Combat Kit Hardware (RSDL)	A	7816	192900	0.041	8245	200160	0.041					
M291 XE555 RESIN-CONGRESSIONAL ADD												
M291 XE555 Resin	A	1121	2450	0.458								
JSPDS TRAINING KITS												
JSPDS Training Kit Hardware (Inert Skin Decontamination Lotion)	A	2084	124508	0.017	35	2800	0.013					
M291KIT HARDWARE - CONGRESSIONAL ADD												
M291 Kit Hardware	A	2240	139440	0.016								
M295 KIT HARDWARE - CONGRESSIONAL ADD												
M295 Kit Hardware	A	2240	124400	0.018								
OTHER COSTS												
System Fielding Support		2986										
TOTAL		18487			8280							

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Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JD0055) JOINT SERVICE PERSONNEL/SKIN DECON SYSTEM (JSPDS)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
JSPDS Combat Kit Hardware (RSDL) FY09	Bracco Diagnostics Inc., Princeton, NJ	C/FFP/Opt 2	USASMDC, Frederick, MD	Mar-09	May-09	200160	41	Yes		Sep-08	
JSPDS Training Kit Hardware (Inert Skin Decontamination Lotion) FY09	Bracco Diagnostics Inc., Princeton, NJ	C/FFP/Opt 2	USASMDC, Frederick, MD	Mar-09	Jul-09	2800	13	Yes		Sep-08	
M295 Kit Hardware FY08	Truetech Inc, Riverhead, NY/Pine Bluff, AR	C/FFP	TACOM, Rock Island, IL	Mar-08	May-09	124400	18	Yes		Dec-08	
REMARKS:											

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Exhibit P21, Production Schedule					P-1 Item Nomenclature: (JD0055) JOINT SERVICE PERSONNEL/SKIN DECON SYSTEM (JSPDS)																		Date: May 2009								
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08													Fiscal Year 09											L A T E R
							Calendar Year 08													Calendar Year 09											
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
JSPDS Combat Kit Hardware (RSDL)	1	FY07	A	151823	75000	76823				76823																					
JSPDS Training Kit Hardware (Inert Skin Decontami)	1	FY07	A	145399	3400	141999				920				141079																	
M291 Kit Hardware	2	FY07	J	90790	30262	60528	15132	15132	15132	15132																					
JSPDS Combat Kit Hardware (RSDL)	1	FY08	A	91136		91136																									
JSPDS Combat Kit Hardware (RSDL)	1	FY08	AF	19281		19281																									
JSPDS Combat Kit Hardware (RSDL)	1	FY08	MC	27014		27014							24480																		
JSPDS Combat Kit Hardware (RSDL)	1	FY08	N	55469		55469																									
M291 XE555 Resin	3	FY08	A	2450		2450								A	2450																
JSPDS Training Kit Hardware (Inert Skin Decontami)	1	FY08	A	120188		120188																									
JSPDS Training Kit Hardware (Inert Skin Decontami)	1	FY08	AF	4320		4320																									
M291 Kit Hardware	4	FY08	J	139440		139440																									
M295 Kit Hardware	2	FY08	A	124400		124400																									
JSPDS Combat Kit Hardware (RSDL)	5	FY09	A	102240		102240																									
JSPDS Combat Kit Hardware (RSDL)	5	FY09	AF	30240		30240																									
JSPDS Combat Kit Hardware (RSDL)	5	FY09	MC	31680		31680																									
JSPDS Combat Kit Hardware (RSDL)	5	FY09	N	36000		36000																									
JSPDS Training Kit Hardware (Inert Skin Decontami)	5	FY09	A	2800		2800																									
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
MFR			PRODUCTION RATES			UOM	LEAD TIMES				TOTAL	REMARKS																			
Number	NAME/LOCATION	MIN.	1-8-5	MAX.	Administrative		Production																								
					Prior 1 Oct		After 1 Oct	After 1 Oct	After 1 Oct																						
1	E-Z-EM Inc., Lake Success, NY	500	80000	267000	E	Initial / Reorder	0 / 0	5 / 3	3 / 3	8 / 6	JSPDS delivery timeline based on Service ability to receive; it is not based on manufacturer lead time. Manufacturer #3 Rohm & Haas for Resin is based per pound. For the FY08 Congressional Plus-up the contractor accepted less than the stated minimum of 32,000 lbs.																				
2	Truetech Inc, Riverhead, NY/Pine Bluff, AR	35000	56000	140000	E	Initial / Reorder	0 / 0	8 / 5	3 / 3	11 / 8																					
3	Rohm & Haas, Philadelphia, PA	32000	45000	100000	E	Initial / Reorder	0 / 0	8 / 8	9 / 9	17 / 17																					
4	Pine Bluff Arsenal, Pine Bluff, AR	46000	76800	144000	E	Initial / Reorder	0 / 0	6 / 5	9 / 5	15 / 10																					
5	Bracco Diagnostics Inc., Princeton, NJ	500	80000	267000	E	Initial / Reorder	0 / 0	5 / 3	5 / 3	10 / 6																					

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JD0056) JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	200	4106	238	458						
Gross Cost	10.1	18.3	17.2	22.0						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	10.1	18.3	17.2	22.0						
Initial Spares										
Total Proc Cost	10.1	18.3	17.2	22.0						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Service Transportable Decontamination System, Small Scale (JSTDS-SS) will consist of an applicator and accessories that apply be employed by the Army and Navy to conduct operational and support thorough decontamination operations. It may also be used to support clearance decontamination missions, limited facility decontamination, and/or terrain decon. The JSTDS-SS will be transportable by a platform capable of being operated in close proximity to combat operations [i.e. High Mobility Multi-purpose Wheeled Vehicle/Trailer, Family of Medium Tactical Vehicles/Trailer] off-road over any terrain.

JUSTIFICATION: FY10 funding will be used to procure 458 systems to be fielded to high threat areas.

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JD0056) JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)
Program Elements for Code B Items: 0604384BP/Proj DE5	Code: B	Other Related Program Elements:

RDTE Code B Item

The Joint Service Transportable Decontamination System, Small Scale (JSTDS-SS) will consist of an applicator and accessories that apply be employed by the Army and Navy to conduct operational and support thorough decontamination operations. It may also be used to support clearance decontamination missions, limited facility decontamination, and/or terrain decon. The JSTDS-SS will be transportable by a platform capable of being operated in close proximity to combat operations [i.e. High Mobility Multi-purpose Wheeled Vehicle/Trailer, Family of Medium Tactical Vehicles/Trailer] off-road over any terrain.

RDTE FY08 and Prior - 17.4M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

	START	COMPLETE
MS C (LRIP)	3Q FY06	3Q FY06
Live Agent Testing	1Q FY07	4Q FY07
IOT&E	4Q FY07	1Q FY08
Full Rate Production	3Q FY09	3Q FY15

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Exhibit P-5, Weapon		Appropriation/Budget Activity/Serial No.			P-1 Line Item Nomenclature:			Weapon System Type:		Date:			
WPN SYST Cost Analysis		PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			(JD0056) JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)					May 2009			
Weapon System		FY08			FY09			FY10					
Cost Elements		Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
JSTDS SMALL SCALE (SS)													
	JSTDS-SS LRIP Hardware	11581	313	37.000	5069	137	37.000						
	JSTDS-SS FRP Hardware				3232	101	32.000	14656	458	32.000			
DECONTAMINANT													
	Decontaminant	110	3793	0.029									
OTHER COSTS													
	Total Package Fielding	6584			5031			7352					
	Accessories, Initial Stock & Spares				3892								
TOTAL		18275			17224			22008					

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Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JD0056) JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
JSTDS-SS LRIP Hardware	DRS, Florence, KY (LRIP)	C/FFP/Opt 2	RDECOM, Natick, Mass	Apr-08	Jun-09	313	37000	Yes		Aug-04	
FY08		C/FFP/Opt 3	RDECOM, Natick, Mass	Jan-09	Jun-09	137	37000	Yes			
JSTDS-SS FRP Hardware	DRS, Florence, KY (FRP)	C/FFP	RDECOM, Natick, Mass	Jul-09	Dec-09	101	32000	Yes	Aug-04		
FY09		C/FFP	RDECOM, Natick, Mass	Jan-10	Jun-10	458	32000	Yes	Aug-04		
FY10											
REMARKS:											

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Exhibit P21, Production Schedule					P-1 Item Nomenclature: (JD0056) JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)													Date: May 2009													
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 10												Fiscal Year 11												L A T E R
							Calendar Year 10												Calendar Year 11												
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
JSTDS-SS LRIP Hardware	3	FY08	A	119	52	67	15	15	15	15	7																				
JSTDS-SS LRIP Hardware	3	FY08	N	31	9	22	3	4	5	5	5																				
JSTDS-SS LRIP Hardware	3	FY08	NG	163	72	91	19	20	20	20	12																				
JSTDS-SS LRIP Hardware	3	FY09	A	137	64	73	16	16	16	16	9																				
JSTDS-SS FRP Hardware	4	FY09	A	91		91		9	9	9	9	9	9	9	10																
JSTDS-SS FRP Hardware	4	FY09	N	10		10		1	1	1	1	1	1	1	1																
JSTDS-SS FRP Hardware	4	FY10	A	413		413				A			34	34	34	34	34	34	34	34	34	34	39								
JSTDS-SS FRP Hardware	4	FY10	N	45		45				A			3	3	3	3	3	3	3	3	3	5	6	7							
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

MFR	NAME/LOCATION	PRODUCTION RATES			UOM		LEAD TIMES			TOTAL	REMARKS
		MIN.	1-8-5	MAX.			Administrative		Production		
Number						Prior 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct		
1	Engineered Air Systems Inc., St Louis, MO	5	100	200	E	Initial / Reorder	0 / 0	10 / 4	6 / 5	16 / 9	
2	MODEC, Denver, CO	100	30000	48000	E	Initial / Reorder	0 / 0	8 / 4	3 / 2	11 / 6	
3	DRS, Florence, KY (LRIP)	20	100	200	E	Initial / Reorder	0 / 0	6 / 4	15 / 15	21 / 19	
4	DRS, Florence, KY (FRP)	20	100	200	E	Initial / Reorder	0 / 0	6 / 3	6 / 6	12 / 9	

Budget Line Item #95
JOINT BIO DEFENSE PROGRAM (MEDICAL)

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Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (MA0800) JOINT BIO DEFENSE PROGRAM (MEDICAL)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost	999.3	55.6	38.6	12.7						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	999.3	55.6	38.6	12.7						
Initial Spares										
Total Proc Cost	999.3	55.6	38.6	12.7						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Biological Defense Program (Medical) effort consists of the following: (1) the Critical Reagents Program (CRP); (2) the Joint Biological Agent Identification and Diagnostic System (JBAIDS); and (3) the DoD Biological Vaccines Procurement. CRP integrates and consolidates all Department of Defense (DoD) reagents/antibodies/DNA biological detection requirements. JBAIDS is a medical test equipment platform which: identifies Biological Warfare (BW) agents and pathogens (Increment 1); may be used as a diagnostic tool by medical professionals to treat patients; comprised of platform test equipment hardware (including computer and case); assay test kits specific to BW agents; and protocols for sample preparation and system operation. The vaccine acquisition components of the Joint Biological Defense Program are focused on a prime (systems) contract approach in which the prime contractor will manage biological defense medical products.

JUSTIFICATION: Continues support of the current national military strategy, specifically, a worldwide force projection capability that requires BW detection in order to protect the Force against potential threats. Operational forces, contingency, special operations/low intensity conflict, counter narcotics, and other high-risk missions, have the immediate need to survive and sustain operations in a biological agent threat environment. Operating forces have a critical need for defense from worldwide proliferation of BW capabilities and medical treatment of BW related casualties. The Joint Biological Defense Program will provide a tiered strategy for detection and warning comprised of complementary detection/identification systems to provide theater protection against a large area and point attacks. The other biological defense mission requirement is to provide US Forces with enhanced survivability and force protection thru the introduction of Food and Drug Administration (FDA) approved vaccines to protect against current and emerging threats, which could be deployed against maneuver units, or stationary facilities in the theater of operations.

UNCLASSIFIED

Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (MA0800) JOINT BIO DEFENSE PROGRAM (MEDICAL)			Weapon System Type:			Date: May 2009		
Weapon System Cost Elements		ID	FY08			FY09			FY10				
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
JOINT BIO AGENT IDENT AND DIAG SYSTEM (JBAIDS)			4902			479							
DOD BIOLOGICAL VACCINE PROCUREMENT			48298			38109			12740				
CRITICAL REAGENTS PROGRAM (CRP)			2413										
TOTAL			55613			38588			12740				

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JM0001) JOINT BIO AGENT IDENT AND DIAG SYSTEM (JBAIDS)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	79	26								
Gross Cost	52.7	4.9	0.5							
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	52.7	4.9	0.5							
Initial Spares										
Total Proc Cost	52.7	4.9	0.5							
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Biological Agent Identification and Diagnostic System (JBAIDS) program is the first effort by the Department of Defense (DoD) to develop and field a common medical test equipment and diagnostic platform among all the Military Services. JBAIDS (Increment 1) will identify both Biological Warfare (BW) agents and pathogens of operational concern, and will be used as a diagnostic tool by medical professionals to treat patients. A multi-increment configuration, evolutionary development and fielding approach is proposed. JBAIDS Increment 1 is comprised of platform test equipment hardware (includes computer and case), assay test kits specific to BW agents, and protocols for sample preparation and system operation. A modified commercial off-the-shelf (COTS) system is being procured to meet this requirement. The COTS system will be configured to support forward medical operations for force health protection. In FY09, the JBAIDS program supports quality assurance efforts, Food and Drug Administration (FDA) current Good Manufacturing Practices (cGMP) engineering integration, and FDA clearance for diagnostics.

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JM0001) JOINT BIO AGENT IDENT AND DIAG SYSTEM (JBAIDS)			Weapon System Type:			Date: May 2009			
Weapon System Cost Elements		ID	FY08			FY09			FY10					
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
JBAIDS INCREMENT 1														
JBAIDS INC 1 Assay (Reagent Kits) (FRP)		A	439	39936	0.011									
JBAIDS INC 1 DNA/RNA Extraction Kits (FRP)		A	120	19968	0.006									
JBAIDS INC 1 ASIOE (FRP)		A	442	26	17.000									
OTHER COSTS														
Includes Quality Assurance, FDA Current Good Manufacturing Practices (cGMP), Clearance for Diagnostics 510(k) submittals (Contractor)			2834			180								
Includes Current Good Manufacturing Practices (cGMP), Clearance for Diagnostics 510(k) submittals, pre-clinical/clinical trials, and site support activities (Government)			183											
Engineering, Integration, Assay Validation, and Program Management Support			504			159								
New Equipment Training (NET)			380			140								
TOTAL			4902			479								

Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE				Weapon System Type:			P-1 Line Item Nomenclature: (JM0001) JOINT BIO AGENT IDENT AND DIAG SYSTEM (JBAIDS)				
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
JBAIDS INC 1 Assay (Reagent Kits) (FRP) FY08	Idaho Technology, Inc., Salt Lake City, UT	C/FFP - Option	US Army Missile and Space Command, Frederick, MD	Sep-08	Jan-09	39936	11	Yes			
JBAIDS INC 1 DNA/RNA Extraction Kits (FRP) FY08	Idaho Technology, Inc., Salt Lake City, UT	C/FFP - Option	US Army Missile and Space Command, Frederick, MD	Sep-08	Jan-09	19968	6	Yes			
JBAIDS INC 1 ASIOE (FRP) FY08	Idaho Technology, Inc., Salt Lake City, UT	C/FFP - Option	US Army Missile and Space Command, Frederick, MD	Sep-08	Jan-09	26	17000	Yes			
REMARKS: ASIOE - Associated Support Items of Equipment											

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Exhibit P21, Production Schedule						P-1 Item Nomenclature: (JM0001) JOINT BIO AGENT IDENT AND DIAG SYSTEM (JBAIDS)																		Date: May 2009								
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08													Fiscal Year 09												L A T E R
							Calendar Year 08													Calendar Year 09												
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S		
							C	O	E	A	E	A	P	A	U	U	U	E	C	O	E	A	E	A	P	A	U	U	U	E		
JBAIDS INC 1 DNA/RNA Extraction Kits (FRP)	2	FY05	A	14400		14400	8000	6400																								
JBAIDS INC 1 Assay (Reagent Kits) (FRP)	3	FY07	J	73568	16000	57568	16000	16000	16000	9568																						
JBAIDS INC 1 DNA/RNA Extraction Kits (FRP)	2	FY07	J	30784	8000	22784	8000	8000	6784																							
JBAIDS INC 1 ASIOE (FRP)	2	FY07	A	23	2	21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2									
JBAIDS INC 1 Assay (Reagent Kits) (FRP)	3	FY08	N	39936		39936									A					7680	4608	3328	3328									
JBAIDS INC 1 DNA/RNA Extraction Kits (FRP)	2	FY08	N	19968		19968									A					4992	4992	4992	4992									
JBAIDS INC 1 ASIOE (FRP)	2	FY08	N	26		26									A					5	5	4	12									

MFR	NAME/LOCATION	PRODUCTION RATES			UOM	LEAD TIMES				TOTAL	REMARKS
		MIN.	1-8-5	MAX.		Administrative		Production			
						Prior 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct		
1	Idaho Technology, Inc., Salt Lake City, UT	1	25	50	E	Initial / Reorder	0 / 0	6 / 6	6 / 10	12 / 16	
2	Idaho Technology, Inc., Salt Lake City, UT	3200	40000	80000	E	Initial / Reorder	0 / 0	11 / 11	6 / 5	17 / 16	
3	Idaho Technology, Inc., Salt Lake City, UT	1600	20000	40000	E	Initial / Reorder	0 / 0	11 / 11	6 / 5	17 / 16	

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JX0005) DOD BIOLOGICAL VACCINE PROCUREMENT
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	896519	1730816	1961512	622618						
Gross Cost	502.0	48.3	38.1	12.7						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	502.0	48.3	38.1	12.7						
Initial Spares										
Total Proc Cost	502.0	48.3	38.1	12.7						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The biological vaccine procurement program is critical for national defense. These products directly support the Secretary of Defense program for the immunization of U.S. forces against biological warfare (BW) agents. Items to be procured are the FDA licensed Anthrax Vaccine Adsorbed (AVA), smallpox vaccine, and Vaccinia Immune Globulin Intravenous (VIGIV). Funding supports vaccine and licensed biologic production, quality assurance and control, process, equipment validation, process change management, documentation control, and all FDA license maintenance and post-approval commitments.

The Joint Chemical Biological Defense program uses the prime systems contract (PSC) approach for the Joint Vaccine Acquisition Program (JVAP) in which the prime contractor manages biological medical defense products to include: full-scale licensed vaccine production, stockpiling, testing, and distribution. Products to be procured and stockpiled in the future under the JVAP PSC include Recombinant Botulinum and Plague.

JUSTIFICATION: FY10 funding procures FDA licensed doses of AVA and smallpox vaccine to support the Secretary of Defense's immunization program. Funding also supports quality assurance efforts for the Investigational New Drug (IND) vaccines to ensure their availability for contingency use.

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JX0005) DOD BIOLOGICAL VACCINE PROCUREMENT
Program Elements for Code B Items: 0603884BP/Proj MB4; 0604384BP/Proj MB5	Code: B	Other Related Program Elements:

RD&E Code B Item

The biological vaccine procurement program is critical for national defense. These products directly support the Secretary of Defense program for the immunization of U.S. forces against biological warfare (BW) agents. Items to be procured are the FDA licensed Anthrax Vaccine Adsorbed (AVA), smallpox vaccine, and Vaccinia Immune Globulin Intravenous (VIGIV). Funding supports vaccine and licensed biologic production, quality assurance and control, process, equipment validation, process change management, documentation control, and all FDA license maintenance and post-approval commitments.

The Joint Chemical Biological Defense program uses the prime systems contract (PSC) approach for the Joint Vaccine Acquisition Program (JVAP) in which the prime contractor manages biological medical defense products to include: full-scale licensed vaccine production, stockpiling, testing, and distribution. Products to be procured and stockpiled in the future under the JVAP PSC include Recombinant Botulinum and Plague.

RD&E FY08 and Prior - 128.6M; FY09 - 80.9M; FY10 - 60.0M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES	START	COMPLETE
rBV A/B - Milestone B	3Q FY08	3Q FY08
rBV A/B - Phase 2 Clinical Trial (A/B)	4Q FY08	4Q FY11
PLG - Milestone B	3Q FY06	3Q FY06
PLG - Process Validation - Large Scale	4Q FY07	2Q FY11

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Exhibit P-5, Weapon		Appropriation/Budget Activity/Serial No.			P-1 Line Item Nomenclature:			Weapon System Type:		Date:			
WPN SYST Cost Analysis		PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			(JX0005) DOD BIOLOGICAL VACCINE PROCUREMENT					May 2009			
Weapon System		FY08			FY09			FY10					
Cost Elements		ID	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
		CD	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
ANTHRAX													
Anthrax Vaccine Doses		A	40307	1727690	0.023	30335	1150360	0.026	8380	317785	0.026		
Anthrax Vaccine - Testing, Labeling, Shipping and Security			2084			1681			768				
SMALLPOX													
Smallpox Vaccine Doses		A				4352	811152	0.005	1640	304833	0.005		
VACCINIA IMMUNE GLOBULIN (VIG)													
VIG Intravenous (VIGIV) Doses		A	4439	3126	1.420								
OTHER COSTS													
Bio Defense Medical Product Storage and Testing			1468			1741			1952				
TOTAL			48298			38109			12740				

UNCLASSIFIED

Exhibit P-5a, Budget Procurement History and Planning										Date:
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JX0005) DOD BIOLOGICAL VACCINE PROCUREMENT				
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date
Anthrax Vaccine Doses FY09	Centers for Disease Control (AVA)	MIPR	Atlanta, GA	Aug-09	Oct-09	1150360	26	Yes		
FY10	Centers for Disease Control (AVA)	MIPR	Atlanta, GA	Jun-10	Aug-10	317785	26	Yes		
Smallpox Vaccine Doses FY09	Centers for Disease Control (SPX)	MIPR	Atlanta, GA	Jan-09	Mar-09	811152	5	Yes		
FY10	Centers for Disease Control (SPX)	MIPR	Atlanta, GA	Jan-10	Mar-10	304833	5	Yes		
REMARKS: Approximately 3,600 vials of VIGIV is equivalent to 300 TEDs.										

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Exhibit P21, Production Schedule					P-1 Item Nomenclature: (JX0005) DOD BIOLOGICAL VACCINE PROCUREMENT												Date: May 2009																														
COST ELEMENTS	M F R	FY	S E R V	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08												Fiscal Year 09										L A T E R																		
							Calendar Year 08												Calendar Year 09																												
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J		A	S																
Smallpox Vaccine Doses	3	FY06	J	150000		150000																																									
Vaccinia Immune Globulin (VIG) - 48 Vial	1	FY06	J	48		48																																									
Anthrax Vaccine Doses	2	FY07	J	896125		896125												A																													
VIG Intravenous (VIGIV) Doses	1	FY07	J	3600		3600												A																													
Anthrax Vaccine Doses	2	FY08	J	1727690		1727690																																									
VIG Intravenous (VIGIV) Doses	1	FY08	J	3126		3126																																									
Anthrax Vaccine Doses	2	FY09	J	1150360		1150360																																									
Smallpox Vaccine Doses	3	FY09	J	811152		811152																																									

REMARKS
 FY08 Smallpox Vaccine requirements of 953,400 doses purchased with FY07 funding.
 VIGIV procured every fourth year with a 3,600 dose requirement.

UNCLASSIFIED

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JX0210) CRITICAL REAGENTS PROGRAM (CRP)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost	27.4	2.4								
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	27.4	2.4								
Initial Spares										
Total Proc Cost	27.4	2.4								
Flyaway U/C										
Wp'n Sys Proc U/C										

DESCRIPTION: In order to detect anthrax spores (antigen), a critical reagent (antibody) may be needed for use in a detection Joint Biological Agent and Identification System (JBAIDS) platform. Multiple medical and non-medical platforms require a continuous, quality supply of critical reagents for effective warning to significantly enhance force survivability. They are also required for rapid medical diagnosis to ensure appropriate treatment of exposed personnel. A common set of reagents for all platforms are required. The Critical Reagents Program (CRP) will ensure the standardization, quality, and availability of reagents that are critical to the successful development, test, and operation of BW detection systems and medical biological products. The CRP integrates and consolidates all Department of Defense (DoD) reagents/antibodies detection requirements from System Development and Demonstration (SDD) through production. The CRP will ensure the availability of high quality reagents and Lateral Flow Immunoassays (LFI) throughout the life cycle of all systems managed to include: Biological Integrated Detection System (BIDS), Joint Biological Point Detection System (JBPDS), JBAIDS, Joint Biological Tactical Detection System (JBTDS), Whole System Live Agent Testing (WSLAT), Joint Chemical Biological Radiological Water Monitor (JCBRAWM), and Installation Protection Program (IPP). The CRP also supports the Navy Forward Deployed Lab, the Area Medical Lab (AML), the Army 20th Support Command (Chemical, Biological, Nuclear and High Yield Explosives [CBRNE]), the Army Technical Escort Unit (TEU), the Marine Corps Chemical-Biological Incident Response Force (CBIRF), other counter-terrorist and special reconnaissance teams, and foreign countries. The CRP is responsible for managing the production, storage and validation of Hand Held Immunochromatographic Assays (HHAs), polymerase chain reaction (PCR) genomic assays, electrochemiluminescence (ECL) immunoassays, antibodies, and select biological threat agent and genomic reference materials.

NOTE: Antibodies, assays, and reference materials are ordered using outside source funding (DoD and other Government agencies).

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JX0210) CRITICAL REAGENTS PROGRAM (CRP)
Program Elements for Code B Items: 0604384BP/Proj MB5	Code: B	Other Related Program Elements:

RDTE&E Code B Item

In order to detect anthrax spores (antigen), a critical reagent (antibody) may be needed for use in a detection Joint Biological Agent and Identification System (JBAIDS) platform. Multiple medical and non-medical platforms require a continuous, quality supply of critical reagents for effective warning to significantly enhance force survivability. They are also required for rapid medical diagnosis to ensure appropriate treatment of exposed personnel. A common set of reagents for all platforms are required. The Critical Reagents Program (CRP) will ensure the standardization, quality, and availability of reagents that are critical to the successful development, test, and operation of BW detection systems and medical biological products. The CRP integrates and consolidates all Department of Defense (DoD) reagents/antibodies detection requirements from System Development and Demonstration (SDD) through production. The CRP will ensure the availability of high quality reagents and Lateral Flow Immunoassays (LFI) throughout the life cycle of all systems managed to include: Biological Integrated Detection System (BIDS), Joint Biological Point Detection System (JBPDs), JBAIDS, Joint Biological Tactical Detection System (JBTDS), Whole System Live Agent Testing (WSLAT), Joint Chemical Biological Radiological Water Monitor (JCBRAWM), and Installation Protection Program (IPP). The CRP also supports the Navy Forward Deployed Lab, the Area Medical Lab (AML), the Army 20th Support Command (Chemical, Biological, Nuclear and High Yield Explosives [CBRNE]), the Army Technical Escort Unit (TEU), the Marine Corps Chemical-Biological Incident Response Force (CBIRF), other counter-terrorist and special reconnaissance teams, and foreign countries. The CRP is responsible for managing the production, storage and validation of Hand Held Immunochromatographic Assays (HHAs), polymerase chain reaction (PCR) genomic assays, electrochemiluminescence (ECL) immunoassays, antibodies, and select biological threat agent and genomic reference materials.

RDT&E FY08 and Prior - 32.6M; FY09 - 7.4M; FY10 - 4.4M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES	START	COMPLETE
CRP - Expand Select Biological Threat Agent Reference Materials	4Q FY03	2Q FY13
CRP - Development of ECL Immunoassays & PCR Genomic Assays	1Q FY03	2Q FY13
CRP - Development and Implementation of Quality Initiatives, Validation Program, and Systems Engineering	4Q FY06	2Q FY13
CRP - Implementation of ISO Guidelines into Select Biological Threat Agent Reference Materials	3Q FY07	4Q FY10

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JX0210) CRITICAL REAGENTS PROGRAM (CRP)			Weapon System Type:			Date: May 2009			
Weapon System Cost Elements		ID	FY08			FY09			FY10					
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
SELECT BIOLOGICAL THREAT AGENT REFERENCE MATERIALS														
Select Biological Threat Agent Reference Material (Grams)		A	284	9	31.556									
OTHER COSTS														
Repository Costs			1554											
Quality Assurance/Quality Control Support			150											
Technical Program Support/Conformance Test Laboratory			425											
TOTAL			2413											

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Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JX0210) CRITICAL REAGENTS PROGRAM (CRP)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
Select Biological Threat Agent Reference Material (Grams) FY08	Dugway Proving Ground (DPG), Dugway, UT	MIPR	DPG, Dugway, UT	Dec-07	Apr-08	9	31556	Yes			
REMARKS: Antibodies, assays, and select biothreat agent reference materials purchased with other DoD and government agency outside source funding.											

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Budget Line Item #96
COLLECTIVE PROTECTION

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Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (PA1600) COLLECTIVE PROTECTION
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost	407.5	39.6	37.7	27.9						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	407.5	39.6	37.7	27.9						
Initial Spares										
Total Proc Cost	407.5	39.6	37.7	27.9						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The objective of the Chemical and Biological (CB) Collective Protection program is to provide CB Collective Protection systems. The CB Collective Protection systems will be smaller, lighter, less costly, and more easily supported logistically at the crew, unit, ship, and aircraft level. Collective protection platforms include shelters, vehicles, ships, aircraft, buildings, and hospitals. The Collective Protected Field Hospitals (CPFH) provides Joint Service medical personnel CBRN collective protection to their medical treatment facilities. The Army's Collectively Protected Deployable Medical System (CP DEPMEDS); the Air Force's Collectively Protected Expeditionary Medical Support (CP EMEDS); and the Navy's Chemically Hardened Expeditionary Medical Facility (CH EMF) converts the service's field hospitals into a fully operational, environmentally controlled, and collectively protected medical treatment facility. The requirement is to sustain medical operations in a CB contaminated environment for 72 hours. The Collective Protection System (CPS) Backfit Program installs CPS in mission critical medical and command and control spaces on two Navy amphibious ship classes: Landing Helicopter Assault (LHA), Landing Helicopter Dock (LHD) and Landing Ship Dock (LSD). The Chemical Biological Protective Shelter (CBPS) provides a contamination free, environmentally controlled working area for medical, combat service, and combat service support personnel to obtain relief from the continuous need to wear CB protective clothing for greater than 72 hours of operation.

JUSTIFICATION: Operational forces across the continuum of global, contingency, special operations/low intensity conflict, counternarcotics, and other high-risk missions have immediate needs to safely operate, survive and sustain operations in a nuclear, biological and chemical (NBC) agent threat environment. Operating forces have a critical need for defense against worldwide proliferation of NBC warfare capabilities and for medical treatment facilities.

Exhibit P-40M, Budget Item Justification Sheet						Date: May 2009					
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE					P-1 Item Nomenclature (PA1600) COLLECTIVE PROTECTION						
Program Elements for Code B Items:				Code:	Other Related Program Elements:						
Description		Fiscal Years									
OSIP NO.	Classification	PRIOR	FY 2008	FY 2009	FY 2010					TC	Total
(JN0014) Collective Protection System Amphibious Backfit		213.0	11.6	15.8	12.0						252.4
Totals		213.0	11.6	15.8	12.0						252.4

UNCLASSIFIED

Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (PA1600) COLLECTIVE PROTECTION			Weapon System Type:			Date: May 2009		
Weapon System Cost Elements		ID	FY08			FY09			FY10				
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
COLLECTIVE PROT SYS AMPHIB BACKFIT (CPS BKFT)			11592			5069			12000				
CP FIELD HOSPITALS (CPFH)			3496			3333			3446				
CB PROTECTIVE SHELTER (CBPS)			24500			29271			12492				
TOTAL			39588			37673			27938				

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Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JN0014) COLLECTIVE PROT SYS AMPHIB BACKFIT (CPS BKFT)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010							
Proc Qty	42	4	4	4							
Gross Cost	110.7	11.6	15.8	12.0							
Less PY Adv Proc											
Plus CY Adv Proc											
Net Proc (P-1)	110.7	11.6	15.8	12.0							
Initial Spares											
Total Proc Cost	110.7	11.6	15.8	12.0							
Flyaway U/C											
Wpn Sys Proc U/C											

DESCRIPTION: The increased threat of Weapons of Mass Destruction (WMD) has reinforced the need to provide better defensive measures to protect personnel and vital ship interior spaces from toxic chemical, biological agents, and radioactive fallout. The Collective Protection System (CPS) Backfit Program was established as a result of the 1997 Quadrennial Defense Review (QDR). The QDR documented a requirement for installation of CPS in mission critical medical and command and control spaces on three Navy amphibious ship classes: Landing Helicopter Assault (LHA), Landing Helicopter Dock (LHD), and Landing Ship Dock (LSD). CPS is integrated with the ship's heating, ventilation, and air-conditioning (HVAC) systems and provides filtered supply air for over-pressurization of specified shipboard zones to keep toxic contamination from entering protected interior spaces. CPS eliminates the need for the ship's crew to wear protective gear (i.e., suits, masks). CPS will be installed on high priority ships and is adaptable to any ship airflow requirements. Procurement objective is to install CPS on 15 amphibious ships totaling 50 zones of protection. This objective is accomplished by conducting advance planning, completing Shipboard Installation Drawings (SIDs), procuring long lead items, procuring installation material, completing CPS installations, providing engineering/technical support, performing system start-ups, completing operational training, and system certification.

JUSTIFICATION: FY10 funds the installation of four kits of CPS equipment on LSD-43 (USS FORT MCHENRY) creating interior areas that will be safe from the effects of WMD. CPS Backfit enables amphibious ships to sustain operations while under threat of WMD contamination.

UNCLASSIFIED

INDIVIDUAL MODIFICATION										Date: May 2009															
MODIFICATION TITLE: (JN0014) Collective Protection System Amphibious Backfit																									
MODELS OF SYSTEM AFFECTED: LHD class ships																									
DESCRIPTION/JUSTIFICATION: The CPS will be installed on LHD class ships (1-8) in the Combat Information Center (CIC), two medical spaces, and a casualty decontamination area. CPS Backfit efforts will include ship surveys, engineering design analysis, detail design SIDs, development of modular installation packages, procurement of hardware, logistic warehousing and staging, and installation via Alteration Installation Teams (AITs). Procurement of government furnished equipment (GFE) is required. The CPS Backfit installation process is designed to maximize flexibility in procuring, receiving, warehousing, and assembling the necessary material and equipment to meet the challenges associated with changing ship availabilities. Each quantity denotes a protected zone.																									
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:																									
Milestone		Planned				Accomplished																			
LHD-1 (USS WASP)						2001																			
LHD-2 (USS ESSEX)						2001																			
LHD-3 (USS KEARSARGE)						2002																			
LHD-4 (USS BOXER)						2002																			
LHD-5 (USS BATAAN)						2003																			
LHD-6 (USS BONHOMME RICHARD)						2006																			
LHD-7 (USS IWO JIMA)						2007																			
Installation Schedule:																									
		FY 2008				FY 2009				FY 2010															
Pr Yr		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Totals																									
Inputs		28																							
Outputs		28																							
														To				Totals							
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete							
Inputs																						28			
Outputs																						28			
METHOD OF IMPLEMENTATION:		AIT				ADMINISTRATIVE LEADTIME:				2															
Contract Dates:		FY 2009				FY 2010																			
Delivery Date:		FY 2009				FY 2010																			

UNCLASSIFIED

INDIVIDUAL MODIFICATION

Date: May 2009

MODIFICATION TITLE (Cont): (JN0014) Collective Protection System Amphibious Backfit

MODELS OF SYSTEM AFFECTED: LHD class ships

FINANCIAL PLAN: (\$ in Millions)

	FY 2007 and Prior		FY 2008		FY 2009		FY 2010										TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$												
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment	28	23.1																	28	23.1
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data		4.0																		4.0
Training Equipment																				
Support Equipment																				
Other		4.1																		4.1
Interim Contractor Support																				
Installation of Hardware																				
FY 2007 & Prior Eqpt -- Kits	28	26.7																	28	26.7
FY 2008 Eqpt -- Kits																				
FY 2009 Eqpt -- Kits																				
FY 2010 Eqpt -- Kits																				
FY 2011 Eqpt -- Kits																				
FY 2012 Eqpt -- Kits																				
FY 2013 Eqpt -- Kits																				
FY 2014 Eqpt -- Kits																				
FY 2015 Eqpt -- Kits																				
TC Equip-Kits																				
Total Equip-Kits	28	26.7																	28	26.7
Total Procurement Cost		57.9																		57.9

UNCLASSIFIED

INDIVIDUAL MODIFICATION																Date: May 2009																					
MODIFICATION TITLE: (JN0014) Collective Protection System Amphibious Backfit																																					
MODELS OF SYSTEM AFFECTED: LHA class ships																																					
DESCRIPTION/JUSTIFICATION: CPS will be installed on LHA class ships (1-5) in two medical spaces, and a casualty decontamination space. CPS Backfit efforts will include ship surveys, engineering design analysis, detail design SIDs, procurement of hardware, modular installation packages, logistical warehousing and staging, and installation via AITs. Procurement of GFE is required. The CPS Backfit installation process is designed to maximize flexibility in procuring, receiving, warehousing, and assembling the necessary equipment and material to meet the challenges associated with changing ship availabilities. Each quantity in this budget denotes a zone of protection.																																					
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:																																					
<table border="0" style="width:100%;"> <tr> <td style="width:30%;">Milestone</td> <td style="width:20%;">Planned</td> <td style="width:50%;">Accomplished</td> </tr> <tr> <td>LHA-5 (USS PELELIU) (ONE ZONE)</td> <td></td> <td>2000</td> </tr> <tr> <td>LHA-3 (USS BELLEAU WOOD)</td> <td></td> <td>2003</td> </tr> <tr> <td>LHA-1 (USS TARAUA)</td> <td></td> <td>2004</td> </tr> <tr> <td>LHA-5 (USS PELELIU) (THREE ZONES)</td> <td></td> <td>2004</td> </tr> <tr> <td>LHA-4 (USS NASSAU)</td> <td></td> <td>2006</td> </tr> </table>																				Milestone	Planned	Accomplished	LHA-5 (USS PELELIU) (ONE ZONE)		2000	LHA-3 (USS BELLEAU WOOD)		2003	LHA-1 (USS TARAUA)		2004	LHA-5 (USS PELELIU) (THREE ZONES)		2004	LHA-4 (USS NASSAU)		2006
Milestone	Planned	Accomplished																																			
LHA-5 (USS PELELIU) (ONE ZONE)		2000																																			
LHA-3 (USS BELLEAU WOOD)		2003																																			
LHA-1 (USS TARAUA)		2004																																			
LHA-5 (USS PELELIU) (THREE ZONES)		2004																																			
LHA-4 (USS NASSAU)		2006																																			
Installation Schedule:																																					
	Pr Yr	FY 2008				FY 2009				FY 2010																											
	Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																
Inputs	14																																				
Outputs	14																																				
																		To	Totals																		
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete																			
Inputs																			14																		
Outputs																			14																		
METHOD OF IMPLEMENTATION: AIT ADMINISTRATIVE LEADTIME:																																					
Contract Dates: FY 2009 FY 2010																																					
Delivery Date: FY 2009 FY 2010																																					

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INDIVIDUAL MODIFICATION

Date: May 2009

MODIFICATION TITLE (Cont): (JN0014) Collective Protection System Amphibious Backfit

MODELS OF SYSTEM AFFECTED: LHA class ships

FINANCIAL PLAN: (\$ in Millions)

	FY 2007 and Prior		FY 2008		FY 2009		FY 2010										TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$												
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment	14	133.0																	14	133.0
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data		3.0																		3.0
Training Equipment																				
Support Equipment																				
Other		3.9																		3.9
Interim Contractor Support																				
Installation of Hardware																				
FY 2007 & Prior Eqpt -- Kits	14	15.2																	14	15.2
FY 2008 Eqpt -- Kits																				
FY 2009 Eqpt -- Kits																				
FY 2010 Eqpt -- Kits																				
FY 2011 Eqpt -- Kits																				
FY 2012 Eqpt -- Kits																				
FY 2013 Eqpt -- Kits																				
FY 2014 Eqpt -- Kits																				
FY 2015 Eqpt -- Kits																				
TC Equip-Kits																				
Total Equip-Kits	14	15.2																	14	15.2
Total Procurement Cost		155.1																		155.1

UNCLASSIFIED

INDIVIDUAL MODIFICATION										Date: May 2009												
MODIFICATION TITLE: (JN0014) Collective Protection System Amphibious Backfit																						
MODELS OF SYSTEM AFFECTED: LSD Class Ships																						
DESCRIPTION/JUSTIFICATION: The CPS will be installed on LSD class ships (41, 42 & 43) in the berthing, rest and relief, Combat Information Center (CIC), and medical spaces. CPS Backfit efforts will include ship surveys, engineering design analysis, detail design SIDs, development of modular installation packages, procurement of hardware, logistic warehousing and staging, and installation via Alteration Installation Teams (AITs). Procurement of government furnished equipment (GFE) is required. The CPS Backfit installation process is designed to maximize flexibility in procuring, receiving, warehousing, and assembling the necessary material and equipment to meet the challenges associated with changing ship planned maintenance availability schedules. Each quantity denotes one kit, four kits equal a protected zone.																						
DEVELOPMENT STATUS/MAJOR DEVELOPMENT MILESTONES:																						
Milestone		Planned				Accomplished																
LSD-42 (USS GERMANTOWN)		2008																				
LSD-41 (USS WHIDBEY ISLAND)		2009																				
LSD-43 (USS FORT MCHENRY)		2010																				
Installation Schedule:																						
		Pr Yr	FY 2008				FY 2009				FY 2010											
		Totals	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Inputs					4		4				4											
Outputs									4	4				4								
														To				Totals				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	Complete				
Inputs																			12			
Outputs																			12			
METHOD OF IMPLEMENTATION:		AIT				ADMINISTRATIVE LEADTIME:				2												
Contract Dates:		FY 2009				03/09				FY 2010				08/10								
Delivery Date:		FY 2009				11/09				FY 2010				4/11								

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INDIVIDUAL MODIFICATION

Date: May 2009

MODIFICATION TITLE (Cont): (JN0014) Collective Protection System Amphibious Backfit

MODELS OF SYSTEM AFFECTED: LSD Class Ships

FINANCIAL PLAN: (\$ in Millions)

	FY 2007 and Prior		FY 2008		FY 2009		FY 2010										TC		TOTAL	
	Qty	\$	Qty	\$	Qty	\$	Qty	\$												
RDT&E																				
PROCUREMENT																				
Kit Quantity																				
Installation Kits																				
Installation Kits, Nonrecurring																				
Equipment			4	3.8	4	5.8	4	3.7											12	13.3
Equipment, Nonrecurring																				
Engineering Change Orders																				
Data				1.3		1.7		1.6												4.6
Training Equipment																				
Support Equipment																				
Other				0.9		0.9		0.9												2.7
Interim Contractor Support																				
Installation of Hardware																				
FY 2007 & Prior Eqpt -- Kits																				
FY 2008 Eqpt -- Kits			4	5.6															4	5.6
FY 2009 Eqpt -- Kits					4	7.4													4	7.4
FY 2010 Eqpt -- Kits							4	5.8											4	5.8
FY 2011 Eqpt -- Kits																				
FY 2012 Eqpt -- Kits																				
FY 2013 Eqpt -- Kits																				
FY 2014 Eqpt -- Kits																				
FY 2015 Eqpt -- Kits																				
TC Equip-Kits																				
Total Equip-Kits			4	5.6	4	7.4	4	5.8											12	18.8
Total Procurement Cost				11.6		15.8		12.0												39.4

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JP0911) CP FIELD HOSPITALS (CPFH)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	6	2	3	2						
Gross Cost	6.5	3.5	5.3	3.4						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	6.5	3.5	5.3	3.4						
Initial Spares										
Total Proc Cost	6.5	3.5	5.3	3.4						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Collectively Protected Field Hospitals (CPFH) program provides each Service's medical personnel a Chemical, Biological, Radiological, and Nuclear (CBRN) collective protection capability for their medical treatment facilities. The Collective Protection Joint Project Office ensures that each service's validated CPFH requirements are met in the timeliest and cost efficient way. The Army's Collectively Protected Deployable Medical System (CP DEPMEDS); the Air Force's Collectively Protected Expeditionary Medical Support (CP EMEDS); and the Navy's Chemically Hardened Expeditionary Medical Facility (CH EMF) converts the service's field hospitals into a fully operational, environmentally controlled, and collectively protected medical treatment facility. Major components include barrier materials, Environmental Control Units (ECU), and air purification equipment. The requirement is to sustain medical operations in a Chemical and Biological (CB) contaminated environment for 72 hours.

JUSTIFICATION: FY10 will fund one CH EMF variant and one CP DEPMEDS variant. These shelter systems enable the Service's field hospitals to perform critical life saving medical operations without the need for individual protective equipment while in high threat areas and during CB attacks.

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JP0911) CP FIELD HOSPITALS (CPFH)			Weapon System Type:			Date: May 2009	
Weapon System Cost Elements	ID	FY08			FY09			FY10				
	CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
CH EMF 10-BED MODULE CH EMF 10-BED MODULE					1289	1	1289	1288	1	1288		
CH EMF 40-BED MODULE CH EMF 40-BED MODULE					1592	1	1592					
CH EMF 100-BED MODULE A CH EMF 100-BED MODULE A					928	1	928.000					
CP DEPMEDS MRI 44-BED SYSTEM CONVERSION/ASSEMBLY								47				
CP DEPMEDS MRI 40-BED AUGMENT SYSTEM CONVERSION/ASSEMBLY								46				
CP DEPMEDS MRI 164-BED CP DEPMEDS MRI 164-BED SYSTEM CONVERSION/ASSEMBLY		427	2	213.500				190 47	1	190.000		
OTHER COSTS												
CH EMF COMMON COMPONENTS		1190			11			472				
CP DEPMEDS COMMON COMPONENTS					199							
CP DEPMEDS SYSTEM TESTING								465				
NEW EQUIPMENT TRAINING		145										
INTEGRATED LOGISTICS SUPPORT		476			306			206				
SYSTEMS ENGINEERING SUPPORT		754			610			185				
INTEGRATED ACQUISITION MANAGEMENT		504			398			500				
TOTAL		3496			5333			3446				

Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JP0911) CP FIELD HOSPITALS (CPFH)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
CH EMF 10-BED MODULE FY09	NEMSCOM, Cheatham Annex, Williamsburg, VA	MIPR	TACOM, Rock Island, IL	Jan-09	Jan-11	1	1289000	Yes			
FY10		MIPR	TACOM, Rock Island, IL	Jan-10	Jan-12	1	1288000	Yes			
CH EMF 40-BED MODULE FY09	NEMSCOM, Cheatham Annex, Williamsburg, VA	MIPR	TACOM, Rock Island, IL	Jan-09	Jan-11	1	1592000	Yes			
CH EMF 100-BED MODULE A FY09	NEMSCOM, Cheatham Annex, Williamsburg, VA	MIPR	TACOM, Rock Island, IL	Jan-09	Jan-11	1	928000	Yes			
CP DEPMEDS MRI 164-BED FY10	Pine Bluff Arsenal, Pine Bluff, AR	MIPR	TACOM, Rock Island, IL	Jan-10	Jan-12	1	190000	Yes			

REMARKS: The items being procured for CP Field Hospitals (CPFH) are packages/assemblages that can be over 80 separate line items. Some of the longest lead-time item such as generators and CB latrines can be up to 24 months for delivery. This long lead time combined with the time requirement to match all of the parts together may results in an estimated delivery time up to 36 months.

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (R12301) CB PROTECTIVE SHELTER (CBPS)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	268	26	22	5						
Gross Cost	224.9	24.5	16.5	12.5						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	224.9	24.5	16.5	12.5						
Initial Spares										
Total Proc Cost	224.9	24.5	16.5	12.5						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Services need a highly mobile, self-contained collective protection system which can provide a contamination free working area for Echelon I and II medical treatment facilities and other selected units. The Chemical and Biological Protective Shelter (CBPS) satisfies this need. The CBPS replaces the M51 Chemical Protective Shelter. The system consists of a Collectively Protected (CP) shelter modularized and integrated into a service selected prime-mover. The system is completely self contained, self powered, mobile, and adaptable to a variety of missions. CBPS relieves medical, combat service, and combat service support personnel from wearing chemical and biological protective clothing. The system is capable of operating continuously for 72 hours providing a contamination free environmentally controlled working area.

JUSTIFICATION: This program will procure 5 up-armored CBPS CB modules in FY10.

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (R12301) CB PROTECTIVE SHELTER (CBPS)			Weapon System Type:			Date: May 2009			
Weapon System Cost Elements		ID	FY08			FY09			FY10					
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
CBPS UP-ARMORED														
CBPS UP-ARMORED		A	12532	26	482.000	10604	22	482.000	3314	5	662.800			
UP-ARMORED PRIME MOVER			3233	10	323.300									
CB PROTECTIVE FILTERS						47	44	1.068	10	10	1.000			
OTHER COSTS														
FIRST ARTICLE TESTING			2407			1528			1176					
ENGINEERING SUPPORT			1894			182			850					
INTEGRATED LOGISTICS SUPPORT			216			100			1272					
MANAGEMENT SUPPORT			3231			2976			2989					
NEW EQUIPMENT TRAINING									677					
TOTAL PACKAGE FIELDING (SPARES)			987			1084			2204					
TOTAL			24500			16521			12492					

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Exhibit P-5a, Budget Procurement History and Planning										Date:
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (R12301) CB PROTECTIVE SHELTER (CBPS)				
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date
CBPS UP-ARMORED FY08	Smiths Detection, Edgewood, MD	C/FFP - Option 4 & 5	TACOM, Rock Island, IL	Jan-08	Dec-10	26	482000	Yes		
FY09	Smiths Detection, Edgewood, MD	C/FFP - Option 6	TACOM, Rock Island, IL	Jun-09	Apr-11	22	482000	Yes		
FY10	Smiths Detection, Edgewood, MD	C/FFP - Option 7	TACOM, Rock Island, IL	Feb-10	Jul-11	5	662800	Yes		
REMARKS: Production Lead times increased because new U.S. Army up-armor requirements have forced contract modifications and system design changes.										

Budget Line Item #97
CONTAMINATION AVOIDANCE

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Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (GP2000) CONTAMINATION AVOIDANCE
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost	1859.2	179.6	185.6	151.8						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	1859.2	179.6	185.6	151.8						
Initial Spares										
Total Proc Cost	1859.2	179.6	185.6	151.8						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: Contamination Avoidance encompasses detection, warning and reporting, and reconnaissance systems. In the area of chemical, biological and radiological detection, the program procures point and remote (stand-off) detection systems: The Non-Traditional Agent (NTA) Detection Program will evaluate and test Non-Developmental Item (NDI) and developmental technologies to enhance legacy and developmental detection systems' capability to detect NTAs; Multi-Service Radiacs (MSR) are a family of nuclear radiation detectors that are used by the Army, Marines and Navy to detect and measure various forms of nuclear radiation in the battle space and in Operations Other Than War. The systems are the AN/PDR-75, the AN/VDR-2, the AN/PDR-77 and the AN/UDR-13; Joint Biological Point Detection System (JBPDS) a point detection suite consisting of complementary trigger, sampler, detector, and identification technologies to detect and identify the full range of biological agents in real-time; Joint Chemical Agent Detector (JCAD) an automatic, lightweight man-portable, point-sampling, chemical warfare agent vapor detection/warning system which includes simultaneous and automatic detection by class (nerve, blister, and blood), identification and quantification of hazard levels, and data communication interface; and Joint Service (JS) Lightweight Stand-off Chemical Agent Detector (JLSCAD) a ruggedized, passive, infrared detection system that automatically searches the surrounding atmosphere for chemical agent vapor clouds, with a 360 degree on-the-move stand-off detection at distances of up to two kilometers. In the warning and reporting and reconnaissance area: Joint Warning and Reporting Network (JWARN) provides a fully automated NBC detection and warning process throughout the battle space; JS Chemical /Biological/Radiological Agent Water Monitor (JCBRAWM) will be an automated, man-portable water sampling device designed to provide early warning and monitoring of chemical and biological warfare threats in source and potable water supplies; CBRN Dismounted Monitor & Survey Set Kit Outfit (CBRN MSSKO) provides mission critical reconnaissance platoon dismounted capabilities for detection, presumptive identification, sample collection, marking and immediate reporting of standard NBC hazards, to include hazardous industrial materials; NBC Reconnaissance Vehicle (NBCRV) a dedicated system of nuclear and chemical detection and warning equipment, and biological sampling equipment integrated into a high speed, high mobility, armored carrier capable of performing NBC reconnaissance on primary, secondary, or cross country routes throughout the battle space; and Joint Nuclear Biological and Chemical Reconnaissance Systems (JNBCRS) provide field commanders with point and stand-off intelligence for real time field assessment of NBC hazards. The Joint Effects Model (JEM) an accredited model for predicting hazards associated with the release of contaminants into a variety of scenarios including: counterforce, passive defense, accident and/or incidents (Increment 1), high altitude releases, urban NBC environments (Increment 2) and building interiors, and human performance degradation (Increment 3). Joint Operational Effects Federation (JOEF) is a modeling and simulation tool required to determine the effects and assess the impact and risks associated with CBRN hazards, as well as Toxic Industrial Materials (TIM), on military operations.

JUSTIFICATION: Contamination Avoidance is the primary objective of the Joint NBC Defense program. Operational forces have an immediate need to safely operate, survive, and sustain operations in an NBC agent threat environment. Contamination Avoidance is necessary to maintain operational efficiency and minimize the need to decontaminate vehicles, equipment, and areas. Advanced chemical defensive equipment is required to enhance US capability to detect and identify threat agents in the battle space.

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (GP2000) CONTAMINATION AVOIDANCE			Weapon System Type:			Date: May 2009	
Weapon System Cost Elements	ID	FY08			FY09			FY10				
	CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
JOINT WARNING & REPORTING NETWORK (JWARN)		6702			4375			6571				
JOINT BIO POINT DETECTION SYSTEM (JBPDS)		77604			75545			45106				
JS CHEM/BIO/RAD AGENT WATER MONITOR (JCBRAWM)		3416			6000			3194				
JOINT EFFECTS MODEL (JEM)		3512			5546			3493				
JOINT OPERATIONAL EFFECTS FEDERATION (JOEF)		3589										
JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)		3200			4000							
NBC RECON VEHICLE (NBCRV)		7764										
JOINT CHEMICAL AGENT DETECTOR (JCAD)		44838			53306			27780				
MULTI-SERVICE RADIACS (MSR)		6059			4140							
JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)		22960			32699			54171				
CBRN DISMOUNTED MONITOR & SURVEY SET KIT OUTFIT (CBRN MSSKO)								11450				
TOTAL		179644			185611			151765				

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Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (G47101) JOINT WARNING & REPORTING NETWORK (JWARN)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	20									
Gross Cost	62.4	6.7	4.4	6.6						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	62.4	6.7	4.4	6.6						
Initial Spares										
Total Proc Cost	62.4	6.7	4.4	6.6						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: JWARN will provide Joint Forces with a comprehensive analysis and response capability to minimize the effects of hostile Nuclear, Biological and Chemical (NBC) attacks and accidents/incidents. It will provide the operational 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 Services Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Systems. JWARN will be located in Command and Control Centers at the appropriate level and employed by NBC defense specialists and other designated personnel. JWARN will transfer data automatically from and to the actual detectors/sensors and provide commanders with analyzed data for decisions for disseminating warnings down to the lowest level on the battlefield. JWARN will provide additional data processing, production of plans and reports, and access to specific NBC information to improve the efficiency of limited NBC personnel assets.

JWARN One Delta (JWARN 1D) is a legacy version of JWARN fielded to warfighters to support operational requirements which evolved into JWARN Initial Capability (JIC), an enhanced capability that supports insight for the JWARN Inc 1 software development process. The JIC will evolve from a Block I-based capability to a Block II -based capability as the software matures. The JIC will provide direct feedback on existing JWARN system requirements to ensure that warfighter needs will be met by the interface to the JWARN Acquisition Program. JWARN Component Interface Device (JCID) is the hardware component of the JWARN system. In addition to providing the physical interface to the sensors and the structure of the network, these devices will perform certain software functions to support system operation.

JUSTIFICATION: FY10 funds to procure 80 JWARN JCID sets at full rate production (FRP).

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (G47101) JOINT WARNING & REPORTING NETWORK (JWARN)
Program Elements for Code B Items: 0603884BP/Proj CA4; 0604384BP/Proj CA5 and Proj IS5	Code: B	Other Related Program Elements:

RDTE&E Code B Item

JWARN will provide Joint Forces with a comprehensive analysis and response capability to minimize the effects of hostile Nuclear, Biological and Chemical (NBC) attacks and accidents/incidents. It will provide the operational 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 Services Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Systems.

JWARN One Delta (JWARN 1D) is a legacy version of JWARN fielded to warfighters to support operational requirements which evolved into JWARN Initial Capability (JIC), an enhanced capability that supports insight for the JWARN Inc 1 software development process. The JIC will evolve from a Block I-based capability to a Block II -based capability as the software matures. The JIC will provide direct feedback on existing JWARN system requirements to ensure that warfighter needs will be met by the interface to the JWARN Acquisition Program. JWARN Component Interface Device (JCID) is the hardware component of the JWARN system. In addition to providing the physical interface to the sensors and the structure of the network, these devices will perform certain software functions to support system operation.

RDT&E FY08 and Prior - 176.7M; FY09 - 16.2M; FY10 - 7.4M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

	START	COMPLETE
JWARN Inc 1 - Milestone C	2Q FY08	3Q FY08
JWARN Inc 1 - JCID Low Rate Initial Production (LRIP) Contract Award	3Q FY08	4Q FY08
JWARN Inc 1 - First Article Test	4Q FY08	1Q FY09
JWARN Inc 1 - Multi-Service Operational Test & Evaluation (Software)	4Q FY08	2Q FY09
JWARN Inc 1 - Initial Operational Capability (Software)	2Q FY09	4Q FY09
JWARN Inc 1 - Full Rate Production Milestone Decision	2Q FY09	2Q FY09
JWARN Inc 1 - Full Rate Production	4Q FY09	2Q FY12

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (G47101) JOINT WARNING & REPORTING NETWORK (JWARN)			Weapon System Type:		Date: May 2009	
Weapon System Cost Elements		ID	FY08			FY09			FY10		
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
JWARN - JCID (LRIP)											
JWARN - JCID LRIP		B	910	300	3.033						
JWARN - JCID (FRP)											
JWARN - JCID FRP		A				330	80	4.125	5804	1408	4.122
OTHER COSTS											
JWARN - Procurement Planning Support			5300			4045			767		
JWARN 1F and JWARN Block II Init Capab Upgrades			492								
TOTAL			6702			4375			6571		

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Exhibit P-5a, Budget Procurement History and Planning									Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (G47101) JOINT WARNING & REPORTING NETWORK (JWARN)				
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date
JWARN - JCID LRIP FY08	Northrop Grumman Corporation, Orlando, CA	C/CPIF	SPAWAR, San Diego, CA	Oct-07	May-08	300	3033	Yes	Aug-08	
JWARN - JCID FRP FY09	Unknown	C/CPAF	SPAWAR, San Diego, CA	Mar-09	Sep-09	80	4125	Yes	Nov-08	Dec-08
FY10	Unknown	C/CPAF	SPAWAR, San Diego, CA	Mar-10	Jul-10	1408	4122	Yes	Nov-09	Dec-09
REMARKS:										

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JC0100) JOINT BIO POINT DETECTION SYSTEM (JBPDS)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost	497.5	77.6	75.5	45.1						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	497.5	77.6	75.5	45.1						
Initial Spares										
Total Proc Cost	497.5	77.6	75.5	45.1						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Biological Point Detection System (JBPDS) provides continuous, rapid, and fully automated collection, detection and identification of biological warfare agents. The JBPDS fully integrates a biological agent detection system, cyclone collector, fluid transfer system, biological agent detection system, and automated hand held assay reader into a biological sensor suite. The sensor suite, operated by two onboard controllers and a touchpad screen display, also includes commercial telemetry. The system can be controlled and monitored locally and remotely, and automatically interfaces with global positioning, meteorological, and communication systems. It is fully hardened and configured for a variety of service designated mobile platforms and battle spaces, including surface ships, wheeled vehicles, air base, and man portable applications. The JBPDS's four configuration specific nomenclatures are XM 96 Man Portable, XM 97 Shelter Vehicle, XM 98 Ship, and XM 102 trailer mounted configuration. JBPDS provides both: (1) a means to limit the effects of Biological Warfare Agent attacks and the potential for catastrophic effects to U.S. forces; and, (2) assistance to medical personnel in determining effective preventive measures, prophylaxis, and the appropriate treatment if exposure occurs. While, it is a first time defense capability for the US Air Force, the JBPDS replaces interim capabilities provided to the US Navy (Interim Biological Agent Detection System (IBADS)), and the Army (BIDS NDI and BIDS P3I).

JUSTIFICATION: FY10 funds the procurement of 27 JBPDS systems. Configuration breakout is as follows: XM 102 Trailers (12); and XM 98 Ship (15).

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JC0100) JOINT BIO POINT DETECTION SYSTEM (JBPDS)
Program Elements for Code B Items: 0603884BP/Proj BJ4 and Proj CA4; 0604384BP/Proj BJ5 and Proj CA5	Code: B	Other Related Program Elements:

RD&E Code B Item

The Joint Biological Point Detection System (JBPDS) provides continuous, rapid, and fully automated collection detection and identification of biological warfare agents. The JBPDS fully integrates a cyclone collector, fluid transfer system, generic detection system, and automated hand held assay reader into a biological sensor suite. The sensor suite, operated by two onboard controllers and a touchpad screen display, also includes commercial telemetry, global positioning, meteorological, and network modem devices. The system can be controlled and monitored locally and remotely, and automatically interfaces with global positioning, meteorological, and communication systems. It is fully hardened and configured for a variety of service designated mobile platforms and battlespaces, including surface ships, wheeled vehicles, air base, and man portable applications. The JBPDS's four configuration specific nomenclatures are XM 96 Man Portable, XM 97 Shelter Vehicle, XM 98 Ship, and XM 102 trailer mounted configuration. JBPDS provides both: (1) a means to limit the effects of Biological Warfare Agent attacks and the potential for catastrophic effects to U.S. forces; and, (2) assistance to medical personnel in determining effective preventive measures, prophylaxis, and the appropriate treatment if exposure occurs. It is a first time defense capability for the US Air Force and replaces interim capabilities provided to the US Navy (Interim Biological Agent Detection System (IBADS)) and the Army (BIDS NDI and BIDS P3I).

RD&E FY08 and Prior - 126.7M; FY09 - 5.3M; FY10 - 18.7M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

	START	COMPLETE
Interim System Production - LRIP	4Q FY04	2Q FY09
Follow-On Operational Test and Evaluation (FOT&E)	4Q FY07	1Q FY08
MS C Full Rate Production Decision (FRP)	3Q FY09	3Q FY09
Full Rate Production (First Full Contract Award)	2Q FY10	Continuing

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Exhibit P-5, Weapon		Appropriation/Budget Activity/Serial No.			P-1 Line Item Nomenclature:			Weapon System Type:		Date:		
WPN SYST Cost Analysis		PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			(JC0100) JOINT BIO POINT DETECTION SYSTEM (JBPDS)					May 2009		
Weapon System	ID	FY08			FY09			FY10				
		Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
Cost Elements	CD	\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
JBPDS - XM 96 XM 96 Manportable Variant	B				11664	35	333.257					
JBPDS - XM 97 XM 97 Shelter Variant	B	16709	49	341.000	6107	21	290.810					
JBPDS - XM 98 XM 98 Ship Variant	B	3950	11	359.091	4461	13	343.154	5463	15	364.200		
JBPDS - XM 102 XM 102 Trailer Variant	B							4212	12	351.000		
JBPDS - M31E2 HMMWV Shelters Radios Auxiliary Equipment Shelter Modification Lead Letterkenny Army Depot Shelter Integration		2888 830 1759 7734 3367	28 28 28 28 28	103.143 29.643 62.821 276.214 120.250	9089	21	432.810					
OTHER COSTS In-House Assembly Follow-On Test Quality Assurance Engineering Support Retrofit of Fielded JBPDS Systems Interim Contractor Support Initial Spares System Fielding Support Engineering Change Orders Refurbishment		1828 2515 525 8988 3063 8717 8093 4090 2548			1782 532 9908 1211 3265 9624 8907 8995			543 9795 3158 7390 6887 7658				
TOTAL		77604			75545			45106				

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Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JC0100) JOINT BIO POINT DETECTION SYSTEM (JBPDS)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
XM 96 Manportable Variant FY09	General Dynamics ATP, Charlotte, NC	C/FFP	RDECOM, Edgewood, MD	Mar-09	Sep-10	35	333257	Yes			
XM 97 Shelter Variant FY08	General Dynamics ATP, Charlotte, NC	C/FFP	RDECOM, Edgewood, MD	Feb-08	Feb-09	49	341000	Yes			
FY09	General Dynamics ATP, Charlotte, NC	C/FFP	RDECOM, Edgewood, MD	Mar-09	May-10	21	290810	Yes			
XM 98 Ship Variant FY08	General Dynamics ATP, Charlotte, NC	C/FFP	RDECOM, Edgewood, MD	Feb-08	Feb-09	11	359091	Yes			
FY09	General Dynamics ATP, Charlotte, NC	C/FFP	RDECOM, Edgewood, MD	Mar-09	Mar-10	13	343154	Yes			
FY10	General Dynamics ATP, Charlotte, NC	C/FFP Option 1	RDECOM, Edgewood, MD	Feb-10	Feb-11	15	364200	Yes			
REMARKS: LRIP thru FY09											

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Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JC0100) JOINT BIO POINT DETECTION SYSTEM (JBPDS)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
XM 102 Trailer Variant FY10	General Dynamics ATP, Charlotte, NC	C/FFP Option 1	RDECOM, Edgewood, MD	Feb-10	Apr-11	12	351000	Yes			
Letterkenny Army Depot Shelter Integration FY09	Letterkenny Army Depot	MIPR	Chambersburg, PA	Nov-09	Jul-10	21	432810	Yes			
XM 97 Shelter Vehicle (Army Baseline) FY10	General Dynamics ATP, Charlotte, NC	C/FFP Option 1	RDECOM, Edgewood, MD	Feb-10	Feb-11	56	304000	Yes			
XM 97 Shelter Vehicle (PM BCT) FY10	General Dynamics ATP, Charlotte, NC	C/FFP Option 1	RDECOM, Edgewood, MD	Feb-10	Jun-11	72	304000	Yes			
XM 97 Shelter Vehicle (Army Supplemental) FY08	General Dynamics ATP, Charlotte, NC	C/FFP	RDECOM, Edgewood, MD	Mar-09	Mar-10	11	290818	Yes			
REMARKS: LRIP thru FY09											

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Exhibit P21, Production Schedule				P-1 Item Nomenclature: (JC0100) JOINT BIO POINT DETECTION SYSTEM (JBPDS)												Date: May 2009																										
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 12												Fiscal Year 13												L A T E R											
							Calendar Year 12												Calendar Year 13																							
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP												
XM 97 Shelter Vehicle (PM BCT)	5	FY10	A	72	24	48	12	12	12	12																																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP												

MFR	NAME/LOCATION	PRODUCTION RATES			UOM	LEAD TIMES				TOTAL	REMARKS
Number		MIN.	1-8-5	MAX.		Administrative		Production			
						Prior 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct		
1	General Dynamics ATP, Charlotte, NC	4	10	24	E	Initial / Reorder	0 / 0	4 / 4	13 / 13	17 / 17	PM BCT will provide Army OPA funds to procure 72 additional XM97 Shelters in FY10.
2	General Dynamics ATP, Charlotte, NC	4	10	24	E	Initial / Reorder	7 / 0	10 / 0	15 / 0	25 / 0	
3	General Dynamics ATP, Charlotte, NC	4	10	24	E	Initial / Reorder	0 / 0	5 / 4	12 / 12	17 / 16	
4	General Dynamics ATP, Charlotte, NC	4	10	24	E	Initial / Reorder	0 / 0	2 / 4	15 / 13	17 / 17	
5	General Dynamics ATP, Charlotte, NC	4	10	24	E	Initial / Reorder	0 / 0	4 / 4	13 / 13	17 / 17	
6	Letterkenny Army Depot	3	10	24	E	Initial / Reorder	0 / 0	1 / 1	9 / 9	10 / 10	

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JC0101) JS CHEM/BIO/RAD AGENT WATER MONITOR (JCBRAWM)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty		70	1600	800						
Gross Cost		3.4	6.0	3.2						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)		3.4	6.0	3.2						
Initial Spares										
Total Proc Cost		3.4	6.0	3.2						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: 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 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.

JUSTIFICATION: The FY10 JCBRAWM procurement funding will procure Increment 1 JCBRAWM Full Rate Production (FRP) kits; 800 kits and 3,500 spare assays.

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JC0101) JS CHEM/BIO/RAD AGENT WATER MONITOR (JCBRAWM)
Program Elements for Code B Items: 0603884BP/Proj CA4; 0604384BP/Proj CA5	Code:	Other Related Program Elements:

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 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.

RDT&E FY08 and Prior - 15.5M; FY09 - 2.6M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES	START	COMPLETE
Development Test Increment 1	2Q FY07	1Q FY08
MS C Increment 1 Low Rate Initial Production (LRIP)	3Q FY08	3Q FY08
Multi-Service Operational Test & Evaluation	4Q FY08	4Q FY08
MS C Increment 1 Full Rate Production (FRP) Decision	3Q FY09	3Q FY09

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JC0101) JS CHEM/BIO/RAD AGENT WATER MONITOR (JCBRAWM)			Weapon System Type:		Date: May 2009	
Weapon System Cost Elements		ID	FY08			FY09			FY10		
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
JCBRAWM INC 1 LRIP											
Inc 1 LRIP - Bio Assay Tickets Spares			1740	12000	0.145						
Inc 1 LRIP JCBRAWM Kit			187	70	2.671						
Engineering Spt (Gov't)			1489								
JCBRAWM INC 1 FRP											
Inc 1 FRP - Bio Assay Tickets Spares						1417	9800	0.145	500	3500	0.143
Inc 1 FRP JCBRAWM Kit						4000	1600	2.500	2112	800	2.640
Engineering Spt (Gov't)						583			332		
System Fielding Support (Total Package Fielding, First Destination Transportation and New Equipment Training)									250		
TOTAL			3416			6000			3194		

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Exhibit P-5a, Budget Procurement History and Planning									Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JC0101) JS CHEM/BIO/RAD AGENT WATER MONITOR (JCBRAWM)				
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date
Inc 1 LRIP JCBRAWM Kit FY08	Tobyhanna Army Depot	MIPR	RDECOM, APG, MD	Jan-09	Apr-09	70	2671	Yes	Jan-09	Apr-09
Inc 1 FRP - Bio Assay Tickets Spares FY09	ANP Technologies, Inc., Newark, DE	C/FFP	RDECOM, APG, MD	May-09	Jul-09	9800	145	Yes		
FY10	ANP Technologies, Inc., Newark, DE	C/FFP	RDECOM, APG, MD	May-10	Jul-10	3500	143	Yes		
Inc 1 FRP JCBRAWM Kit FY09	Tobyhanna Army Depot	MIPR	RDECOM, APG, MD	May-09	Jul-09	1600	2500	Yes		
FY10	Tobyhanna Army Depot	MIPR	RDECOM, APG, MD	May-10	Jul-10	800	2640	Yes		
REMARKS:										

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JC0208) JOINT EFFECTS MODEL (JEM)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	2452	1293	6964	6964						
Gross Cost	5.0	3.5	5.5	3.5						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	5.0	3.5	5.5	3.5						
Initial Spares										
Total Proc Cost	5.0	3.5	5.5	3.5						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The JEM is DoD's only accredited model for predicting hazards associated with the release of contaminants into the environment. JEM is being developed in separate increments and is 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 operates 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. At the time of this submission, JEM Increment 2 schedule events beyond FY12 are tentative, pending approval of the Increment 2 Capability Development Document (CDD).

JUSTIFICATION: FY10 funds will procure 6964 Increment 1 software copies on 10 separate Command and Control systems (Full Rate Production). Procurement of software will also include software fixes, updates and configuration control of and to the JEM baseline software to ensure JEM continues to evolve along with required host Service C4I systems upgrades.

Exhibit P-40C, Budget Item Justification Sheet		Date:	May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JC0208) JOINT EFFECTS MODEL (JEM)	
Program Elements for Code B Items: 0604384BP/Proj IS5	Code: B	Other Related Program Elements: PE 0604384BP, Project CA5	

RD&E Code B Item

The JEM is DoD's only accredited model for predicting hazards associated with the release of contaminants into the environment. JEM is being developed in separate increments and is 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 operates 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. At the time of this submission, JEM Increment 2 schedule events beyond FY12 are tentative, pending approval of the Increment 2 CDD.

RD&E FY08 and Prior - 50.0M; FY09 - 14.6M; FY10 - 18.8M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

	START	COMPLETE
Increment 1 - Pre-planned Product Improvement (P3I)	3Q FY08	3Q FY11
Increment 1 - Milestone C (M/S C)	4Q FY07	4Q FY07
Increment 1 - Production and Deployment	4Q FY07	1Q FY11
Increment 1 - Multi-Service Operational Test and Evaluation (MOTE) I	1Q FY08	1Q FY08
Increment 1 - Full Rate Production	3Q FY08	2Q FY10
Increment 1 - Multi-Service Operational Test and Evaluation (MOTE) II	4Q FY08	4Q FY08
Increment 2 - Milestone B	4Q FY09	3Q FY10
Increment 2 - Engineering and Manufacturing Development	1Q FY10	3Q FY11

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JC0208) JOINT EFFECTS MODEL (JEM)			Weapon System Type:			Date: May 2009		
Weapon System Cost Elements		ID	FY08			FY09			FY10				
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
JEM - INCREMENT 1													
Software & Installation (Contractor)		A	252	1293	0.195	1308	6964	0.188	1204	6964	0.173		
Technical Engineering Support			538			854			570				
System Fielding Support (Total Package Fielding, First Destination Transportation & New Equipment Training) (NET)).			1748			2750			1719				
Software Pre-Planned Product Improvement			974			634							
TOTAL			3512			5546			3493				

UNCLASSIFIED

Exhibit P-5a, Budget Procurement History and Planning										Date:
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JC0208) JOINT EFFECTS MODEL (JEM)				
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date
Software & Installation (Contractor)										
FY09	Northrop Grumman DMS, Reston, VA	C/CPAF	SPAWARSYSCOM, San Diego, CA	Feb-09	Mar-09	6964	188	Yes	Jun-08	Aug-08
FY10	Unknown	C/CPAF	SPAWARSYSCOM, San Diego, CA	Jan-10	Mar-10	6964	173	Yes	Jun-09	Aug-09
REMARKS:										

Exhibit P21, Production Schedule					P-1 Item Nomenclature: (JC0208) JOINT EFFECTS MODEL (JEM)															Date: May 2009																		
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08												Fiscal Year 09												L A T E R							
							Calendar Year 08												Calendar Year 09																			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP								
Software & Installation (Contractor)	1	FY07	A	1600	1400	200	200																															
Software & Installation (Contractor)	1	FY07	AF	852	749	103	103																															
Software & Installation (Contractor)	1	FY08	A	724		724																																
Software & Installation (Contractor)	1	FY08	AF	448		448																																
Software & Installation (Contractor)	1	FY08	MC	48		48																																
Software & Installation (Contractor)	1	FY08	N	73		73																																
Software & Installation (Contractor)	1	FY09	A	3485		3485																																
Software & Installation (Contractor)	1	FY09	AF	2869		2869																																
Software & Installation (Contractor)	1	FY09	MC	356		356																																
Software & Installation (Contractor)	1	FY09	N	254		254																																

UNCLASSIFIED

Exhibit P21, Production Schedule				P-1 Item Nomenclature: (JC0208) JOINT EFFECTS MODEL (JEM)											Date: May 2009																		
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 10														Fiscal Year 11												L A T E R
							Calendar Year 10												Calendar Year 11														
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP			
Software & Installation (Contractor)	1	FY09	A	3485	2440	1045	348	349	348																								
Software & Installation (Contractor)	1	FY09	AF	2869	2009	860	287	287	286																								
Software & Installation (Contractor)	2	FY10	A	3485		3485																											
Software & Installation (Contractor)	2	FY10	AF	2869		2869																											
Software & Installation (Contractor)	2	FY10	MC	356		356																											
Software & Installation (Contractor)	2	FY10	N	254		254																											

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JC0209) JOINT OPERATIONAL EFFECTS FEDERATION (JOEF)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty										
Gross Cost		3.6								
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)		3.6								
Initial Spares										
Total Proc Cost		3.6								
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Operational Effects Federation (JOEF) is a modeling and simulation tool required to determine the effects and assess the impact and risks associated with CBRN hazards, as well as Toxic Industrial Materials (TIM), on military operations. This system supports a non-real time, advance planning and analysis capability, as well as a near real time dynamic staff action support tool capability. JOEF is required to accurately depict the CBRN warfare environment including sensor/system deployment and the effects on personnel, equipment, and operations. JOEF is a CBRN tool to meet the Capability Development Document (CDD) requirements for fixed sites, mobile forces, medical capabilities, automation of tactics, techniques and procedures (TTPs), and to provide for Consequence Management. JOEF will provide a computer-based federated software system capable of providing deliberate planning support for the development of CBRND operational plans and near real time decision aids in a combat environment.

NOTE: JOEF will be fielded as a multi-variant software system which will interact with existing C41 systems. Each version will be tailored to meet supported site requirements and therefore will generate a range of unit costs.

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JC0209) JOINT OPERATIONAL EFFECTS FEDERATION (JOEF)
Program Elements for Code B Items: 0603884BP/Proj IS4; 0604384BP/Proj IS5	Code: B	Other Related Program Elements: PE 0604384BP/Proj CA5

RDTE Code B Item

The Joint Operational Effects Federation (JOEF) is a modeling and simulation tool required to determine the effects and assess the impact and risks associated with CBRN hazards, as well as Toxic Industrial Materials (TIM), on military operations. This system supports a non-real time, advance planning and analysis capability, as well as a near real time dynamic staff action support tool capability. JOEF is required to accurately depict the CBRN warfare environment including sensor/system deployment and the effects on personnel, equipment, and operations. JOEF is a CBRN tool to meet the Capability Development Document (CDD) requirements for fixed sites, mobile forces, medical capabilities, automation of tactics, techniques and procedures (TTPs), and to provide for Consequence Management. JOEF will provide a computer-based federated software system capable of providing deliberate planning support for the development of CBRND operational plans and near real time decision aids in a combat environment.

RDT&E FY08 and Prior - 38.3M; FY09 - 7.9M; FY10 - 2.9M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES	START	COMPLETE
Increment 1 - DT Build 2	2Q FY09	2Q FY09
Increment 1 - Operational Assessment	1Q FY10	1Q FY10
Increment 1 - Multi-Service Operational Test & Evaluation (MOTE)	4Q FY10	4Q FY10
Increment 1 - Milestone C (Limited Deployment)	4Q FY10	4Q FY10

UNCLASSIFIED

Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JC0209) JOINT OPERATIONAL EFFECTS FEDERATION (JOEF)			Weapon System Type:			Date: May 2009			
Weapon System Cost Elements		ID	FY08			FY09			FY10					
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
JOEF - INCREMENT 1														
ILS Planning			1298											
Installation Planning			1294											
Training Planning			997											
TOTAL			3589											

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JC0250) JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	6		4							
Gross Cost	22.0	3.2	4.0							
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	22.0	3.2	4.0							
Initial Spares										
Total Proc Cost	22.0	3.2	4.0							
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Biological Stand-off Detector System (JBSDS) is the first joint biological stand-off early warning, biological detection (BD) system. The system will be capable of providing near real time detection of biological attacks/incidents, and stand-off early detection/warning (Detect to Warn) of biological warfare (BW) agents at fixed sites or when mounted on stationary vehicles. It will be capable of providing stand-off detection, ranging, tracking, discrimination (manmade vs. natural occurring aerosols), of BW aerosol clouds for advanced warning, reporting, and protection.

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JC0250) JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)
Program Elements for Code B Items: 0604384BP/Proj BJ5 and Proj CA5	Code: B	Other Related Program Elements:

RD&E Code B Item

The Joint Biological Stand-off Detector System (JBSDS) is the first joint biological stand-off early warning, biological detection (BD) system. The system will be capable of providing near real time detection of biological attacks/incidents, and stand-off 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 stand-off detection, ranging, tracking, discrimination (manmade vs. natural occurring aerosols), of BW aerosol clouds for advanced warning, reporting, and protection.

RD&E FY08 and Prior - 88.9M; FY09 - 10.2M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

	START	COMPLETE
Increment 1 JBSDS Production Verification Test	2Q FY05	1Q FY08
Increment 1 JBSDS Multi-Service Operational Test & Evaluation (MOT&E)	4Q FY06	1Q FY08
Increment I JBSDS LRIP 2	2Q FY08	2Q FY09
Increment 1 JBSDS Full Material Release	3Q FY09	4Q FY09
Increment 1 JBSDS First Unit Equipped (FUE)	3Q FY09	4Q FY09

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JC0250) JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)			Weapon System Type:		Date: May 2009	
Weapon System Cost Elements		ID	FY08			FY09			FY10		
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
INCI											
LRIP II Hardware		B				1872	2	936.000			
FRP Hardware		A				1872	2	936.000			
OTHER COSTS											
JBSDS LRIP Refurbishment			500	6	83.333						
Engineering Support						256					
Acceptance and System Fielding Support			744								
Initial Spares			310								
Engineering Change Orders			1646								
TOTAL			3200			4000					

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Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JC0250) JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
LRIP II Hardware FY09	Science & Engineering Services, Inc, (SESI), Columbia, MD	C/FFP	RDECOM, APG, MD	Mar-09	Jul-09	2	936000	Yes			
FRP Hardware FY09	Science & Engineering Services, Inc, (SESI), Columbia, MD	C/FFP	RDECOM, APG, MD	Jun-09	Jul-10	2	936000	Yes			
REMARKS: Contractor has enough of the longer lead critical parts to shorten delivery of the two LRIP II systems. FRP units will have normal delivery period.											

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Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JC1500) NBC RECON VEHICLE (NBCRV)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	22	4								
Gross Cost	98.6	7.8								
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	98.6	7.8								
Initial Spares										
Total Proc Cost	98.6	7.8								
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV) sensor suite is a dedicated system of nuclear and chemical detection and warning equipment, and biological sampling equipment. The sensor suite is integrated into a high speed, high mobility, armored carrier capable of performing NBC reconnaissance on primary, secondary, or cross country routes throughout the battlefield. The NBCRV will have the capability to detect and collect chemical and biological contamination in its immediate environment, on the move, thru point detection Chemical Biological Mass Spectrometer (CBMS) and Joint Biological Point Detection System (JBPDS), and at a distance thru the use of a stand-off detector, the Joint Service Lightweight Stand-off Chemical Agent Detector (JSLSCAD). It automatically integrates contamination information from detectors with input from on-board navigation and meteorological systems and automatically transmits digital NBC warning messages thru the vehicle's command and control equipment to warn follow-on forces.

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JC1500) NBC RECON VEHICLE (NBCRV)			Weapon System Type:			Date: May 2009	
Weapon System Cost Elements	ID	FY08			FY09			FY10				
	CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost		
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000		
NBCRV HARDWARE SUITE												
Chem Vapor Sampling System (CVSS)		250	4	62.500								
OTHER COSTS												
Engineering Change Orders		386										
Acceptance/First Article Testing CBMS		2200										
Acceptance/First Article Testing CVSS		920										
Engineering Support (Gov't)		1857										
JBPDS Integration		872										
JBPDS Maintenance		85										
JBPDS Upgrades		934										
Technical Manuals		260										
TOTAL		7764										

UNCLASSIFIED

Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JC1500) NBC RECON VEHICLE (NBCRV)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
Chem Vapor Sampling System (CVSS) FY08	Battelle Memorial Institute, Aberdeen, MD	C/FFP	RDECOM, APG-EA, MD	Sep-08	Jul-09	4	62500	Yes			
REMARKS: *FY 2008 First Article Test (FAT) quantity decreased from 10 to four (4) due to reduced test requirement for a commercial buy.											

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JF0100) JOINT CHEMICAL AGENT DETECTOR (JCAD)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	2943	8993	7061	2987						
Gross Cost	23.6	44.8	53.3	27.8						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	23.6	44.8	53.3	27.8						
Initial Spares										
Total Proc Cost	23.6	44.8	53.3	27.8						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Chemical Agent Detector (JCAD) is an automatic, lightweight, point-sampling, chemical warfare agent vapor detection/warning system. The system is capable of simultaneous and automatic detection by class (nerve, blister, and blood), identification and quantification of hazard levels, and contains a data communications interface. JCAD will operate in rotary wing and fixed wing cargo aircraft, in tracked vehicles, as personal detectors, and aboard ships (via a platform interface kit). JCAD systems are being purchased to replace the Chemical Agent Monitor (CAM), Improved CAM (ICAM), Automatic Chemical Agent Detector and Alarm (ACADA or M22), M90, and M8A1. The Enhanced JCAD will expand upon the existing capability by providing detection of low-level cumulative exposures (quantify), providing increased utility aboard ship and rotary wing aircraft, and expanding the number and types of chemicals that can be detected. The Enhanced JCAD will be net-ready.

JUSTIFICATION: FY10 procurement supports the purchase of 2987 JCADs.

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (JF0100) JOINT CHEMICAL AGENT DETECTOR (JCAD)
Program Elements for Code B Items: 0604384BP/Proj CA5	Code: B	Other Related Program Elements:

RD&E Code B Item

The Joint Chemical Agent Detector (JCAD) is an automatic, lightweight, point-sampling, chemical warfare agent vapor detection/warning system. The system is capable of simultaneous and automatic detection by class (nerve, blister, and blood), identification and quantification of hazard levels, and contains a data communications interface. JCAD will operate in rotary wing and fixed wing cargo aircraft, in tracked vehicles, as personal detectors, and aboard ships (via a platform interface kit). JCAD systems are being purchased to replace the Chemical Agent Monitor (CAM), Improved CAM (ICAM), Automatic Chemical Agent Detector and Alarm (ACADA or M22), M90, and M8A1. The Enhanced JCAD will expand upon the existing capability by providing detection of low-level cumulative exposures (quantify), providing increased utility aboard ship and rotary wing aircraft, and expanding the number and types of chemicals that can be detected. The Enhanced JCAD will be net-ready.

RD&E FY08 and Prior - 132.0M; FY09 - 13.6M; FY10 - 8.2M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

JCAD - Milestone C Full Rate Production (FRP) Decision
 JCAD Enhanced - LRIP Contract Award

START	COMPLETE
4Q FY08	4Q FY08
4Q FY10	4Q FY10

UNCLASSIFIED

Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JF0100) JOINT CHEMICAL AGENT DETECTOR (JCAD)			Weapon System Type:		Date: May 2009	
Weapon System Cost Elements		ID	FY08			FY09			FY10		
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
JCAD - LRIP											
JCAD - LRIP: Hardware		B	10311	2326	4.433						
JCAD - EX LRIP											
JCAD - EX LRIP: Hardware		B	26033	6420	4.055						
JCAD - EX LRIP: Platform Interface Kits			320	501	0.639						
JCAD - EX LRIP: Communication Adapters			1899	1001	1.897						
JCAD - FRP											
JCAD - FRP: Hardware		A	1023	247	4.142	29254	7061	4.143	13671	2987	4.577
JCAD - FRP: Platform Interface						327	501	0.653	317	469	0.676
JCAD - FRP: Communication Adapters			429	247	1.737	21266	12243	1.737	5354	2984	1.794
ENHANCED JCAD - LRIP											
ENHANCED JCAD - FRP											
OTHER COSTS											
Engineering Support (Gov't)			2925			1220			2000		
System Fielding Support (Gov't) (Total Package Fielding, First Destination Transportation and New Equipment Training)			698			180			434		
Detector Modifications			1200			1059			6004		
TOTAL			44838			53306			27780		

UNCLASSIFIED

Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JF0100) JOINT CHEMICAL AGENT DETECTOR (JCAD)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
JCAD - FRP: Hardware FY10	Smiths Detection, Edgewood, MD	SS/FFP (Opt 1)	RDECOM, APG, MD	Dec-09	Jan-10	2987	4577	Yes			
JCAD - FRP: Platform Interface FY10	Smiths Detection, Edgewood, MD	SS/FFP (Opt 1)	RDECOM, APG, MD	Dec-09	Jan-10	469	676	Yes			
JCAD - FRP: Communication Adapters FY09	Smiths Detection, Edgewood, MD	SS/FFP	RDECOM, APG, MD	Dec-08	Dec-09	12243	793	Yes			
FY10	Smiths Detection, Edgewood, MD	SS/FFP (Opt 1)	RDECOM, APG, MD	Dec-09	Jan-10	2984	1794	Yes			
JCAD - FRP: Hardware (Army Baseline) FY08	Smiths Detection, Edgewood, MD	SS/FFP	RDECOM, APG, MD	Mar-09	Aug-09	8778	6000	Yes			
REMARKS:											

UNCLASSIFIED

Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JF0100) JOINT CHEMICAL AGENT DETECTOR (JCAD)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
JCAD - FRP: Hardware (Army Baseline) (cont) FY09	Smiths Detection, Edgewood, MD	SS/FFP (Opt 1)	RDECOM, APG, MD	Nov-08	Dec-08	5477	6079	Yes			
REMARKS:											

Exhibit P21, Production Schedule					P-1 Item Nomenclature: (JF0100) JOINT CHEMICAL AGENT DETECTOR (JCAD)												Date: May 2009																																									
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08												Fiscal Year 09												L A T E R																											
							Calendar Year 08																									Calendar Year 09																										
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S		O	N	D	J	F	M	A	M	J	J	A	S															
							C	O	E	A	E	A	P	A	U	U	U	E	C	O	E	A	E	A	P	A	U	U	U	E		C	T	V	C	N	B	R	R	Y	N	L	G	P														
JCAD - LRIP: Hardware	1	FY07	A	1822		1822																																																				
JCAD - LRIP: Hardware	1	FY07	MC	342		342																																																				
JCAD - LRIP: Hardware	1	FY07	N	79		79																																																				
JCAD - LRIP: Hardware	1	FY08	A	1743		1743																																																				
JCAD - LRIP: Hardware	1	FY08	AF	186		186																																																				
JCAD - LRIP: Hardware	1	FY08	MC	362		362																																																				
JCAD - LRIP: Hardware	1	FY08	N	35		35																																																				
JCAD - EX LRIP: Hardware	4	FY08	A	3341		3341																																																				
JCAD - EX LRIP: Hardware	4	FY08	AF	1209		1209																																																				
JCAD - EX LRIP: Hardware	4	FY08	MC	296		296																																																				
JCAD - EX LRIP: Hardware	4	FY08	N	1574		1574																																																				
JCAD - EX LRIP: Platform Interface Kits	4	FY08	A	501		501																																																				
JCAD - EX LRIP: Communication Adapters	4	FY08	A	1001		1001																																																				
JCAD - FRP: Hardware	7	FY08	A	185		185																																																				
JCAD - FRP: Hardware	7	FY08	AF	20		20																																																				
JCAD - FRP: Hardware	7	FY08	MC	40		40																																																				
JCAD - FRP: Hardware	7	FY08	N	2		2																																																				
JCAD - FRP: Hardware (Army Baseline)	5	FY08	A	8778		8778																																																				
																							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
																							C	O	E	A	E	A	P	A	U	U	U	E	C	O	E	A	E	A	P	A	U	U	U	E	T	V <td>C<td>N<td>B<td>R<td>R<td>Y<td>N<td>L<td>G<td>P </td></td></td></td></td></td></td></td></td></td>	C <td>N<td>B<td>R<td>R<td>Y<td>N<td>L<td>G<td>P </td></td></td></td></td></td></td></td></td>	N <td>B<td>R<td>R<td>Y<td>N<td>L<td>G<td>P </td></td></td></td></td></td></td></td>	B <td>R<td>R<td>Y<td>N<td>L<td>G<td>P </td></td></td></td></td></td></td>	R <td>R<td>Y<td>N<td>L<td>G<td>P </td></td></td></td></td></td>	R <td>Y<td>N<td>L<td>G<td>P </td></td></td></td></td>	Y <td>N<td>L<td>G<td>P </td></td></td></td>	N <td>L<td>G<td>P </td></td></td>	L <td>G<td>P </td></td>	G <td>P </td>	P

MFR	NAME/LOCATION	PRODUCTION RATES			UOM		LEAD TIMES			TOTAL	REMARKS
		MIN.	1-8-5	MAX.			Administrative		Production		
							Prior 1 Oct	After 1 Oct	After 1 Oct		
1	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	5 / 0	2 / 1	2 / 2	4 / 3	
2	Unknown	1	10	20	E	Initial / Reorder	1 / 0	8 / 1	5 / 8	13 / 9	
3	Unknown	100	300	500	E	Initial / Reorder	1 / 1	8 / 8	5 / 5	13 / 13	
4	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	9 / 9	14 / 14	23 / 23	
5	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	3 / 3	5 / 5	8 / 8	
6	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	2 / 2	2 / 2	4 / 4	
7	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	18 / 1	3 / 3	21 / 4	

Exhibit P21, Production Schedule					P-1 Item Nomenclature: (JF0100) JOINT CHEMICAL AGENT DETECTOR (JCAD)														Date: May 2009																										
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08												Fiscal Year 09						L A T E R																				
							Calendar Year 08												Calendar Year 09																										
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR		APR	MAY	JUN	JUL	AUG	SEP														
JCAD - FRP: Hardware	6	FY09	A	5295		5295																				A	1952	513	513	513	513	415	500	370			6								
JCAD - FRP: Hardware	6	FY09	AF	565		565																																	447	118					
JCAD - FRP: Hardware	6	FY09	MC	1130		1130																																		500	60	570			
JCAD - FRP: Hardware	6	FY09	N	71		71																																			71				
JCAD - FRP: Hardware (Army Baseline)	5	FY09	A	5477		5477																					A	1934	513	513	513	513	513	513	513	465									

MFR	NAME/LOCATION	PRODUCTION RATES			UOM	C O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P													
		MIN.	1-8-5	MAX.																																						
Number	NAME/LOCATION	MIN.	1-8-5	MAX.	UOM	LEAD TIMES		TOTAL		REMARKS																																
						Administrative		Production																																		
						Prior 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct																																	
1	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	5 / 0	2 / 1	2 / 2	4 / 3																																
2	Unknown	1	10	20	E	Initial / Reorder	1 / 0	8 / 1	5 / 8	13 / 9																																
3	Unknown	100	300	500	E	Initial / Reorder	1 / 1	8 / 8	5 / 5	13 / 13																																
4	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	9 / 9	14 / 14	23 / 23																																
5	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	3 / 3	5 / 5	8 / 8																																
6	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	2 / 2	2 / 2	4 / 4																																
7	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	18 / 1	3 / 3	21 / 4																																

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Exhibit P21, Production Schedule					P-1 Item Nomenclature: (JF0100) JOINT CHEMICAL AGENT DETECTOR (JCAD)													Date: May 2009												
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 10													Fiscal Year 11										L A T E R
							Calendar Year 10													Calendar Year 11										
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	
JCAD - FRP: Hardware (Army Baseline)	5	FY08	A	8778	2000	6778	1000	1000	1000	1000	1000	1000	778																	
JCAD - FRP: Hardware	6	FY09	A	5295	5289	6	6																							
JCAD - FRP: Hardware	1	FY10	A	2240		2240			A	224	224	224	224	224	224	224	224													
JCAD - FRP: Hardware	1	FY10	AF	239		239			A												119	120								
JCAD - FRP: Hardware	1	FY10	MC	478		478			A												239	239								
JCAD - FRP: Hardware	1	FY10	N	30		30			A											30										
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

MFR		PRODUCTION RATES				UOM	LEAD TIMES				TOTAL	REMARKS
Number	NAME/LOCATION	MIN.	1-8-5	MAX.	Administrative		Production					
					Prior 1 Oct		After 1 Oct	After 1 Oct	After 1 Oct			
					Prior 1 Oct		After 1 Oct	After 1 Oct	After 1 Oct			
1	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	5 / 0	2 / 1	2 / 2	4 / 3		
2	Unknown	1	10	20	E	Initial / Reorder	1 / 0	8 / 1	5 / 8	13 / 9		
3	Unknown	100	300	500	E	Initial / Reorder	1 / 1	8 / 8	5 / 5	13 / 13		
4	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	9 / 9	14 / 14	23 / 23		
5	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	3 / 3	5 / 5	8 / 8		
6	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	2 / 2	2 / 2	4 / 4		
7	Smiths Detection, Edgewood, MD	40	1800	2200	E	Initial / Reorder	0 / 0	18 / 1	3 / 3	21 / 4		

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (JN0789) MULTI-SERVICE RADIACS (MSR)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	13013	3425	4209							
Gross Cost	26.1	6.1	4.1							
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	26.1	6.1	4.1							
Initial Spares										
Total Proc Cost	26.1	6.1	4.1							
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Multi-Service Radiacs (MSR) is a family of nuclear radiation detectors that are used by the Army, Marines, and Navy to detect and measure various forms of nuclear radiation in the battle space and in operations other than war. The systems allow users to avoid contamination and to reduce their exposure when avoidance is not possible. The four systems are the AN/PDR-75, the AN/VDR-2, the AN/PDR-77 and the AN/UDR-13. The AN/PDR-75 consists of the CP-696 Reader and the DT-236 Individual Dosimeter. The dosimeter is worn by individuals and measures the neutron and gamma dose the individual has received. The AN/VDR-2 is a tactical beta/gamma rate meter that is used for Health and Safety detection as well as in the battle space. It is also integrated into armored and wheeled vehicles with available mounts and installation kits. The AN/PDR-77 is used for nuclear weapons accident response, environmental level measurement of radiological materials, and in monitoring work areas where chemical detectors are repaired. It measures alpha, beta, gamma, and X-ray radiation with multiple probes. The AN/UDR-13 is a tactical dosimeter that is used in the field to monitor the radiation dose of a platoon or equivalent sized unit to make tactical decisions on stay time and route. It also has a rate meter function. The last year of funding for MSR is FY09.

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (JN0789) MULTI-SERVICE RADIACS (MSR)			Weapon System Type:			Date: May 2009			
Weapon System Cost Elements		ID	FY08			FY09			FY10					
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
AN/PDR-77														
AN/PDR-77 Hardware		A	2850	475	6.000									
Engineering Support (Gov't)			200											
Quality Assurance			157											
Total Package Fielding			50											
Initial Spares			300											
Update Technical Manuals			10											
AN/UDR-13														
AN/UDR-13 Hardware		A	2125	2950	0.720	3032	4209	0.720						
Engineering Support (Gov't)			312			350								
Quality Assurance						350								
Total Package Fielding			50			100								
Initial Spares						300								
Update Technical Manuals			5			8								
TOTAL			6059			4140								

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Exhibit P-5a, Budget Procurement History and Planning									Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (JN0789) MULTI-SERVICE RADIACS (MSR)				
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date
AN/PDR-77 Hardware FY08	Canberra Dover, Dover, NJ	C/FFP (OPT2)	CECOM, FT Monmouth, NJ	Nov-07	Apr-08	475	6000	Yes		
AN/UDR-13 Hardware FY08	Canberra Dover, Dover, NJ	C/FFP (OPT2)	CECOM, FT Monmouth, NJ	Nov-07	Apr-08	2950	720	Yes		
FY09	Canberra Dover, Dover, NJ	C/FFP (OPT3)	CECOM, FT Monmouth, NJ	Apr-09	Aug-09	4209	720	Yes		
REMARKS:										

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Exhibit P21, Production Schedule					P-1 Item Nomenclature: (JN0789) MULTI-SERVICE RADIACS (MSR)												Date: May 2009																						
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08												Fiscal Year 09												L A T E R								
							Calendar Year 08												Calendar Year 09																				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP									
AN/PDR-77 Hardware	3	FY07	MC	560	413	147	100	47																															
AN/UDR-13 Hardware	2	FY07	A	3059		3059	224	500	500	500	500	835																											
AN/UDR-13 Hardware	2	FY07	MC	1520	1244	276	276																																
AN/UDR-13 Hardware (Army Supplemental)	1	FY07	A	16009		16009							183	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1426														
AN/UDR-13 Hardware (Army Baseline)	5	FY07	A	3485	650	2835	500	700	700	700	235																												
AN/VDR-2 Hardware (Baseline)	7	FY07	A	1559	372	1187	200	200	200	200	200	187																											
AN/VDR-2 Hardware (Army Bridge)	7	FY07	A	359	276	83	83																																
AN/PDR-75 Hardware (Army OPA3 Supplemental)	8	FY07	A	128		128					35	35	35	23																									
AN/PDR-75 Hardware (Army Bridge)	8	FY07	A	52		52								12	35	5																							
AN/PDR-77 Hardware (Army Supplemental)	1	FY07	A	206		206		53	100	53																													
AN/PDR-77 Hardware	9	FY08	MC	475		475		A					100	100	100	100	75																						
AN/UDR-13 Hardware	10	FY08	MC	2950		2950		A					250	250	250	250	300	300	300	300	300	300	300	300	150														
AN/UDR-13 Hardware (Army Supplemental)	1	FY08	A	5044		5044				A			400	550	550	550	550	550	550	550	550	550	550	244															
AN/UDR-13 Hardware (Army Baseline)	11	FY08	A	4525		4525		A																	1050													2400	1075
AN/VDR-2 Hardware (Baseline)	7	FY08	A	433		433		A					150	200	83																								
AN/PDR-75 Hardware (Army OPA3 Supplemental)	8	FY08	A	375		375								A												30	100	100	100	45									
AN/VDR-2 Hardware (Army Supplemental)	6	FY08	A	238		238					A	10	10	134	84																								

MFR	NAME/LOCATION	PRODUCTION RATES			UOM		LEAD TIMES				TOTAL	REMARKS
Number		MIN.	1-8-5	MAX.			Prior 1 Oct	After 1 Oct	Production		After 1 Oct	
									After 1 Oct	After 1 Oct		
1	Canberra Dover, Dover, NJ	100	600	2000	E	Initial / Reorder	0/0	9/4	13/4	22/8		
2	Canberra Dover, Dover, NJ	100	600	2000	E	Initial / Reorder	0/0	1/1	3/9	4/10		
3	Canberra Dover, Dover, NJ	2	50	200	E	Initial / Reorder	0/0	5/5	5/7	10/12		
4	Canberra Dover, Dover, NJ	100	600	2000	E	Initial / Reorder	0/0	10/0	5/0	15/0		
5	Canberra Dover, Dover, NJ	100	600	2000	E	Initial / Reorder	0/0	3/1	8/5	11/6		
6	Canberra Dover, Dover, NJ	100	600	2000	E	Initial / Reorder	0/0	3/4	7/2	10/6		
7	Canberra Dover, Dover, NJ	100	600	2000	E	Initial / Reorder	0/0	3/2	8/8	11/10		
8	Canberra Dover, Dover, NJ	5	20	60	E	Initial / Reorder	0/0	3/8	6/8	9/16		
9	Canberra Dover, Dover, NJ	20	50	200	E	Initial / Reorder	0/0	5/1	1/6	6/7		
10	Canberra Dover, Dover, NJ	100	600	2000	E	Initial / Reorder	0/0	1/1	6/6	7/7		
11	Canberra Dover, Dover, NJ	100	600	2000	E	Initial / Reorder	0/0	2/2	15/15	17/17		

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Exhibit P21, Production Schedule					P-1 Item Nomenclature: (JN0789) MULTI-SERVICE RADIACS (MSR)															Date: May 2009																		
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08												Fiscal Year 09								L A T E R											
							Calendar Year 08												Calendar Year 09																			
							O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M		J	J	A	S							
							C	O	E	A	E	A	P	A	U	U	U	E	C	O	E	A	E	A	P	A		U	U	U	E	T	V	C	N	B	R	R
AN/PDR-77 Hardware (Army Baseline)	3	FY08	A	224		224																																
AN/UDR-13 Hardware	5	FY09	MC	4209		4209																																

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (MC0100) JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)
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Program Elements for Code B Items:	Code:	Other Related Program Elements:
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	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty	6	8	11	37						
Gross Cost	171.1	23.0	32.7	54.2						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)	171.1	23.0	32.7	54.2						
Initial Spares										
Total Proc Cost	171.1	23.0	32.7	54.2						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Joint Nuclear Biological and Chemical Reconnaissance Systems (JNBCRS), to include the Nuclear Biological and Chemical Reconnaissance Vehicles (NBCRV) NBC equipment suites provide field commanders with point and stand-off intelligence for real time field assessment of NBC hazards. The variants are as follows: the JNBCRS Increment 1 NBC Equipment Suite, to be integrated into Reconnaissance vehicles, consists of the Chemical and Biological Mass Spectrometer II (CBMS II), Joint Biological Point Detection System (JBPDS), Chemical Vapor Sampling System (CVSS), Training Aids, Devices and Simulation Systems (TADSS), the Sensor Processing Group and associated initial and pipeline spares. The NBC Equipment Suite performs the vital function of detecting, identifying, collecting, reporting, and marking NBC hazards and toxic industrial chemicals; and the JNBCRS Increment 2 fills a mission critical need to enhance Chemical, Biological, Radiological, and Nuclear (CBRN) dismantled reconnaissance capabilities. The JNBCRS 2 program consists of two phases. Phase I is the Dismounted Reconnaissance (DR) Set, Kits and Outfits (SKO) configuration which provides an immediate critical need consisting of commercial off-the-shelf (COTS) equipment and government off-the-shelf (GOTS) equipment) integrated into a modular, transportable container for dismantled operations. Phase I will form the basis for Phase II which is the Monitoring and Survey (MS) SKO, as documented in MC0101.

JUSTIFICATION: FY 2010 JNBCRS Increment 1 funding procures the purchase of NBC equipment suites (37) and training devices for Nuclear Biological and Chemical Reconnaissance Vehicles, outfit the National Guard (CBRN Consequence Management Response Force) chemical, biological, reconnaissance capability and the Army's remaining capability for reconnaissance systems.

NOTE: Joint Service Light-Weight Nuclear, Biological, Chemical Reconnaissance System (JSLNBCRS) changed to JNBCRS Increment 1, effective FY08 to reflect the expanding mission and capabilities of the program. In FY10, JNBCRS Increment 2 transitions to MC0101 - CBRN Dismounted Reconnaissance Systems (CBRN DRS).

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (MC0100) JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)
Program Elements for Code B Items: 0604384BP/Proj CA5	Code: B	Other Related Program Elements:

RD&E Code B Item

The Joint Nuclear Biological and Chemical Reconnaissance Systems (JNBCRS), to include the Nuclear Biological and Chemical Reconnaissance Vehicles (NBCRV) NBC equipment suites provide field commanders with point and stand-off intelligence for real time field assessment of NBC hazards. The variants are as follows: the JNBCRS Increment 1 NBC Equipment Suite, to be integrated into Reconnaissance vehicles, consists of the Chemical and Biological Mass Spectrometer II (CBMS II), Joint Biological Point Detection System (JBPDS), Chemical Vapor Sampling System (CVSS), Training Aids, Devices and Simulation Systems (TADSS), the Sensor Processing Group and associated initial and pipeline spares. The NBC Equipment Suite performs the vital function of detecting, identifying, collecting, reporting, and marking NBC hazards and toxic industrial chemicals; and the JNBCRS Increment 2 fills a mission critical need to enhance Chemical, Biological, Radiological, and Nuclear (CBRN) dismantled reconnaissance capabilities. The JNBCRS 2 program consists of two phases. Phase I is the Dismounted Reconnaissance (DR) Set, Kits and Outfits (SKO) configuration which provides an immediate critical need consisting of commercial off-the-shelf (COTS) equipment and government off-the-shelf (GOTS) equipment integrated into a modular, transportable container for dismantled operations. Phase I will form the basis for Phase II which is the Monitoring and Survey (MS) SKO, as documented in MC0101.

RD&E FY08 and Prior - 116.1M; FY09 - 7.0M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES

	START	COMPLETE
JNBCRS Inc 1 (LAV) - Milestone C Full Rate Production (FRP) Decision	1Q FY09	1Q FY09
JNBCRS Inc 1 - FOC	3Q FY10	3Q FY10
JNBCRS Inc 2 - Program Initiation	1Q FY08	1Q FY08

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Exhibit P-5, Weapon		Appropriation/Budget Activity/Serial No.			P-1 Line Item Nomenclature:			Weapon System Type:		Date:			
WPN SYST Cost Analysis		PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			(MC0100) JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)					May 2009			
Weapon System		FY08			FY09			FY10					
Cost Elements		Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost			
		\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000			
JNBCRS INC 1													
Software Updates		1116											
ECOs		1500			765								
Engineering and Technical Support (Gov't)		750			2607								
Quality Control (Gov't)		755			550								
Specifications and Drawings		538			1613								
Strategic/Tactical Planning, Technology Assessment, Costing, Financial Management		7025			7300								
Technical Manuals		1500			850								
System Fielding Support (Total Package Fielding, First Destination Transportation, New Equipment Training)					5739								
Test Support/Acceptance/First Article Test Software Updates		1989											
JNBCRS NBC EQUIPMENT SUITES													
NBC Equipt GFE Sensor Suite								32042	37	866.000			
TADSS								1144					
Engineering Support								2591					
Technical Manual Updates								1500					
Engineering Change Orders								2947					
Initial Spares/Pipeline								13947					
JNBCRS INC 2													
Dismounted Reconnaissance (Phase I)		6080	8	760.000	8360	11	760.000						
Initial Spares		640			1288								
Training Devices					1755								
Specifications & Drawings					700								
Engineering Support (Govt)		1067			1172								
TOTAL		22960			32699			54171					

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Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (MC0100) JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
NBC Equipt GFE Sensor Suite FY10	Unknown	C/FFP	Unknown	Sep-10	Sep-11	37	866000	Yes			
Dismounted Reconnaissance (Phase I) FY09	Engineering Chem Bio Center (ECBC) APG-EA	MIPR	ECBC, Edgewood, MD	Dec-08	Jun-09	11	760000	Yes			
REMARKS: Sensor suite buy will consist of the procurement of sensors via both competitive and sole source procurements. The contract type will also vary, depending on sensor maturation and associated risk.											

Exhibit P21, Production Schedule						P-1 Item Nomenclature: (MC0100) JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)															Date: May 2009															
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 08												Fiscal Year 09						L A T E R											
							Calendar Year 08												Calendar Year 09																	
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR		APR	MAY	JUN	JUL	AUG	SEP					
Dismounted Reconnaissance (Phase I)	1	FY08	A	8		8		A																												
Dismounted Reconnaissance (Phase I)	1	FY09	J	11		11															A										2	2	2	2	3	

MFR	NAME/LOCATION	PRODUCTION RATES			UOM	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	REMARKS			
		MIN.	1-8-5	MAX.		LEAD TIMES						TOTAL																					
						Administrative			Production			After 1 Oct																					
Number						Prior 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct	After 1 Oct																							
1	Engineering Chem Bio Center (ECBC) APG-EA	1	2	4	E	Initial / Reorder	0 / 0	1 / 1	8 / 7	9 / 8																							
2	Unknown	2	6	8	E	Initial / Reorder	0 / 0	11 / 5	13 / 19	24 / 24																							

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Exhibit P21, Production Schedule					P-1 Item Nomenclature: (MC0100) JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)														Date: May 2009												
COST ELEMENTS	MFR	FY	SERV	PROC QTY Each	ACCEP PRIOR TO 1 OCT	BAL DUE AS OF 1 OCT	Fiscal Year 10												Fiscal Year 11												L A T E R
							Calendar Year 10												Calendar Year 11												
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	
Dismounted Reconnaissance (Phase I)	1	FY09	J	11	8	3	3																								
NBC Equipt GFE Sensor Suite	2	FY10	A	37		37													A									3	34		
MFR						O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	REMARKS	
Number	NAME/LOCATION	PRODUCTION RATES			UOM	LEAD TIMES				TOTAL After 1 Oct	REMARKS																				
		MIN.	1-8-5	MAX.		Administrative		Production																							
						Prior 1 Oct	After 1 Oct		After 1 Oct																						
1	Engineering Chem Bio Center (ECBC) APG-EA	1	2	4	E	Initial / Reorder				0 / 0	1 / 1	8 / 7	9 / 8																		
2	Unknown	2	6	8	E	Initial / Reorder				0 / 0	11 / 5	13 / 19	24 / 24																		

Exhibit P-40, Budget Item Justification Sheet	Date: May 2009
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Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE	P-1 Item Nomenclature (MC0101) CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)
---	---

Program Elements for Code B Items:	Code:	Other Related Program Elements:
------------------------------------	-------	---------------------------------

	Prior Years	FY 2008	FY 2009	FY 2010						
Proc Qty				7						
Gross Cost				11.5						
Less PY Adv Proc										
Plus CY Adv Proc										
Net Proc (P-1)				11.5						
Initial Spares										
Total Proc Cost				11.5						
Flyaway U/C										
Wpn Sys Proc U/C										

DESCRIPTION: The Chemical, Biological, Radiological and Nuclear (CBRN) Dismounted Reconnaissance Systems (CBRN DRS) program will provide enhanced dismounted reconnaissance platoon capabilities. This program is not a new start, it was formally Joint NBC Reconnaissance System 2 (JNBCRS 2). The Dismounted Reconnaissance Monitor & Survey Set Kit Outfit (DRMS SKO) fills a mission critical need to enhance CBRN dismounted reconnaissance platoon capabilities. The program consists of two Phases. Phase I is the dismounted reconnaissance (DR) sets, kits and outfits (SKO) configuration which provides an immediate critical need consisting of COTS and GOTS integrated into a modular, transportable container for dismounted operations. It will form the basis for Phase II which is the Monitoring and Survey (MS) SKO. The MS SKO will feature technology insertion, the addition of net-centric capability, and tailoring to focus on the service-specific needs, to include Non Traditional Agent (NTA) detection.

JUSTIFICATION: FY10 procurement supports the purchase of seven Dismounted Reconnaissance Set Kits Outfits (DR SKO).

NOTE: In FY10 CBRN DRS becomes a stand alone program which was formerly JNBCRS 2 with funding in FY08 - \$7.8M and FY09 - \$13.3M under SSN MC0100 .

Exhibit P-40C, Budget Item Justification Sheet		Date: May 2009
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE		P-1 Item Nomenclature (MC0101) CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)
Program Elements for Code B Items: 0604384BP/Proj CA5	Code:	Other Related Program Elements:

The Chemical, Biological, Radiological and Nuclear (CBRN) Dismounted Reconnaissance Systems (CBRN DRS) program will provide enhanced dismounted reconnaissance platoon capabilities. This program is not a new start, it was formally Joint NBC Reconnaissance System 2 (JNBCRS 2). The Dismounted Reconnaissance Monitor & Survey Set Kit Outfit (DRMS SKO) fills a mission critical need to enhance CBRN dismounted reconnaissance platoon capabilities. The program consists of two Phases. Phase I is the dismounted reconnaissance (DR) sets, kits and outfits (SKO) configuration which provides an immediate critical need consisting of COTS and GOTS integrated into a modular, transportable container for dismounted operations. It will form the basis for Phase II which is the Monitoring and Survey (MS) SKO. The MS SKO will feature technology insertion, the addition of net-centric capability, and tailoring to focus on the service-specific needs, to include Non Traditional Agent (NTA) detection.

RDT&E FY10 - 14.1M

DEVELOPMENT/TEST STATUS AND MAJOR MILESTONES	START	COMPLETE
Conduct Production Verification Test/Operational Test & Evaluation (DR SKO)	2Q FY10	1Q FY11
Milestone C LRIP (DR SKO)	1Q FY10	1Q FY12
NTA Detection Capability Development	2Q FY10	2Q FY11

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Exhibit P-5, Weapon WPN SYST Cost Analysis		Appropriation/Budget Activity/Serial No. PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			P-1 Line Item Nomenclature: (MC0101) CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)			Weapon System Type:		Date: May 2009	
Weapon System Cost Elements		ID	FY08			FY09			FY10		
		CD	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost
			\$000	Each	\$000	\$000	Each	\$000	\$000	Each	\$000
CBRN DRS											
Dismounted Reconnaissance Monitor & Survey Set Kit Outfit (DRMS SKO)									5320	7	760.000
Initial Spares									680		
Production Verification Test									750		
Training Devices									1000		
Specifications and Drawings									950		
Technical Manuals									1500		
Engineering Support (Govt)									1250		
TOTAL									11450		

Exhibit P-5a, Budget Procurement History and Planning										Date: May 2009	
Appropriation/Budget Activity/Serial No: PROCUREMENT DEFENSE-WIDE/3/CHEM-BIO DEFENSE			Weapon System Type:			P-1 Line Item Nomenclature: (MC0101) CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)					
WBS Cost Elements:	Contractor and Location	Contract Method and Type	Location of PCO	Award Date	Date 1st Delivery	QTY Each	Unit Cost \$	Spec/TDP Avail Now?	Date Revsn Avail	RFP Issue Date	
Dismounted Reconnaissance Monitor & Survey Set Kit Outfit (DRMS SKO) FY10	AGENTASE-ICX, Pittsburg, PA	C/FFP	RDECOM APG-EA, MD	Dec-09	Jun-10	7	760000	Yes			
REMARKS:											

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Department of Defense
Fiscal Year (FY) 2010 Budget Estimates
May 2009



Research, Development, Test and Evaluation, Defense-Wide

Volume 4

Chemical Biological Defense Program (CBDP)

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Fiscal Year (FY) 2010 Budget Estimates

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Department of Defense Chemical and Biological Defense Program Overview

Fiscal Year (FY) 2010 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, 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 FY10 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 Joint Concept Technology Demonstrations (JCTDs), Joint Service Sensitive Equipment Decontamination (JSSED), Sensor Suite Integration (SSI) for NBC Reconnaissance Systems (Stryker) Joint Platform Interior Decontamination (JPID) Human Remains Decontamination System (HRDS), Next Generation Chemical Standoff Detection (NGCSD), Chemical, Biological, Radiological, Nuclear (CBRN) Dismounted Reconnaissance Systems (CBRN DRS), Joint Biological Point Detection System (JBPDS), Joint Biological Stand-off Detection System (JBSDS) Increment 2, 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 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 FY10, 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 Systems continuing procurement include, Joint Service Transportable Decontamination System - Small Scale (JSTDS-SS), the Joint Effects Model (JEM), Joint Service General Purpose Mask (JSGPM), JWARN, Joint Service Protective Clothing (PROT CLTH) technology, CBRN DRS, Joint Bio Point Detection System (JBPDS), biological defense vaccines, CB Protective Shelters (CBPS), Collective Protective Field Hospitals (CPFH), Collective Protection System Backfit (CPSBKFT), and chemical and biological defense equipment for installation force protection.

Overall, the FY 2010 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) 2010 Budget Estimates**

APPROPRIATION: 0400D Research, Development, Test & Eval, Defense Wide

Date: May 2009

					Thousands of Dollars		
Line No	Program Number	Item	Budget Activity	FY 2008	FY 2009	FY 2010	
006	0601384BP	CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	1	82,399	61,194	58,974	
		Basic Research		82,399	61,194	58,974	
014	0602384BP	CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)	2	269,580	239,297	209,072	
		Applied Research		269,580	239,297	209,072	
032	0603384BP	CHEMICAL/BIOLOGICAL DEFENSE (ATD)	3	238,220	324,769	282,235	
		Advanced Technology Development (ATD)		238,220	324,769	282,235	
077	0603884BP	CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)	4	65,865	62,721	205,952	
		Advanced Component Development and Prototypes (ACD&P)		65,865	62,721	205,952	
111	0604384BP	CHEMICAL/BIOLOGICAL DEFENSE (SDD)	5	277,699	300,149	332,895	
		System Development and Demonstration (SDD)		277,699	300,149	332,895	
141	0605384BP	CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT)	6	97,207	99,811	106,477	
141	0605502BP	SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)	6	12,570	0	0	
		RDT&E Mgt Support		109,777	99,811	106,477	
174	0607384BP	CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	7	7,572	12,640	6,198	
		Operational Systems Development		7,572	12,640	6,198	
Total Chemical and Biological Defense Program				1,051,112	1,100,581	1,201,803	

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Exhibit R-2, PB 2010 Chemical and Biological Defense Program RDT&E Budget Item Justification **DATE:** April 2009

APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research	R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)
---	---

COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	82.399	61.194	58.974						Continuing	Continuing
CB1: CHEMICAL/ BIOLOGICAL DEFENSE (BASIC RESEARCH)	20.344	24.332	35.624						Continuing	Continuing
CI1: CONGRESSIONAL INTEREST ITEMS (BASIC RESEARCH)	16.718	8.200	0.000						Continuing	Continuing
TB1: MEDICAL BIOLOGICAL DEFENSE (BASIC RESEARCH)	33.173	16.329	16.852						Continuing	Continuing
TC1: MEDICAL CHEMICAL DEFENSE (BASIC RESEARCH)	12.164	12.333	5.519						Continuing	Continuing
TR1: MEDICAL RADIOLOGICAL DEFENSE (BASIC RESEARCH)	0.000	0.000	0.979						Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element funds the Joint Service fundamental research program for (medical and physical sciences) Chemical, Biological, and Radiological (CBR) defense. The objective of the basic research program is to advance fundamental knowledge and understanding of the sciences with an emphasis in exploring new and innovative research for combating or countering chemical, biological and radiological weapons. Moreover, basic research supports a Joint Force concept of a lethal, integrated, supportable, highly mobile force with enhanced capability by the individual service member. Specifically, the program promotes theoretical and experimental research and studies in the chemical, biological, radiological, medical and related sciences.

Research areas are aligned and prioritized to meet Joint Service needs as stated in mission area analyses, joint operational requirements and to take advantage of 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 facilities, and technological breakthroughs. The work in this program element is consistent with the Chemical Biological Defense Program Research, Development and Acquisition (RDA) Plan.

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Exhibit R-2, PB 2010 Chemical and Biological Defense Program RDT&E Budget Item Justification **DATE:** April 2009

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research	PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)

Knowledge and technologies resulting from basic research efforts are expeditiously transitioned to the applied research (PE 0602384BP) and advanced technology development (PE 0603384BP) activities. This project also covers the conduct of basic research efforts in the areas of real-time sensing and immediate biological countermeasures. The projects in this PE are placed in BA1, because they are basic research efforts directed towards non-specific or non-unique military applications.

B. Program Change Summary (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Previous President's Budget	83.132	53.191	55.484	
Current BES/President's Budget	82.399	61.194	58.974	
Total Adjustments	-0.733	8.003	3.490	
Congressional Program Reductions	0.000	-0.197		
Congressional Rescissions				
Total Congressional Increases	0.000	8.200		
Total Reprogrammings	0.294	0.000		
SBIR/STTR Transfer	-1.027	0.000		
Other Adjustments	0.000	0.000	3.490	

Congressional Increase Details (\$ in Millions)

Project: CI1, CONGRESSIONAL INTEREST ITEMS (BASIC RESEARCH)

FY 2008	FY 2009
0.000	8.200

Change Summary Explanation

Funding: FY09 - Congressional increases to enhance projects within the science and technology base (+\$8,200K CI1); Congressional general reductions and other adjustments (-\$92K CB1; -\$59K TB1; -\$46K TC1).

Schedule: N/A

Technical: N/A

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification								DATE: April 2009		
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research				R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)					PROJECT NUMBER CB1	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
CB1: CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	20.344	24.332	35.624						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (CB1) supports basic research efforts in fundamental science phenomenology to include: Life Sciences; Physical Sciences; Environmental Sciences; Mathematics; Psychology and Social Sciences; and Engineering. The objective of the Basic Research program is to successfully support the advancement of fundamental knowledge and understanding of the sciences with an emphasis on exploring new and innovative research for Chemical and Biological (CB) Defense. It includes new study areas, such as: Nanoscale Sciences; Chemical, Biological & Bio-Inspired Sciences; Surface & Signature Sciences (with an emphasis on Non-Traditional Agents (NTA's); and Informational Sciences. The aim is to promote innovative concepts and directions of research, which could lead to transformational capabilities to enhance the performance and ensure the safety of the warfighter. Research in Nanoscale Sciences (nanoelectromechanical systems, carbon nanotubes, molecular motors, and nanometer imaging) can bring about improvements in protection, decontamination and other core CB defense fields. Research in Chemical, Biological & Bio-Inspired Sciences includes research in concepts, such as, synthetic biology, biomimetics, and other emerging areas of science to build a foundation for developing novel smart materials, which combine multiple functionalities into a common autonomous unit or network. Surface and Signature sciences focuses on the study of physical and chemical properties, especially with regard to Non Traditional Agents (NTA's), that seeks to improve physical capabilities such as detection and decontamination. Informational Sciences includes research in understanding cognitive and physiological effects on human decision-making, behavior and performance, and modeling and simulation of CB threats. Breakthroughs and advances in functional capabilities gained from these scientific disciplines could impact the entire chemical and biological defense science and technology program. Basic Research activities described in this budget justification leverage existing research programs and activities within the DoD and other government agencies to accelerate transformational breakthroughs, which may be transitioned to applied research or advanced development initiatives. Due to the exploratory, academic, and theoretical nature of Basic Research efforts, projects described in this justification typically have a short duration time from conception to completion (one to three years). Promising techniques will transition to both technology development and system level programs. The basic research program will continue to promote cross-pollination between government and academia, as well as, sponsor world class scientists while promoting the development of young researchers.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
Nano-Scale Sciences: Aims to improve understanding of nanoparticles (scale of 1-100 nanometers in length) for use in chemical and biological defense.	4.912	5.572	9.198	

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification			DATE: April 2009	
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research	R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)		PROJECT NUMBER CB1	
B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>FY08 - Continued efforts investigating new types of materials (with molecular scale porosity) for potential use in decontamination and protection, as well as, new techniques for detection of chemical agents through novel applications of physics and chemistry. Explored compounds which mimic biological organisms and nano-scale sensing technologies for identification of agents. Initiated studies developing new materials through nanotechnology for improvements to protective equipment.</p> <p>FY09 - Complete efforts investigating new types of materials (with porosity in the nanometers) for potential use in decontamination and protection, and share information on new techniques for detection of chemical agents through novel applications of physics and chemistry. Continue study of compounds which mimic biological organisms and nano-scale sensing technologies for identification of agents. Continue studies of new materials being developed through nanotechnology for protective equipment, while initiating new efforts into new textiles with a higher resistance to oily substances or with adjustable porosity. Other new efforts will study interfaces between nano-materials and living cells, and systems found in nature for creative solutions for future protection concepts.</p> <p>FY10 - Complete study of some compounds which mimic biological organisms and nano-scale sensing technologies for identification of agents. Continue efforts into new textiles with a higher resistance to oily substances or with adjustable porosity, as well, as efforts studying interfaces between nano-materials and living cells, and studying systems found in nature for creative solutions for future protection concepts. Continue to identify new topics for investments in basic research to support the fundamental scientific phenomena in nano-scale science technology. Investigate new concepts in nano-scale chemical and biological sensing/detection. Initiate new studies to develop nano-scaled porous materials. Identify/leverage state-of-the-art breakthroughs to fill capability gaps. Advancements made in Nano-scale Sciences may apply to and be leveraged by other Basic Research areas such as Biosciences & Bio-inspired Sciences, Surface and Signature Science, Informational Science, and Threat Agent Science (TAS) activities located in Budget Activity 2.</p>				
SBIR - FY09 - Small Business Innovative Research.	0.000	0.336	0.000	
Chemical, Biological, and Bio-Inspired Science: Focuses on discovering fundamental phenomena that could impact Chemical and biological defense.	3.860	4.800	11.760	

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification			DATE: April 2009	
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research	R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)		PROJECT NUMBER CB1	
B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>FY08 - Continued to leverage previous Basic Research efforts in fundamental phenomena that reflect recent advances in bioscience. Investigated novel materials for biomolecular adsorption and cell signaling to better understand the effects of Chem-Bio agents, as well as, new hybrid nanomaterials that bridge nanoparticle and metallic surfaces to make biological interfaces. Studied real-time changes in bacterial sizes during growth of biological agent simulants, and immobilized antimicrobial activities in non-biological and antibacterial materials and coatings. Examined biophysical fluid dynamics near surfaces and interaction of bio-aerosols with shock blast waves on the dispersion, activation, and destruction of airborne threats.</p> <p>FY09 - Continue research on projects initiated in FY08, such as novel materials for biomolecular adsorption and cell signaling to mitigate effects of Chem-Bio Agents, as well as, new hybrid nanomaterials that bridge nanoparticle and metallic surfaces to make biological interfaces. Initiate efforts to investigate reactions of certain chemical compounds in alcohol media for possible decontaminant applications, and new peptide structures for alternative active sites on the molecule for recognition and decontamination. Investigate new approaches for the classification of biological agents and specifically engineered genetics</p> <p>FY10 - Continue previous FY08/FY09 projects related to Bioscience. Continue research to investigate new hybrid nanomaterials that bridge nanoparticle and metallic surfaces to make biological interfaces, which will allow for improved understanding of cellular reactions and responses to chemical and biological agents. Continue to characterize new mechanisms of reaction for these new materials. Begin developing novel tools to investigate cells and cell mechanisms. Characterize NTA toxicokinetic properties and mechanisms of toxicity for NTAs. Assess effectiveness of developmental general purpose decontaminants, as well as explore new formulations. Maintain visibility of relevant research which could be leveraged for the benefit of the program.</p>				
<p>Information Science: Leverages new developments in information and computation to impact modeling and other chemical and biological efforts.</p> <p>FY08 - Initiated and continued to leverage previous Basic Research efforts in fundamental phenomena to address opportunities to leverage advances in information science. Investigated the use of dynamic combinatorial chemistry that enables new host-guest combinations that may result in new approaches in detection, protection, or decontamination. Studied the physics of molecules adhered to surfaces under conditions of flow. Investigated the dynamics of bacterial germination and migration within the body, infection</p>	4.680	5.925	6.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>of target tissues and modeled the results. Analyzed atmospheric behavior by deriving basic mathematical and physical relationships such as momentum and energy exchanges. Studied 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.</p> <p>FY09 - Continue research on projects initiated in FY08. 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, and new molecular recognition signatures in the electromagnetic spectrum.</p> <p>FY10 - Continue FY08/FY09 projects. Initiate efforts to support and investigate genetic algorithms. Seek to understand cognitive effects of heightened sensory input. Research conducted will draw from many disciplines, including: cognitive psychology; neuroscience; linguistics; medical sciences; and will leverage advances in physics, mathematics, biology, and other relevant sciences to improve informational and decision making tools.</p>				
<p>Cognitive Science: Focuses on thinking and decision making to impact support tools for CB defense.</p> <p>FY08 - Initiated efforts in fundamental phenomena to address opportunities to leverage advances in cognitive science to support chemical and biological defense program requirements. Conducted research in cognitive science that draws from many disciplines including: cognitive psychology; neuroscience; linguistics; computer science; physics; mathematics; and biology. Initiated research on imaging methods (e.g., modern optical microscopy, functional brain mapping) and their applications to the affects of chemical and biological agents. Leveraged data gathered during the study of human cognitive, sense and motor processes. Conducted cause and effect research to fill the gap between psychological processes and brain functions as a result of exposure to chemical and biological agents.</p> <p>FY09 - Continue research on projects initiated in FY08. Initiate efforts to investigate the presentation of risk and uncertainty for chemical and biological defense decision making.</p> <p>FY10 - All Cognitive Science efforts will be re-aligned to Information Science.</p>	3.174	4.199	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>Integration of Basic Research Science: Focuses on basic research for chemical and biological defense and reaches out to a varied performer base for the best innovations and programs.</p> <p>FY08 - Initiated 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.</p> <p>FY09 - Complete research on projects initiated in FY08, and transition relevant information to various physical applied research projects located in Budget Activity 2.</p>	3.718	3.500	0.000	
<p>Surface & Signature Sciences: A new study area that focuses on the study of physical and chemical properties, especially with regard to Non Traditional Agents (NTA's), that seeks to improve physical capabilities, such as, detection and decontamination.</p> <p>FY10 - Develop novel tools to investigate surface and signature sciences to inform capability gaps in fields such as detection and decontamination. Initiate and combine the efforts that improve the phenomenology needed for and to protect, detect, decontaminate, or otherwise counter chemical (to include NTA's) and biological threats. Study interactions of Chemical and Biological agents with biological and environmental matrices.</p>	0.000	0.000	8.666	

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APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research	R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)	PROJECT NUMBER CB1
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C. Other Program Funding Summary (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	Cost To Complete	Total Cost
CB2/CHEMICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	93.629	110.615	111.420						Continuing	Continuing
CB3/CHEMICAL BIOLOGICAL DEFENSE (ATD)	18.839	19.183	25.403						Continuing	Continuing
TT3/TECHBASE TECHNOLOGY TRANSITION	9.239	8.214	7.388						Continuing	Continuing

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification								DATE: April 2009		
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research				R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)					PROJECT NUMBER C11	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
CI1: CONGRESSIONAL INTEREST ITEMS (BASIC RESEARCH)	16.718	8.200	0.000						Continuing	Continuing

A. Mission Description and Budget Item Justification

The efforts listed in Section B of this justification include congressional interest programs for FY08 and FY09.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
<p>CBDP Initiative Fund Basic Research: The CBDIF goal was to fund new and innovative chemical and biological science and technology projects across a wide range of military operations. Established in FY2003, it is congressionally directed with the intent to provide funds via a competitive acquisition to non-Government entities.</p> <p>FY08 - 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. Upon technical evaluation and selection of proposals, provided a report detailing the number of projects funded and areas of research.</p>	3.943	0.000	0.000	
<p>SBIR - FY09 - Small Business Innovative Research.</p>	0.000	0.110	0.000	
<p>Detection of Biological Agents in Water -</p> <p>FY08 - Conducted 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.</p>	1.972	0.000	0.000	
<p>Diamond Microelectronic Machined Sized (MEMS) Sensors for Real-Time Sensing of Weaponized Pathogens -</p> <p>FY08 - Researched and developed a new class of compact, wearable, real-time chemical and biological point sensors using the unique properties of diamond.</p>	0.986	0.000	0.000	
<p>Portable Continuous Monitor for Biodetection -</p>	1.577	0.000	0.000	

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification			DATE: April 2009	
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research	R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)		PROJECT NUMBER C11	
B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY08 - Conducted research to develop a platform capable of performing multiple bioassays for live organisms and toxins simultaneously, efficiently, accurately and extremely fast.				
Rapid Response Database Systems Initiative - FY08 - Conducted 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	0.000	0.000	
Garden State Cancer Center Vaccine Development Program - FY08 - Conducted 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. FY09 - Continue 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	0.789	0.000	
DNA Safeguard - FY08 - Conducted research to develop a stable, DNA-based chemical marker (DNA Barcode) capable of encoding information that can be added to any DNA sample in order to label the sample and guarantee its integrity. FY09 - Continue development of a stable, DNA-based chemical marker (DNA Barcode) capable of encoding information that can be added to any DNA sample in order to label the sample and guarantee its integrity.	1.341	1.184	0.000	
PhotoScrub - FY08 - Conducted research using PhotoScrub to break down chemical and biological threats into simpler, non-hazardous molecules such as carbon dioxide and water.	1.578	0.000	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
Initiative for Defense Against Bio-Warfare and Bio-Terrorism - FY08 - Researched and developed 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.	1.576	0.000	0.000	
Multisignal Nanosensors for Detections of IEDs - FY08 - Conducted basic research in the use of nanosensors to detect IED.	1.970	0.000	0.000	
Detection and Remediation Response to Bio/Chem Weapons - FY08 - TBD.	0.000	0.000	0.000	
In Vitro Models for Biodefense Vaccine - FY09 - Conduct basic research for the use of In Vitro models in vaccine development.	0.000	0.987	0.000	
Superstructural Partical Evaluation and Characterization with Targeted Reaction Aanlysis (SPECTRA) - FY09 - Continuation of basic research on superstructural particle evaluation and characterization with targeted reaction analysis begun in FY06.	0.000	1.184	0.000	
Defense Through Early Containment - FY09 - TBD.	0.000	1.184	0.000	
Protection from Oxidative Stress - FY09 - Recipient TBD.	0.000	1.579	0.000	
Research on a Molecular Approach to Hazardous Materials Decontamination - FY09 - Continuation of research on molecular approach to decontamination in collaboration with NSWC begun in FY06.	0.000	1.183	0.000	

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C. Other Program Funding Summary (\$ in Millions) N/A		
D. Acquisition Strategy N/A		
E. Performance Metrics N/A		

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification								DATE: April 2009		
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research				R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)					PROJECT NUMBER TB1	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TB1: MEDICAL BIOLOGICAL DEFENSE (BASIC RESEARCH)	33.173	16.329	16.852						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TB1) funds basic research of vaccines, diagnostic tools, and therapeutic drugs to provide effective medical defense against validated biological threat agents including: bacteria; toxins; and viruses. Innovative biotechnology approaches with the potential to rapidly identify, diagnose, prevent, and treat disease due to exposure to biological threat agents will be advanced. Categories of this project include core science efforts and technology programs areas in biological defense capability areas, such as, Pretreatments, Diagnostics, and Therapeutics. Starting in FY10, all efforts will be combined into a capability area termed Biological Based Basic Research in order to streamline the management of medical basic research activities.

This project also includes efforts such as the Transformational Medical Technologies Initiative (TMTI). The TMTI was launched in FY 2006 as a key Quadrennial Defense Review initiative to respond to the threat of emerging or intentionally bioengineered biological threats. TMTI's mission is to protect the Warfighter from genetically engineered biological threats by providing a rapid response capability from identification of pathogens to the delivery of medical countermeasures. This mission is accomplished through two main efforts: 1) developing broad spectrum (multi-agent) therapeutics against biological warfare (BW) agents (e.g, one drug that treats multiple agents); and 2) developing platform technologies to assist in the rapid development of medical countermeasures (MCMs) in response to BW agents (e.g, developing new and innovative ways to mass produce drugs in the event of a biological incident).

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
Multiagent (Broad Spectrum) Medical Countermeasures - Basic research efforts are focused on the early drug discovery phase of drug development. Active monitoring of scientific literature takes place to generate hypotheses for research. Scientific findings are reviewed and assessed as a foundation for characterizing new therapeutics. Researchers try to identify and develop brand new compounds that could lead to successful therapeutic candidates. Scientific studies occur to generate research ideas, hypotheses, and experimental designs for addressing the development of therapeutics against Biological Warfare (BW) agents. Focus on practical applications based on basic principles observed. Use of computer simulation or other virtual platforms to test hypotheses. Begin research, data collection, and analysis in order to test hypothesis. Explore alternative concepts, identify and evaluate critical technologies and components, and begin characterization of	21.114	6.103	5.631	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>candidate(s). Preliminary efficacy demonstrated. Multiple performers will be initiating tests at various stages of preclinical development.</p> <p>FY08 - Conducted basic research drug discovery research to identify molecular targets for broad-spectrum countermeasures. Evaluated research in genomics, proteomics and other relevant bioinformatics research to aid in this effort. Initiated collaborations to support rational drug design. Studied host immune response to infections.</p> <p>FY09 - Continue drug discovery research for broad-spectrum countermeasures with new candidates. Continue basic research to identify new candidates for molecular targets for broad-spectrum countermeasures. Continue to evaluate new thrust areas in genomics, proteomics, bioinformatics, and other relevant systems biology research. Focus efforts on promising intervention points for broad-spectrum therapeutic approaches based on results from drug design collaborations. Develop computer models and other methodologies to support rational drug design by determining the three-dimensional structure of important molecules based on the genetic sequences of organisms. Continue to study changes in host response to infection. Initiate study of biomarkers for intracellular bacterial (ICB) and hemorrhagic fever virus (HFV) agents.</p> <p>FY10 - Initiate support for the discovery of conserved host and pathogen directed targets for the development of broad spectrum drugs against BW agents. Validate computer models and other methodologies for rational drug design. Initiate investigation of technological advancements in genetic sequencing and drugs based on protein-to-protein interactions.</p>				
<p>Viral Therapeutics: Research understanding of viral infection.</p> <p>FY08 - Delineated host cell alarm response to viral infection to enhance the current understanding of viral pathogenesis (mechanism of injury), in support of therapeutic development against viral threat agents. Focused on host cell responses common to infection with multiple viral threats.</p> <p>FY09 - 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.</p>	0.495	0.435	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Effort will be re-aligned to Biological Based Basic Research.				
Diagnostic Technologies: Pursue technologies to discover infection in the host. FY08 - Explored new avenues for assay design and application, focusing on improving sensitivity and specificity. Validated a key component for automated sample preparation. Increased efforts for a novel method to produce improved reagents for diagnoses of disease. Assessed the applicability of novel technology platforms as new techniques became available in gene sequencing. Pursued identification of novel biomarkers identifying exposure to biological pathogens. FY09 - 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. FY10 - Efforts realigned to Biological Based Basic Research.	3.309	3.027	0.000	
Multiagent Vaccines: Researched stable genes for potential vaccine targets. FY08 - Identified stable genes that could serve as potential targets in the design of multi-agent vaccines for intracellular pathogens considered potential biological threats. FY09 - 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. FY10 - Efforts realigned to Biological Based Basic Research.	0.504	0.345	0.000	
Biologic Based Basic Research: Researches understanding of biological agents of interest, their pathways, virulence, immunization factors and identification.	0.000	0.000	9.340	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Determine mechanisms of pathogenesis for viral and bacterial biothreat agents and toxins. Define immune responses and mechanisms that confer protection against biothreat agents of interest to DoD. Identify novel and/or shared antigens from viral and bacterial threat agents to be used in the design of future vaccine formulations. Determine the contribution of post-translational modification of Botulinum Neurotoxin (BoNT) to the intracellular biology of the toxin. Determine advanced pharmacokinetic models of BoNT intoxication to define the therapeutic window of opportunity.				
SBIR - FY09 - Small Business Innovative Research.	0.000	0.223	0.000	
Development of Platform Technologies - TMTI is investing in components to develop an integrated capability from pathogen identification and characterization to countermeasure delivery. In particular, basic research is needed in the development of animal models for diseases caused by BW agents. Such animal models are required to test drug effectiveness in order to generate the data required to file for licensure of BW drug countermeasures with the Food and Drug Administration (FDA). Efforts are also directed towards pathogen identification and characterization, using methods like genetic sequencing to generate high quality reference information. This data will be used in sophisticated analyses to delineate the exact nature of advanced or genetically engineered bio-threats. FY10 - Initiate the development of host and pathogen based platforms, such as cell, animal and computer models to describe and predict drug interactions during treatment for BW agent exposure. Initiate projects to generate animal models to characterize BW agent disease and to compare human and animal model responses to infection for use in live biological agent testing. Explore pathogen identification and characterization capabilities, including genetic sequencing, integrate existing capabilities, assess future sequence and analysis needs to characterize advance threats. Determine bioinformatics infrastructure needs.	0.000	0.000	1.881	
Vaccine Technology Development: Identified common pathogenic mechanisms by agents to improve vaccine design. FY08 - Identified some common pathogenic mechanisms of cell signaling by agents. Explored the manipulation of those cell signaling pathways to improve vaccine design for enhanced immunity. FY09 - Efforts realigned to Vaccine Research Support.	1.496	0.000	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>Toxin Therapeutics: Research efforts to enhance understanding of toxins and their effects on the host.</p> <p>FY08 - Initiated studies to investigate the process of intracellular targeting of Botulinum Neurotoxin (BoNT), with application to the development of new assay systems for evaluating potential therapeutics. Investigated the restoration of nerve activity following paralysis from BoNT intoxication. Utilized computer modeling techniques and traditional assays to provide structural and molecular data to facilitate the design and development of therapeutic countermeasures against select toxins.</p> <p>FY09 - 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 staphylococcal enterotoxin B (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.</p> <p>FY10 - Efforts will be re-aligned to Biological Based Basic Research.</p>	3.137	2.606	0.000	
<p>Vaccine Research Support: Researched human immune response and pathogenicity of biological agents.</p> <p>FY08 - Assessed human immune response to bacterial pathogens. Continued studying pathogenicity of bio-agents. Developed and refined laboratory parallel relationships of immunity for vaccines under development. Identified and evaluated new target antigens from intracellular pathogens.</p> <p>FY09 - 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.</p> <p>FY10 - Efforts re-aligned to Biological Based Basic Research.</p>	2.276	2.937	0.000	
<p>Bacterial Therapeutics: Research efforts to enhance understanding of bacterial pathogens.</p>	0.842	0.653	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)							FY 2008	FY 2009	FY 2010	FY 2011
FY08 - Delineated host cell response to bacterial pathogens to identify new therapeutic targets for broad spectrum therapeutics. Demonstrated and confirmed the role for selected common pathways and factors in bacterial virulence.										
FY09 - Characterize new potential targets for therapeutic countermeasures, focusing on those identified for poorly characterized threats.										
FY10 - Efforts will be re-aligned to Biological Based Basic Research.										
C. Other Program Funding Summary (\$ in Millions)										
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
TB2/MEDICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	98.878	47.591	54.156						Continuing	Continuing
TB3/MEDICAL BIOLOGICAL DEFENSE (ATD)	95.996	188.748	204.576						Continuing	Continuing
D. Acquisition Strategy N/A										
E. Performance Metrics N/A										

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APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research				R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)					PROJECT NUMBER TC1	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TC1: MEDICAL CHEMICAL DEFENSE (BASIC RESEARCH)	12.164	12.333	5.519						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TC1) emphasizes understanding of the basic action mechanisms of nerve, blister, 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. Starting in FY10, all efforts will be combined into a capability area termed Chemical Based Basic Research in order to streamline the management of medical basic research activities.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
Chemical Based Basic Research: Research focuses on understanding chemical agents, their mechanism of action, toxicity, cellular injury, and identification. FY10 - Investigate new tissue engineering technologies to reduce reliance on skin grafts. Assess the results of genotoxicity studies. Research mechanisms of action of nerve agents and therapeutic interventions using whole animal models, with a focus on data required to support FDA submissions. Initiate research into the development for novel nerve agent therapeutics with reduced impact on visual performance. Initiate development of new animal models to characterize in vivo effects of NTAs. Demonstrate the biological equivalency of Non-Traditional Agent (NTA) toxicity mechanisms across relevant species.	0.000	0.000	5.519	
Respiratory and Systemic: Research efforts that define pathways of injury and therapeutic targets against chemical agent exposure through inhalation. FY08 - Developed additional laboratory and other model systems to identify new therapeutic targets, based on findings from mechanism of injury studies, focusing on common injury pathways. Investigated long term effects of lung injury, collected toxicological, physiological, and biochemical data.	4.723	4.849	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY09 - 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.				
FY10 - Efforts re-aligned to Chemical Based Basic Research.				
SBIR - FY09 - Small Business Innovative Research.	0.000	0.170	0.000	
Cutaneous and Ocular: Research efforts that define pathways of injury and therapeutic targets for chemical agent exposure through skin and eye exposure. FY08 - Optimized models for cutaneous, percutaneous and ocular exposure. Explored novel cellular biochemical pathways as potential targets for therapeutic intervention. Maximized strategies to extend "latency" period between exposure and injury. Expanded study of agent exposure to cutaneous cells through damage to cell genetic components. FY09 - 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. FY10 - Efforts re-aligned to Chemical Based Basic Research.	2.446	2.400	0.000	
Neurologic: Research efforts that aim to improve understanding of nerve agents. FY08 - Exploited data from structure activity relationship (SAR) studies to delineate commonality between known toxins and nerve agents. Delineated general mechanism of action for nerve reactivation (following exposure) as required to support Federal Drug Administration (FDA) submissions for improved nerve agent therapeutics.	1.286	1.200	0.000	

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification							DATE: April 2009					
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research			R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)				PROJECT NUMBER TC1					
B. Accomplishments/Planned Program (\$ in Millions)							FY 2008	FY 2009	FY 2010	FY 2011		
FY09 - Research mechanisms of action of nerve agents and therapeutic interventions using whole animal models, with a focus on data required to support FDA submissions. Initiate research into the development of nerve agent therapeutic alternatives with reduced impact on visual performance.												
FY10 - Efforts re-aligned to Chemical Based Basic Research.												
Medical Toxicology: Research Non Traditional Agents (NTAs) and other agents to improve understanding of NTA exposure.							3.709	3.714	0.000			
FY08 - Collected data derived from models after chemical agent exposure. Initiated exploratory studies to determine the mode/mechanism of action of Non-Traditional Agents (NTAs). Developed appropriate model systems for non-traditional modes of action and toxicity.												
FY09 - Demonstrate the biological equivalency of NTA toxicity mechanisms across relevant species.												
FY10 - Efforts re-aligned to Chemical Based Basic Research.												
C. Other Program Funding Summary (\$ in Millions)												
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost		
TC2/MEDICAL CHEMICAL DEFENSE (APPLIED RESEARCH)	36.154	35.922	40.587						Continuing	Continuing		
TC3/MEDICAL CHEMICAL DEFENSE (ATD)	24.183	26.482	29.092						Continuing	Continuing		
D. Acquisition Strategy												
N/A												
E. Performance Metrics												
N/A												

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification									DATE: April 2009	
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research				R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)					PROJECT NUMBER TR1	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TR1: MEDICAL RADIOLOGICAL DEFENSE (BASIC RESEARCH)	0.000	0.000	0.979						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TR1) emphasizes the research and study of medical countermeasures to protect the warfighter against radiation exposure. Specifically, this project emphasizes the identification of basic action mechanisms of Acute Radiation Syndrome (ARS) and Delayed Effects of Acute Radiation Exposure (DEARE), as well as developing possible radioprotectants (Pretreatments), post-irradiation exposure treatments (Therapeutics), and the ability to identify exposure to radiation (Diagnostics). These Basic Research efforts advance promising technology with the potential to rapidly identify, diagnose, prevent, and mitigate ARS and/or DEARE in the event of a radiological incident.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
Medical Radiological Defense: Research focuses on mechanisms of injury from radiation exposure.	0.000	0.000	0.979	
FY10 - Initiate efforts to identify mechanisms of injury from acute radiation exposure and delayed health effects following radiation exposure. Explore novel assays to diagnose radiation injury, through studies of cellular science, metabolism, and bioregulators.				

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APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 1 - Basic Research				R-1 ITEM NOMENCLATURE PE 0601384BP CHEMICAL/BIOLOGICAL DEFENSE (BASIC RESEARCH)				PROJECT NUMBER TR1		
C. Other Program Funding Summary (\$ in Millions)										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	Cost To Complete	Total Cost
TR2/MEDICAL RADIOLOGICAL DEFENSE (APPLIED RESEARCH)	2.008	1.969	2.909						Continuing	Continuing
TR3/MEDICAL RADIOLOGICAL DEFENSE (ATD)	2.152	4.863	2.413						Continuing	Continuing
D. Acquisition Strategy										
N/A										
E. Performance Metrics										
N/A										

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Exhibit R-2, PB 2010 Chemical and Biological Defense Program RDT&E Budget Item Justification **DATE:** April 2009

APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	R-1 ITEM NOMENCLATURE PE 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)
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COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	269.580	239.297	209.072						Continuing	Continuing
CB2: CHEMICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	93.629	110.615	111.420						Continuing	Continuing
CI2: CONGRESSIONAL INTEREST ITEMS (APPLIED RESEARCH)	38.911	43.200	0.000						Continuing	Continuing
TB2: MEDICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	98.878	47.591	54.156						Continuing	Continuing
TC2: MEDICAL CHEMICAL DEFENSE (APPLIED RESEARCH)	36.154	35.922	40.587						Continuing	Continuing
TR2: MEDICAL RADIOLOGICAL DEFENSE (APPLIED RESEARCH)	2.008	1.969	2.909						Continuing	Continuing

A. Mission Description and Budget Item Justification

The use of chemical, biological, and radiological weapon systems in future conflicts is a steadily increasing threat. Funding under this program element (PE) sustains a robust defense program, which both reduces the danger of a chemical, biological, or radiological (CBR) attack and enables U.S. forces to survive, and continue operations in a CBR environment. The medical program focuses on development of antidotes, drug treatments, casualty diagnosis, patient decontamination and medical technologies management. In the physical sciences area, the emphasis is on continuing improvements in CB defense materiel, including contamination avoidance, decontamination, and protection technologies. Research efforts are planned to be initiated for CB defense technologies that will result from a strategic approach of converging nanotechnology, biotechnology, information technology and cognitive science. This PE also provides for applied research in the areas of real-time sensing and immediate biological countermeasures. 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

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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	PE 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)

Development and Prototypes (PE: 0603884BP) and System Development and Demonstration (PE: 0604384BP). This project is placed in BA2, because it includes non-system specific development, directed toward military needs.

B. Program Change Summary (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Previous President's Budget	266.999	203.731	187.744	
Current BES/President's Budget	269.580	239.297	209.072	
Total Adjustments	2.581	35.566	21.328	
Congressional Program Reductions	0.000	-7.634		
Congressional Rescissions				
Total Congressional Increases	0.000	43.200		
Total Reprogrammings	5.880	0.000		
SBIR/STTR Transfer	-3.299	0.000		
Other Adjustments	0.000	0.000	21.328	

Congressional Increase Details (\$ in Millions)

Project: CI2, CONGRESSIONAL INTEREST ITEMS (APPLIED RESEARCH)

FY 2008	FY 2009
0.000	43.200

Change Summary Explanation

Funding: FY09 - Congressional increases to enhance projects within the science and technology base (+\$43,200K CI2). Congressional general reductions and other adjustments (-\$369K CB2; -\$7,147K TB2; -\$112K TC2; -\$6K TR2).

FY10 - Program realignments and other adjustments (-\$4,594K CB2; +\$3,772K TB2; -\$400K TC2; +\$1,000K TR2), Inflation adjustments (-\$1,617K CB2; -\$730K TB2; -\$739K TC2; -64K TR2). NTA adjustments (+\$17,700K CB2; +\$7,000K TC2).

Schedule: N/A

Technical: N/A

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APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research				R-1 ITEM NOMENCLATURE PE 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)					PROJECT NUMBER CB2	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
CB2: CHEMICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	93.629	110.615	111.420						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (CB2) provides physical applied research to develop future, multi-disciplinary, multi-functional capabilities in Life Sciences, Physical Sciences, Environmental Sciences, Mathematics, Cognitive Sciences, and Engineering. Efforts in this project support the seamless addition of state-of-the-art-technologies into an integrated collection of systems across the spectrum of capabilities requisite to support chemical and biological defense missions. To achieve this, the activities are organized into four capability areas: detection; information systems technology; protection/hazard mitigation (formerly decontamination and protection); and threat agent science. Detection focuses on developing technologies for standoff and point detection and identification of chemical and biological agents. Information systems technology focuses on advanced warning and reporting, hazard prediction and assessment, simulation analysis and planning, and systems performance modeling. Starting in FY10, Decontamination and Protection capability areas will be merged into a new capability area called Protection and Hazard Mitigation. Protection and Hazard Mitigation focuses on providing technologies that protect and reduce the chemical/biological threat or hazard to the warfighter, weapons platforms, and structures. Threat agent science is devoted to characterizing threat agents and the hazards they present in terms of agent fate in the environment, toxicology, pathogenicity and the development of simulants, especially with regard to Non-Traditional Agents (NTA's). This project focuses on horizontal integration of CB defensive technologies in support of the Joint Services.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
Solution Chemistry: Development and improvement of chemical and biological decontamination formulations that are compatible with the current family of decontamination systems.	2.020	0.000	0.000	
FY08 - Completed research and published technology readiness assessment on technologies that generate chlorine dioxide at point-of-use. Coordinated findings with advance development programs such as the Joint Portable Decon System (JPDS).				
FY09 - Efforts will be re-aligned under Protection.				
Sensor Data Fusion: Emphasis on developing scientific techniques for fusing disparate information from multiple sources for insertion into the Joint Effects Model (JEM), Joint Warning and Reporting Network (JWARN), and Joint Operational Effects Federation (JOEF), and other identified acquisition programs.	5.241	4.980	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>FY08 - Processed high-resolution field trial data and provided, via data server, support to test first-generation outdoor Source Term Estimation (STE), Hazard Refinement (HR) and Sensor Placement Tool (SPT) algorithms. Completed validation and verification (V&V) of first-generation SPT algorithm. Began development of second-generation SPT algorithm to include optimal hazard prediction capability. Completed prototype algorithm for building interior STE and began development of building interior HR algorithms. Continued biological background model development to reduce sensor false alarms and produced a first generation prototype.</p> <p>FY09 - 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.</p> <p>FY10 - Sensor Data Fusion efforts will be re-aligned to Advanced Warning and Reporting.</p>				
<p>Integrated Protective Fabric: Development of lightweight chemical and biological protective textiles that can be used as an integrated combat duty uniform.</p> <p>FY08 - Completed work on identifying and assessing nanocatalytic and nano-particle reactive materials with detoxifying and anti-microbial properties and down-selecting candidate materials. Continued development of test methodologies. Continued the development of elastic, conformable chemical and biological (CB) protective fabrics with selectively permeable properties. Continued development of interpenetrating polymer networks whose permeability properties can be electrically controlled. Initiated work on fabric residual life indicators. Initiated selection and development of novel sorbents leap-ahead improvements over activated carbon technologies. Initiated development and selection of ultralight and tactile barrier materials for gloves and boots. Continued fabrication and testing of prototype integrated fabrics to determine protection, mechanical properties, and heat transfer characteristics. Continued use of computational methods for</p>	4.100	5.723	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
assessment and refinement of prototypes. Initiated ensemble design conceptual work based on lessons gathered in the human performance project. FY09 - Complete development of test methodologies. Complete assessment of elastic, conformable CB protective fabrics with selectively permeable properties. Continue development of 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. Continue 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 advanced development programs such as the Future Force Warrior Demonstration of the Soldier-as-a-System Ground Program and Uniform Integrated Protective Ensemble (UIPE). FY10 - This effort will be re-aligned to Protection and Hazard Mitigation.				
Point Detection, Chemical: Research and development efforts that focused on chemical detection and discrimination. FY08 - Micro Gas Analyzer (MGA) technology from the Defense Advanced Research Projects Agency (DARPA) was demonstrated to be immature. Terminated development of MGA technology for integration into a possible next generation chemical warfare agent detector. Initiated transition of an alternative DARPA Micro Cryogenic Cooler technology to enhance detection sensitivity for MEMS IR sensor system. FY09 - Efforts will be re-aligned to Chemical and Biological Point Technology.	2.719	0.000	0.000	
SBIR - FY09 - Small Business Innovative Research.	0.000	1.250	0.000	
Physiological Response: Delivers the scientific understanding and relevant standards for hazards posed to humans from a chemical or biological agent exposure.	7.851	6.637	14.718	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>FY08 - Initiated development of technically demanding exposure and analytic methods for selected very low volatile chemical threat agents, such as Non-Traditional Agents (NTAs). Expanded and targeted studies that directly lead to a human health risk assessment exposure standard for medical applications. For non-medical applications, studies supported efforts to establish detection and decontamination limits for technology development. Initiated 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).</p> <p>FY09 - Complete development of technically demanding exposure and analytic methods for selected very low volatile chemical threat agents, such as, NTA's. Continue development of technically demanded exposure and analytic methods for selected very low volatile chemical agents, such as, NTA's. Continue studies on human health risk assessment exposure standard for medical applications associated with contact hazards of low volatility Chemical Warfare Agents (CWAs). Complete development of toxicokinetic and toxicodynamic models initiated in FY08.</p> <p>FY10 - Refine and standardize exposure and analytical methods for evaluation of percutaneous exposure to selected low volatility CWAs and high priority NTA's. Assess established contact and inhalation hazard methodologies for applicability to next-generation chemical warfare agents and refine as evaluation indicates. Set milestones and begin research on hazard assessment for more chemical agents. Complete development of exposure and analytic methods for selected very low volatile chemical threat agents, such as NTA's. Complete studies and publish report on human health risk assessment exposure standard for medical applications associated with contact hazards of low volatility CWAs. Expand previous toxicokinetic and toxicodynamic efforts on a representative spore-forming Biological Weapons Agents (BWA) to include other BWAs, both spore-forming and non-spore-forming. Assess the validity of expanding the viral agents model. Investigate human toxicity operational contact hazard assessment, and the effects of alternate toxicological pathways on the overall physiological impacts of high priority NTAs.</p>				
Innovative Systems Concepts and Analysis: Development and systems analysis of novel system concepts for chemical and biological protection of occupants of buildings and platforms that integrates emerging technologies.	0.000	0.000	1.152	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Investigate alternate system solutions and technologies for Collective Protection (COLPRO). Technologies include 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 re-circulation schemes.				
Lightweight Integrated Fabric: Development of lightweight chemical and biological protective textiles that can be used as an integrated combat duty uniform. FY10 - Support assessment of integrated fabric concurrent with the Individual Protection Advanced Technology Demonstration (IP Demo - see Budget Activity 3, Project TT3, Experiment and Technology Demonstrations), which will support the Uniform Integrated Protective Ensemble (UIPE), and incorporate lessons into further development of integrated fabric. Continue work on fabric residual life indicators and agent indicators that can be network enabled. Continue development of polymer membranes with permeability properties electrically controlled. Continue development of novel sorbents leap-ahead improvements over activated carbon technologies. Continue development work on ultra light and tactile barrier materials for gloves and boots. Continue development and scaling of nanofiber/textile production technologies. 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. Continue support of fabrication of prototype ensembles for evaluation and demonstration.	0.000	0.000	6.735	
Agent Fate: Characterizes fate of chemical and biological material on operationally relevant surfaces; information obtained from the study of particular agents will be used in core programs to assist detection, information systems, and protection and hazard mitigation activities. FY08 - Implemented protocols for laboratory wind tunnels. Continued kinetic studies of the fate of thickened CWA's on operationally relevant surfaces to investigate newly identified phenomena and collected additional data on thickened CWA's evaporation and low volatility chemicals. Completed the development of evaporation models of thickened CWA's on operationally relevant materials based data from lab-scale wind tunnel data and field trials. Continued the transition of data to the advanced developer for use in the Joint Effects Model (JEM).	8.265	5.990	8.999	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>Researched and developed data sets of persistence and residual concentration of Non-Traditional Agents (NTAs) on operationally relevant surfaces (concrete, asphalt, painted surfaces, sand, soil, etc.). Initiated characterization of reactivity of the NTA's with surfaces, as well as, surface penetration and the fate of NTA's over time.</p> <p>FY09 - Complete data collection for evaporation studies on thickened CWA's and low volatility chemicals for relevant substrates and nanotechnology developments. Continue kinetic studies of the fate of thickened CWA's on operationally relevant surfaces. Integrate and complete characterization of new phenomena into models that will be transitioned to advanced development programs, such as, the JEM. 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. Continue characterization of reactivity of the NTAs with surfaces, as well as, surface penetration and the fate of NTAs over time.</p> <p>FY10 - Leverage prior agent fate studies to better bound substrate characteristics, and begin to relate to agent-substrate interactions for highly variable substrates, such as, concrete, sand/soil, and asphalt, and transfer data to predictive models. Characterize effects of substrate composition and structure on persistence and degradation of high priority CWA's and NTA's. Accelerate Agent Fate work on operationally relevant surfaces for highest priority NTAs. Relate CWA and NTA adsorption/absorption to chemical properties of both agent and substrate. Characterize vapor and liquid phase transport of high priority CWA's and NTA's through porous and non-porous operationally relevant substrates. Continue studies to determine effects of environmental factors (such as wind, humidity, substrate hydration and temperature) on transport through and off of substrates. Transfer data to predictive models. Refine Droplet Reaction and Evaporation of Agents Model (DREAM), which helps predict evaporation rates of agents from various surfaces, to address variation in program output. Transition DREAM modules to defense acquisition programs. Develop NTA hazard models and estimate hazard with extended skin-surface contact. Transition the data to the JEM.</p>				
Solid Phase: Development and improvement of chemical and biological decontamination formulations that are compatible with the current family of decontamination systems.	1.202	0.000	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY08 - Completed efforts to develop reactive sorbent nano-active suspensions and sprayable powders for advanced development programs such as the Joint Service Transportable Decontamination System (JSTDS). FY09 - Efforts will be re-aligned under Protection.				
Point Detection, Biological: Research and development efforts that focused on biological detection and discrimination. FY08 - Continued development of technology to completely sequence entire pathogen genomes based upon the sequencing through synthesis concept. FY09 - Efforts will be re-aligned to Chemical and Biological Point Technology.	4.200	0.000	0.000	
Battle Space Management: Emphasis on development of collaborative information management technologies for insertion into the Joint Warning and Reporting Network (JWARN) and Joint Operational Effects Federation (JOEF) acquisition programs. FY08 - Continued Sensor Data Fusion (SDF) and source term location technologies for eventual integration with advanced development programs such as the Joint Effects Model (JEM), Joint Warning and Reporting Network (JWARN), and the Joint Operational Effects Federation (JOEF) (see Budget Activity 4, Project IS4; Budget Activity 5, Project IS5). Demonstrated the exchange and multi-level fusion of actionable information with real world Command and Control (C2) systems in the Department of Defense, and Coalition and Homeland Security/Homeland Defense (HLS/HLD) domains. Completed modified thin server for chemical sensors to JWARN's Component Interface Device (JCID). FY09 - 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 Capability Area. FY10 - Battle Space Management efforts will be re-aligned to Advanced Warning and Reporting.	2.624	2.990	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>Human Performance: Analysis and modeling of human performance in chemical and biological protective ensembles in order to determine design priorities and trade-offs.</p> <p>FY08 - Continued 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. Continued to identify trade space between physiological and psychological comfort with regards to warfighter effectiveness. Initiated work to develop an overall comfort and performance model for CB protective equipment. Continued human subject studies on effects of breathing rates and resistance during high work rates and develop a human response model.</p> <p>FY09 - Complete first segment of 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.</p> <p>FY10 - This effort will be re-aligned to Protection and Hazard Mitigation.</p>	2.802	2.851	0.000	
<p>Self-Decontaminating Processes: Development and analysis of self-decontaminating coatings and surfaces.</p> <p>FY09 - Continue efforts from FY08 Decontamination Alternative Processes and Solid Phase to develop general purpose formulations and self decontaminating processes using sense and react (smart) systems, gas, kinetic, energetic, and/or novel approaches, and support concept development for decontamination systems of systems strategies and technologies. Decontamination process fundamental efforts continue, including the integration of innovative surface chemistry apparatus focusing on surface, decontaminant, and contaminant interactions using live chemical agents.</p> <p>FY10 - This effort will be re-aligned to Protection and Hazard Mitigation.</p>	0.000	6.100	0.000	
	3.300	0.000	0.000	

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APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 2 - Applied Research	R-1 ITEM NOMENCLATURE PE 0602384BP CHEMICAL/BIOLOGICAL DEFENSE (APPLIED RESEARCH)		PROJECT NUMBER CB2	
B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>Detection of CB Contamination on Surfaces: Research and development efforts which focused on detecting contaminated surfaces.</p> <p>FY08 - Developed technology to meet the needs to detect contamination on surfaces in a post-decontamination application to reassess and improve understanding of using enhanced modeling. Completed efforts using off-gassing techniques and Raman based LISA. Completed feasibility studies on post-decontamination verification using standoff detection methodology.</p> <p>FY09 - Efforts will be re-aligned to Chemical and Biological Stand-off Technology.</p>				
<p>Alternative Process: Development and analysis of non-traditional decontamination technologies and approaches which gain significantly improved effectiveness by complementary application.</p> <p>FY08 - Continued to investigate novel approaches to develop new decontamination processes.</p> <p>FY09 - Efforts will be re-aligned under Protection.</p>	1.743	0.000	0.000	
<p>Advanced Warning and Reporting: Emphasis on developing science and technologies for collaborative information management, fusion of disparate information from multiple sources, environmental databases and modeling, fusion of syndromic/diseases surveillance data, and synthetic environments for model performance evaluation and acquisition decisions.</p> <p>FY10 - Utilize newly released field test data to conduct validation and verification (V&V) of outdoor Source Term Estimation (STE) algorithms. Initiate development of a networked chemical and biological (CB) detector false alarm reduction capability for an advanced development program (JWARN - see BA4 Project IS4 or BA5 Project IS5). Initiate development of rapid STE tool for JWARN. Expand virtual test environment model to include fielded sensors and enhanced geospatial information. Expand and improve data assimilation techniques for linking chemical, environmental and medical surveillance sensor data with computer based applications. Continue development of advanced STE, Hazard Refinement (HR) and Sensor Placement Tool (SPT) algorithms for use in complex environments (e.g., variable terrain, urban, water). Extend coupling between environmental parameters and advanced development programs. Continue development of a tool</p>	0.000	0.000	6.200	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
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.				
Accelerating Agent Sciences: Accelerates CB defense research and development by coupling computational methods and experimental approaches. FY08 - Continued to identify and refine applicable Quantitative Structure Activity Relationship (QSAR) developed by academia and industry in pesticide studies, to describe interactions between conventional Chemical Weapon Agents (CWAs) and surfaces/materials of operational interest. Completed QSAR identification and final report. Continued Quantum-Chemical Modeling (QCM) effort to compute the interaction of CWA simulants and real agents on surfaces/materials of operational interest. Benchmarked and validated the capabilities to predict specific interactions of operational interest. Continued development of QCM dataset to capture QSAR differences between Non-Traditional Agents (NTAs) on surfaces/materials of operational interest. FY09 - Continue CWA QCM simulant design and selection methodology; simulant design and selection methodology efforts will be re-aligned to Agent Characterization and Simulant Development in FY10. Complete QCM dataset implementation to establish QSAR between NTA's 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. FY10 - Integrate research in computational techniques with existing computational toxicology, such as, shape signatures, and existing molecular dynamics capabilities to enhance agent fate, physiological response, simulant experiments and predictive modeling. Initiate work providing near term benefits, such as, computational toxicology. Complete CWA QCM development and maturation capability baseline for CWA interactions. Apply Quantum Chemical Modeling to develop and accelerate computationally obtained datasets and QSARS derived from the QCM data to highest priority NTA interactions and toxicology.	3.340	5.482	3.927	
Low-Resistance, Low-Profile Filtration: Development and integration of novel filtration media into a lightweight, low-profile, and low-burden individual protective filter, which has enhanced performance against a broader range of challenges that includes toxic industrial chemicals.	0.000	0.000	6.043	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Support assessment of integrate fabric concurrent with the Individual Protection Advanced Technology Demonstration, which will support the Uniform Integrated Protective Ensemble (UIPE), and incorporate lessons into further development of low resistance/profile filtration. Continue project to develop the next generation filter for individual protection from chemical and biological (CB) agents, Toxic Industrial Chemicals (TIC's) and Non Traditional Agents (NTA's). Integrate metal-organic frameworks and other novel adsorbent into breadboard prototypes. Integrate nanofiber High Efficiency Particulate Air (HEPA) filters into breadboard prototypes. Continue reactive hybrid approaches for individual protection filtration. Develop and fabricate initial prototypes and evaluate performance. Initiate prototype work for collective protection filtration in support of advanced development programs such as the Joint Expeditionary Collective Protection (JECF) and support of collective protection in vehicular/ platform systems in Major Defense Acquisition Programs (MDAP).				
Human Performance Prediction and Assessment: Analysis and modeling of human performance in chemical and biological protective ensembles in order to determine design priorities and trade-offs. FY10 - Support assessment of integrate fabric concurrent with the Individual Protection Advanced Technology Demonstration, which will support the Uniform Integrated Protective Ensemble (UIPE), and incorporate lessons into further development of human performance prediction and assessment. Continue refining human performance parameters for various warfighter subgroups in the performance of their mission when CB protective systems are employed. Continue work to develop an overall comfort and performance model for CB protective equipment. Initiate anthropometric sizing study to support size tariff development.	0.000	0.000	2.015	
Hazard Prediction and Assessment: Improve battlespace awareness by accurately predicting hazardous material releases, atmospheric transport and dispersion, and resulting human effects. Develop predictive capability for the source term of releases of CB and industrial materials to include counterproliferation, CB weapons, accidents and ground effects from ballistic missiles. FY08 - 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, and indoor scenarios to be used by the Joint Effects Model (JEM - see BA4 and BA5). Continued development of variable resolution database containing highly refined terrain, landuse and urban data. Completed validation of wind tunnel with urban field trial data and published FY08 validation report. Delivered initial legacy source	2.336	1.988	5.122	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>models such as Industrial Facilities (IFAC), Industrial Transportation (ITRANS), and Chemical Biological Facilities (CBFAC) to JEM.</p> <p>FY09 - 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 capability for chemical, biological, and industrial source models (IFAC, ITRANS, and CBFAC).</p> <p>FY10 - Initiate development of a missile intercept module for integration with JEM. Continue optimization of methods to significantly improve performance of transport and dispersion hazard models for JEM in both open air and urban environments using Second Order Closure Puff Atmospheric Transport and Dispersion (SCIPUFF AT&D) and Micro-Stationary Wind Fit with Turbulence (Micro-SWIFT). Continue advancing modeling techniques for chemical, biological, and industrial source models IFAC, ITRANS, and CBFAC. Continue experimental verification of models by way of small scale tests initiated in FY09.</p>				
<p>Respiratory Protection (Non Traditional Agent (NTA)/Toxic Industrial Chemical (TIC) Protection): Development and integration of novel filtration media into a lightweight, low-profile, and low-burden individual protective filter, which has enhanced performance against a broader range of challenges that includes toxic industrial chemicals.</p> <p>FY08 - Initiated 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 advanced technology development (BA3) efforts. Continued the investigation of intelligent seal enhancement materials and technologies that will provide improvements in the field protection factor performance and comfort of a respirator. Continued to define the key development parameters associated with respiratory protective systems and incorporate data and lessons from the human performance project. Continued to develop a dual-cavity respirator with increased levels of respiratory protection that provide a real-time indication of mask fit. Continued project to develop the next generation filter for individual protection. Continued to develop metal-organic frameworks as tuneable sorbents for advanced air purification technologies in protective masks. Initiated development of nanofiber-based filters with high efficiency, reduced pressure drop and reduction in weight and cube. Continued development of a process to</p>	4.301	5.750	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>grow alumina nanofiber on a silica matrix to optimize size and density of nanofibers. Initiated effort to develop a sorptive and reactive capacity residual life indicator for mask filters. Initiated reactive hybrid approaches for individual protection filtration.</p> <p>FY09 - 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. Continue 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 initial phase of 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.</p> <p>FY10 - This effort will be re-aligned to Protection and Hazard Mitigation.</p>				
<p>Agent Characterization and Simulant Development: Characterizes chemical and biological agents based on structure, physiochemical properties, and molecular interactions. Simulants and selection processes are developed to support test and evaluation applications.</p> <p>FY08 - Continued research into Non Traditional Agent (NTA) chemistry, characterizing synthetic pathways and NTA products, and developing NTA simulants. Characterized novel and emerging Biological Warfare Agents (BWA's) and Chemical Warfare Agents (CWA's) based on structure, physiochemical properties, and interactions. Designed and demonstrated simulant and methodology development for testing protective equipment for the Test & Evaluation (T&E) community. Continued simulant correlation studies to define operational envelopes so that simulants may be used for Developmental Testing and Operational Testing (DT/OT). Characterized simulant use and application. Established analytical approaches and criteria for simulant</p>	4.503	5.652	6.130	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>selection, verification and validation, and correlation to agent performance. Initiated development of NTA simulants for limited set of physicochemical properties. Examined BWA & CWA masking technologies.</p> <p>FY09 - 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 which simulants may be used for DT/OT. Incorporate computational chemistry research into simulant design, 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.</p> <p>FY10 - Capitalize on previous research to characterize highest priority CWA and NTA chemistry based on structure, physiochemical properties, and molecular interactions. Leverage prior work to better understand BWA genomic variation as related to preparation methodologies and environmental stresses. Improve sampling methods and agent simulant correlation studies by leveraging established BWA standard characterization and preparation techniques. Continue development and transition CWA, BWA and NTA simulant selection process and test protocols to support T&E applications and work to define the operational envelopes of simulants through the acquisition life cycle. Expand the scope of simulant development to accelerate delivery of characteristics and simulants fo highest priority NTAs. Address critical characterization work on highest priority NTAs.</p>				
<p>Process Fundamentals: Early analysis of decontamination chemistries and test methodologies.</p> <p>FY08 - Completed research efforts to develop an aerosol-based decontamination application and determine the efficacy effects using aerosolized activated hydrogen peroxide. Completed research to determine the effect of droplet-sized decontaminant on the efficacy of aerosolized peroxy-based decontaminants.</p> <p>FY09 - Efforts will be re-aligned under Protection.</p>	1.160	0.000	0.000	
<p>Chemical and Biological Point Technology: Emphasis on the detection and identification of chemical and biological threats to include Non-Traditional Agents (NTAs). Objectives include the development of nanoscale detector for sensing of chemical and biological agents, design for prototype whole pathogen genome</p>	5.100	14.349	11.232	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>sequencing system, and development of a portable point detector for chemical warfare (CW) detection in potable water.</p> <p>FY08 - Completed feasibility assessment of first generation breadboard prototype based on millimeter wave spectroscopy for biological detection. Continued microelectronic machine-sized (MEMS) solid Fourier Transform Infrared (FTIR) point sensor system. Continued feasibility studies on assays for biological materials based on multiphoton, multi-wavelength processes. Continued development of novel use of laser technology to separate biological materials for enhanced detection of biological warfare agents in water. Continued development of novel laser sources and evaluation of discrimination capability and optical design aspects for biological warfare (BW) aerosol detection with these sources. Continued feasibility studies on the use of novel nanowire-array sensors for enhanced sensitivity and selectivity in the detection of biological warfare materials. Initiated feasibility study of nanoscale detection systems. Continued studies to increase understanding of critical biological antigen variability.</p> <p>FY09 - Complete feasibility studies on assays for biological materials based on multiphoton, multi-wavelength processes. Complete breadboard and demonstrate MEMS sized solid state FTIR point sensor system. 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 of nanoscale detection systems. Continue development of technology to sequence entire pathogen genomes. Initiate expansion of sample preparation concepts to address genomic sequencing of biological pathogens. Initiate new concepts based on nano-scale biological agent identification and sensing technologies. Begin transition of Defense Advanced Research Projects Agency (DARPA) Micro Cryogenic Cooler (MCC) technology to enhance detection sensitivity for MEMS FTIR infrared sensor system. Continue studies to increase understanding of critical biological antigen variability.</p> <p>FY10 - Continue concept development of nano-scale biological agent identification and sensing technologies. Continue development of technology to completely sequence entire pathogen genomes with automated sample preparation. Continue feasibility studies of nanoscale detection systems. Complete transition of MCC</p>				

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>technology from DARPA and demonstrate integration into a MEMS FTIR sensor system as next generation chemical warfare agent detector. Continue studies to increase understanding of critical biological antigen variability. Conduct a scientific analysis of alternatives on the technical impacts of the presence of agents (aerosol and surface) and on operational scenarios due to the presence of NTAs. Develop new surface detection technologies, and the ability to detect agents in potable water.</p> <p>Chemical and Biological Stand-off Technology: Emphasis on the detection and identification of chemical and biological threats to include NTAs in near real time at a distance from the detector. Future programs focus on the improvement of algorithms, excitation sources, and detector elements to increase range, reduce false positives, increase sensitivity, and reduce cost.</p> <p>FY08 - Completed models to predict passive standoff technology responses to aerosols. Continued the study on the detection modalities to detect sentinel species (production and weaponization process by-products) from biological warfare materials and processes. Completed studies to investigate the optimal performance parameters for hyperspectral technology to detect biological materials. Completed studies to optimize/convert detection algorithms to imaging technology. Completed validation and modeling studies on the level of discrimination of biological materials in the infrared electromagnetic spectral regions based upon adsorption, scattering, and polarization spectra techniques.</p> <p>FY09 - Initiate improved algorithms development for increase range capabilities and reduce false positives. Complete the study on the detection modalities to detect sentinel species from biological warfare materials and processes. Initiate first generation active infrared standoff biological classification capabilities. Initiate design of first generation chemical standoff detection and identification capabilities. Complete models and continue development of technology to meet the needs to detect contamination on surfaces in a post decontamination application. Evaluate and assess technology for scattering optical techniques, non-scattering optical standoff techniques, and off-gassing (trace vapor production) techniques for down-selection of brassboard design.</p> <p>FY10 - Continue algorithm development to increase range capabilities and reduce false positives. Continue first generation active infrared standoff biological classification capabilities development. Continue development of first generation chemical standoff detection and identification capabilities. Continue development of technology to meet the needs to detect contamination on surfaces in a post decontamination</p>	12.201	17.231	15.942	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
application. Continue to evaluate and assess technology for scattering optical techniques, non-scattering optical standoff techniques, and off-gassing techniques for down-selection of brassboard design.				
Novel Air Purification Technologies: Development of chemical and biological air-purification alternative technologies that minimize or eliminate the need for expendable media within acceptable size, weight and power constraints. FY08 - Initiated 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. Initiated development of an acoustic fractionator that removes particulates down to the submicron level using standing sound waves. Initiated development of a hybrid plasma filter that provides both vapor particulate removal and destruction capabilities. Initiated development of a new air purification technology based on selective ionization and contaminant extraction. Initiated 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. Continued development of a highly efficient particulate filter that uses charged sub-micron water droplets from efforts under Improved Single-Pass Filters. FY09 - 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. Complete investigation 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. FY10 - This effort will be re-aligned to Protection and Hazard Mitigation.	3.100	3.800	0.000	
	5.000	12.316	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>Chemical Biological Defense Program Decision Capability: Develop tools for decision making for consequence management, human knowledge management, and health/human effects modeling including casualty estimation.</p> <p>FY08 - Completed user-driven requirements analysis and developed prototype Chemical, Biological Radiological, and Nuclear Investment Planning and Analysis Tool. Continued validation and verification of NBC Casualty Resource Estimation Support Tool (NBC CREST) casualty estimation module for CBRN agent exposure, based on NATO's Allied Medical Publication 8 (AMedP-8). Selected and linked human respiratory tract models with algorithms to model particle size distribution (PSD) of atmospheric aerosol hazards to predict the rate and location of agent deposition in the body as a function of particle size. Initiated 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 the Joint Effects Model (JEM) involving infectious/contagious diseases, both bioagent-induced and naturally occurring. Continued building the analytical framework and identified gaps in capability to conduct rapid program analysis and conduct feasibility assessments for tools development. Continued development of representative prototype models for each of the capability areas. Continued decision support data inscription technology and initiated distributed modeling research.</p> <p>FY09 - Complete validation and verification and transition NBC CREST to the Joint Operational Effects Federation (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 the JEM involving infectious/contagious diseases, both bioagent-induced and naturally occurring. Continue building the analytical framework and identifying gaps in capability to conduct rapid program analysis and conduct feasibility assessments for tools development and realign efforts to the Systems Performance Modeling area in FY10. Continue development of representative prototype models for each of the capability areas and realign efforts to the Systems Performance Modeling area in FY10. Initiate development of a web-based system for storage and access of CB Modeling & Simulation (M&S) and Information Technology (IT) development data and knowledge and realign efforts to the Systems Performance Modeling area in FY10.</p>				

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
Closeout decision support data inscription technology to support change in advanced development program office priority. Continue distributed modeling research. FY10 - CBDP Decision Capability efforts will be re-aligned to Simulation Analysis and Planning.				
Low-Burden Air Purifying Respirator: Development and analysis of design alternatives for chemical and biological air-purifying respirators to provide enhanced protection with lower physiological burden and improved interface with mission equipment. FY10 - Support assessment of integrate fabric concurrent with the Individual Protection Advanced Technology Demonstration, which will support the Uniform Integrated Protective Ensemble (UIPE), and incorporate lessons into further development of a low-burden air purifying respirator. Continue to define the key development parameters associated with respiratory protective systems and incorporate data and lessons from the human performance project. Continue integration analysis with ground warfighter helmet systems. Complete integration work on the dual-cavity respirator into concepts into the final design. Continue to refine and fabricate prototypes and evaluate performance.	0.000	0.000	2.012	
Chemical and Biological Warfare Effects on Operations: Develop the science behind the modeling and simulation of operations at the strategic, operational and tactical level in a CBRN environment for mobile forces, tactical aircraft, naval operations and fixed sites. FY08 - Integrated methodologies for CB effects on theater level models at the U.S. Transportation Command (USTRANSCOM). Continued development of building interior modeling to transition to the Joint Operational Effects Federation (JOEF). Continued development of Agent Fate model and initiated transition to the Joint Effects Model (JEM). Initiated studies on CB effects for mobile and shipboard forces to be transitioned to JOEF in FY09 or FY10 timeframe. Initiated studies on consequence management (CM) information system tools, including foreign CM and domestic CM and delivered a prototype CM system for JOEF. Delivered initial optimized sensor employment tool to JOEF. Initiated studies and identified methodology development for chemical, biological, radiological, and nuclear (CBRN) decision support tools. FY09 - Deliver methodology for CB effects on mobile and shipboard forces 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.	3.381	3.986	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Chemical and Biological Warfare Effects on Operations efforts will be re-aligned to Simulation Analysis and Planning.				
Logistically Sustainable Air Purification for Collective Protection: Development of chemical and biological air-purification alternative technologies that minimize or eliminate the need for expendable media within acceptable size, weight and power constraints. FY10 - Complete development and analysis of prototypes of 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 re-circulation air in buildings, shelters, or platforms. Complete development of an acoustic fractionator that removes particulates down to the submicron level using standing sound waves. Continue development of a new air purification technology based on selective ionization and contaminant extraction. Complete 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.	0.000	0.000	2.300	
Collective Protection (COLPRO) System Integration: Development and systems analysis of novel system concepts for chemical and biological protection of occupants of buildings and platforms that integrates emerging technologies. FY08 - This effort transitions technologies from previous efforts of Regenerative and Reactive Air Purification, Shelter Systems (to include contamination control areas, airlocks, and toxic free areas), and Shelter Materials, Coatings and Materials Treatments, Reactive or Self-Decontaminating. Continued project to investigate alternate system solutions and technologies for COLPRO. Technologies included 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 re-circulation schemes. Expanded study of system and alternatives and initiate efforts addressing specific technological gaps for COLPRO development.	3.140	3.540	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY09 - Continue project to investigate alternate system solutions and technologies for COLPRO. Technologies include 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 re-circulation schemes. Complete the study of system alternatives and initiate efforts addressing specific technological gaps for COLPRO development.				
FY10 - This effort will be re-aligned to Protection and Hazard Mitigation.				
General Purpose Formulations for Decontamination: Development and improvement of chemical and biological decontamination formulations that are compatible with the current family of decontamination systems.	0.000	0.000	1.900	
FY10 - Continue solid oxidant and green surfactant efforts resulting from alternative process research that emphasize dual-use technologies. Initiate focused enzymatic decontamination approaches.				
Simulation Analysis and Planning: Develop decision support tools and information management capabilities for planning and real-time analysis to determine and assess operational effects, risks, and impacts of CBRN incidents on decision making.	0.000	0.000	6.300	
FY10 - Refine and update secondary infection models and NBC Casualty Resource Estimation Support Tool (NBC CREST) human effects models to reflect revision of NATO's Allied Medical Publication 8 (AMedP-8). Initiate development of casualty estimation methodology for CBRN agents not in AMedP-8 including Non-Traditional Agents. Develop methodologies to improve the calculation of medical countermeasures effects in casualty estimation models. Improve CBRN medical resource planning tools. Continue development of contagious and infectious disease models. Continue development of particle size distribution health effects based on basic and applied threat agent science research efforts. Continue development and improvement of methodologies to apply CB operational effects in tactical, operational and strategic level models for mobile forces, shipboard modeling, fixed sites and tactical aircraft. Continue development of Incident Management/Consequence Management (IM/CM) tools and capabilities. Initiate studies to identify and investigate existing syndromic/disease surveillance systems and early detection capabilities. Continue validation and verification (V&V) effort for medical modeling efforts aimed at transitioning to advanced development efforts. Continue				

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
refinement and expansion of decision support tools for advanced development efforts. Complete distributed modeling research.				
Decontamination System-of-Systems: Development and analysis of non-traditional decontamination technologies and approaches which gain significantly improved effectiveness by complementary application. FY10 - Complete development of self-detoxifying coatings, agent disclosure spray efforts, and strippable coating efforts and transition products in advanced development programs such as the Hazard Mitigation for Material and Equipment Restoration (HaMMER) Advanced Technology Demonstration. Continue investigation of microwave interaction with coating embedded particles and functionalities for directed energy decontamination. Complete work on functionalized photocatalytic materials. Initiate formulation development of a Dial-a-Decon system that allows optimized formulation adjustment at point-of-use.	0.000	0.000	2.600	
Systems Performance Modeling: Develop Chemical, Biological, Radiological and Nuclear (CBRN) data sharing capabilities. FY10 - Develop data collection and exchange methodologies for implementation in the Chemical, Biological, Radiological and Nuclear (CBRN) Data Backbone. Design CB Warfare Effects Manual.	0.000	0.000	3.073	
Smart Hazard Mitigation: Development of decontamination technologies that sense, respond (decontaminate) and signal in the presence of chemical and biological contamination. FY10 - Complete feasibility studies on the use of surface-modified nanoporous beads as encapsulation delivery devices for decontaminants. Continue development of molecular switches that respond and react to the presence of CB agents and signal results.	0.000	0.000	1.820	
Novel Threat Agent (NTA) Assessment and Methods: FY10 - Initiate methodology development for assessment and quantification of percutaneous hazards from permeation of liquid NTAs. Initiate methodology development for assessment and quantification of decontamination contact hazard residuals of NTAs. Baseline methodologies for current filtration, barrier materials, and textile effectiveness against NTAs. Continue efforts to assess and predict NTA performance on military CWA adsorbents.	0.000	0.000	3.200	

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C. Other Program Funding Summary (\$ in Millions)										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	Cost To Complete	Total Cost
CB3/CHEMICAL BIOLOGICAL DEFENSE (ATD)	18.839	19.183	25.403						Continuing	Continuing
TT3/TECHBASE TECHNOLOGY TRANSITION	9.239	8.214	7.388						Continuing	Continuing
D. Acquisition Strategy N/A										
E. Performance Metrics N/A										

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COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
CI2: CONGRESSIONAL INTEREST ITEMS (APPLIED RESEARCH)	38.911	43.200	0.000						Continuing	Continuing

A. Mission Description and Budget Item Justification

The efforts listed in Section B of this justification include congressional interest programs for FY08 and FY09.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
<p>CBDP Initiative Fund Applied Research: The CBDIF goal is to fund new and innovative chemical and biological science and technology projects across a wide range of military operations. Established in FY 2003, it is congressionally directed with the intent to provide funds via a competitive acquisition to non-Government entities.</p> <p>FY08 - 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. Upon technical evaluation and selection of proposals, provide a report detailing the number of projects funded and areas of research.</p>	7.885	0.000	0.000	
<p>SBIR - FY09 - Small Business Innovative Research.</p>	0.000	0.486	0.000	
<p>Rapid Forensic Evaluation of Microbes in Biodefense -</p> <p>FY08 - Developed a rapid screening and detection system for multiple Bio-Threat agents, to include bioengineered and genetically modified biohazards.</p> <p>FY09 - Continuation of research program to develop an ultra-sensitive single application detection method that can be used for a range of Bioterrorism agents.</p>	0.986	0.989	0.000	
<p>Chem/Bio IR Detection System -</p>	1.577	1.186	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY08 - 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 (FTIR) as the agent identifier.				
FY09 - Continue research to investigate an electric-field focusing approach, combined with optically transparent filters, to be used for spore capture and identification.				
Rapid Detection of Bacterial Pathogens -	1.577	0.000	0.000	
FY08 - Continued research to development of a prototype clinical point of care detector that is inexpensive, specific, and capable of low detection levels for human pathogens. This effort continued work begun in FY06/ FY07 on the phages associated with Bacillus anthracis, Yersinia pestis, and focus new energies on Francisella tularensis, Burkholderia mallei, and Burkholderia pseudomallei.				
Zumwalt National Program for Countermeasures to Bio Chem Threats -	0.985	1.187	0.000	
FY08 - Improved model development related to atmospheric sciences and environmental modeling.				
FY09 - Continue research to improve model development related to atmospheric sciences and environmental modeling.				
Point-of-Care Diagnostic System -	0.986	0.000	0.000	
FY08 - Developed a gel-drop, microarray device as a biological agent identification and diagnostic system. This system provided an enhanced capability to rapidly detect, locate, identify, and confirm the presence or absence of any standard or non-standard NBC hazard.				
Virus Mutation and Virus Transfer from Humans to Animals -	2.957	0.000	0.000	
FY08 - Identified virus-host protein-protein interactions (PPIs) and associated virus mutations important for change in host species or enhanced virulence within emerging viruses. A knowledge database will be created to predict similar essential PPIs in other potential WMD viruses.				
HyperAcute Vaccine Development -	1.459	2.373	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY08 - Conducted research in how the application of the broad-spectrum immuno-stimulatory alphaGal Adjuvant Technology will enhance the potency and thus the efficacy of viral vaccine platforms. FY09 - Continue research by testing vaccine efficacy in a mouse model for correlates of immunity and protection from live virus challenge.				
Antibody-based Therapeutic against Smallpox - FY08 - Conducted tests to observe the protective efficacy of full length specific human mAbs derived from a phage FAb combinatorial library in a series of relevant in vitro and in vivo studies. FY09 - Continue testing with the goal of generating a combinatorial therapeutic of human mAbs to several neutralizing VACV proteins, that confer the highest degree of protection against vaccinia, smallpox, monkeypox, and other orthopoxvirus infections.	0.986	0.791	0.000	
Novel Viral Biowarfare Agent Identification and Treatment (NOVBAIT) - FY08 - Continued effort to find small molecules that inhibit the assembly of capsids by viruses of high biowarfare potential, thereby inhibiting their replication and neutralizing infection. FY09 - Continuation of the research from FY06/FY07/FY08.	3.154	3.955	0.000	
Mixed Oxidants for Chemical and Biological Decontamination - FY08 - Developed a rapidly effective, mild oxidants for military applications. FY09 - Continuation of research begun in FY08.	3.942	2.769	0.000	
Self-Decontaminating Polymer System for Chem and Bio Warfare Agents (CBWA) - FY08 - Developed self-decontaminating fabric materials containing polymer-based coating systems impregnated with reactive materials for CBWA destruction, which can be activated on demand.	5.519	0.000	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
Multifunctional Particles for Defeating Chem and Bio Warfare Agents (CBWA) - FY08 - Conducted research to improve the absorbent materials used in clothing designed to protect against chemical and biological agents.	0.986	0.000	0.000	
Research on a Molecular Approach to Hazardous Materials Decontamination - FY08 - Conducted research on molecular approach to decontamination in collaboration with NSWC begun in FY06.	1.182	0.000	0.000	
Bio Surety Development and Management Program - FY08 - Investigated, researched, analyzed, benchmarked and applied system assets and processed engineering techniques to meet biosurety personnel reliability program (BPRP) requirements for laboratories utilizing and storing biological select agents and toxins. FY09 - Continuation of the research and analysis from FY08.	0.788	1.186	0.000	
Countermeasures to Chemical/Biological Control-Rapid Response - FY08 - Researched support of biodefense and emerging infectious disease. FY09 - Continuation of research from FY08.	3.942	2.372	0.000	
Multiple Applications for Light Activated, Reactive Materiels for Protection of Warfighter, First Responder, and Public Health - FY09 - TBD.	0.000	1.582	0.000	
Chemical Biological Preparedness Center for Advanced Development of Mobile Rapid Response Prototype - FY09 - Develop a mobile, forward deployable, medical capacity that would respond to bio-terrorist incidents and other mass casualty incidents resulting from WMD, natural and technological disasters.	0.000	3.955	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
Novel System for Developing Therapeutics against Botulism - FY09 - Conduct research to discover new therapeutics against Botulism.	0.000	3.955	0.000	
Ultra-Rapid Next Generation Pathogen Identification - FY09 - TBD.	0.000	1.978	0.000	
Preventing Long-Term Brain and Lung Damage Caused by Battlefield Trauma Project - FY09 - Conduct research to determine new techniques to prevent brain and lung damage.	0.000	2.868	0.000	
Chemical Agent Fate Appropriate Response Tool - FY09 - Conduct research to create a systematic approach for to the development of a comprehensive operational agent fate model/tool that provides recommendations on the appropriate response to contamination events.	0.000	1.582	0.000	
Multivalent Marbug/Ebola Vaccine - FY09 - Conduct research in the development of a multivalent Marburg/Ebola vaccine.	0.000	3.461	0.000	
Botulinum Neurotoxin Research - FY09 - Conduct research in the development of a new assay which is designed to detect Botulinum (A-G) in the environment and on exposed animals, humans, and culture cells.	0.000	1.582	0.000	
Miniaturized Chemical Detector for Chemical Warfare Protection (ChemPen) - FY09 - Develop a ready for production MEMs FTIR absorption spectrometer to detect in seconds a wide range of nerve agents/TICs.	0.000	1.581	0.000	
Continued Expansion of Prototypes for Destruction of Airborne Pathogen - FY09 - Continue development of methodologies for the destruction of aerosolized agents.	0.000	0.791	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)			FY 2008	FY 2009	FY 2010
Mismatch Repair Derived Antibody to Treat Staph Derived Bioweapon - FY09 - Continue research begun in FY07 to develop fully human anti-Staphylococcus enterotoxin B (SEB) monoclonal antibodies (mAbs) that can neutralize >1000 times the human LD50 of the toxin.			0.000	1.582	0.000
Nano Porous Hollow Fiber Regeneratie Chemical Filter - FY09 - Conduct research in the application of nanotechnology to chemical filter design.			0.000	0.989	0.000
C. Other Program Funding Summary (\$ in Millions) N/A					
D. Acquisition Strategy N/A					
E. Performance Metrics N/A					

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COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TB2: MEDICAL BIOLOGICAL DEFENSE (APPLIED RESEARCH)	98.878	47.591	54.156						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TB2) funds applied research of vaccines, therapeutic drugs, and diagnostic capabilities to provide 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 will be advanced. Categories of this project include core science efforts in biological based research and technology programs areas in biological defense capability areas, such as, Pretreatments, Diagnostics, and Therapeutics. Medical S&T efforts in this Budget Activity refine promising medical initiatives identified in Budget Activity 1, resulting in the development of pretreatment (prophylaxis) modalities against the effects of Chemical, Biological, and Radiological (CBR) agents as an effective countermeasure to CBR exposure. These efforts also focus on, and act as, methods for the timely diagnosis of specific exposures and post-exposure treatments that sustain individual health and force strength in the event of attack.

This project also includes efforts such as the Transformational Medical Technologies Initiative (TMTI). The Transformational Medical Technologies Initiative (TMTI) was launched in FY 2006 as a key Quadrennial Defense Review initiative to respond to the threat of emerging or intentionally bioengineered biological threats. TMTI's mission is to protect the warfighter from genetically engineered biological threats by providing a rapid response capability from identification of pathogens to the delivery of medical countermeasures. This mission is accomplished through two main efforts: 1) developing broad spectrum (multi-agent) therapeutics against biological warfare (BW) agents (e.g, one drug that treats multiple agents); and 2) developing platform technologies to assist in the rapid development of medical countermeasures (MCMs) in response to BW agents (e.g, developing new and innovative ways to mass produce drugs in the event of a biological incident).

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
Vaccine Constructs for a Combined Equine Encephalitis Vaccine (Former DTO CB58): Develop a single vaccine that protects against the three alphaviruses: Venezuelan Equine Encephalitis (VEE), Eastern Equine Encephalitis (EEE), and Western Equine Encephalitis (WEE). Strategies include development of deoxyribonucleic acid (DNA) vaccines, live virus strains with reduced infectivity, and non-replicating viral vector delivery systems.	0.500	0.000	0.000	
FY08 - Completed the evaluation of viral vaccines containing gene-specific changes resulting in reduced infectivity. Performed dose-determining studies in animals for effectiveness of multiagent viral vaccine				

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>candidates. Optimized a combined Venezuelan, Eastern, and Western Equine Encephalitis (VEE, EEE, and WEE) vaccine. Concluded immune interference studies for the combined VEE/EEE/WEE vaccine in the definitive animal model. Performed down-selection of vaccine candidate platforms. Complete DTO CB58.</p> <p>SBIR - FY09 - Small Business Innovative Research.</p> <p>Therapy for Ebola and Marburg Virus Infections: Identify, optimize and evaluate lead candidate therapeutics for efficacy against Filovirus infections, specifically Ebola and Marburg Viruses.</p> <p>FY08 - Optimized dose and regimen for therapeutic technologies in relevant animal models of Ebola virus and Marburg virus. Evaluated lead candidates for specific viral therapeutic requirements including the drug's effects on the body and the body's effects on the drug.</p> <p>FY09 - Complete proof-of-concept studies for lead candidate technologies.</p> <p>Diagnostic Technologies: Development and verification of rapid, sensitive, and specific tests for the identification of Biological Warfare Agents (BWAs) and their expressed toxins in biological fluids of warfighters for the diagnosis of exposure/infection. Discovery of biomarkers of response to exposure. Evaluation of next generation diagnostic technologies including portable instrument platforms, highly parallel and informative testing formats, and nanotechnology applications.</p> <p>FY08 - Conducted testing on next generation diagnostic devices with an emphasis on technologies capable of integrating sample preparation, nucleic acid and antibody-based diagnostic testing. Initiated a study of laboratory-based research targeting the diagnostic implications of toxins in the body and their relevant analytical parameters. For additional agents, used animal models exposed to biological warfare agents to identify the optimal matrices/tissues for biological pathogen identification and determined test windows of diagnostic opportunity. Incorporated multiple-agent, antibody-based detection assays on to existing platforms. Tested biosynthetic protein (recombinant) reagents on existing antibody-based diagnostic platforms. Completed a study directed at increasing sample concentration and extending sample viability prior to testing. Completed initial build/validation of a database transitioned from Defense Advanced Research Projects Agency (DARPA) on a broad range pathogen detection system capable of potentially identifying genetically engineered strains. Adapted existing Polymerase Chain Reaction (PCR) assays to a rapid sequencing</p>	0.000	0.535	0.000	
	1.372	0.811	0.000	
	8.292	7.497	7.334	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>platform. Continued to develop real time PCR assays to identify genes responsible for antibiotic resistance in bio-threat agents. Validated antibody based assays designed from protein interaction analysis data.</p> <p>FY09 - Continue to apply previously established evaluation protocols and acceptance criteria to testing on next generation diagnostic devices with emphasis on technologies capable of integrating sample processing, nucleic acid and antibody-based diagnostic testing. Based on results from FY08 effort, assess/expand studies using animal models exposed to bio-threat 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 biosynthetic protein reagent production and incorporate into 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 biological toxins in the body.</p> <p>FY10 - Extend the decision matrix for developmental testing on next generation diagnostic devices with the capability to fully automate and integrate on-board sample preparation, multi-directional analysis and identification, and reporting. Continue to develop pre-symptomatic diagnostic signatures as early indicators of exposure/infection. Develop and characterize reagents that recognize and bind with specific regions or closely related forms of BWAs and apply these characteristics to assay development and platform optimization studies. Develop prototype assays that bind with specific regions and amplify the signal for application to the current nucleic acid amplification based system. This will enable integration of multiple modes of detection/analysis of BWA tests on a single instrument platform. Apply nano-diagnostic technology to demonstrate BWA viability and analytic identification. Develop target enrichment methods for rapid diagnostic initial sequencing of BWA directly from clinical matrices. Develop a gene expression library screening method and study its diagnostic utility.</p>				
Multiagent (Broad Spectrum) Medical Countermeasures: This effort will build on existing basic research performed by existing performers and will support the efforts of new performers who are in the mid-drug discovery phase of drug development. Applied research efforts also include the investigation of existing drugs to explore their efficacy against BW agents. Tests will look for toxicity and efficacy demonstration in accordance with the product's intended use. Initiation of experiments to identify markers, correlates of protection, assays, and endpoints for further non-clinical and clinical studies. Develop a scalable and	49.440	10.282	4.186	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>reproducible manufacturing process amenable to Food and Drug Administration (FDA) good manufacturing processes.</p> <p>FY08 - Continued the discovery and evaluation of novel therapeutics to treat Hemorrhagic Fever Viruses (HFV's) and Intracellular Bacteria (ICB's). Continued studies of antisense ribonucleic acid (RNA) therapeutic candidate drugs against HFV pathogens. Continued evaluation of novel drugs for anti-bacterial effects. Initiated new projects and continued to work on existing projects to evaluate and develop genetic methods for identifying broad spectrum host pathway therapeutic targets. Continued evaluation of drug compounds targeting key pathogen and/or host target molecules.</p> <p>FY09 - Continue efforts to evaluate novel drugs to treat against HFVs and ICB pathogen infections. Complete validation studies of antisense RNA therapeutic candidate drugs against HFV pathogens to prepare for Investigational New Drug (IND) studies. Continue to evaluate novel drugs for anti-bacterial effects. Continue to evaluate and develop genetic methods for identifying broad spectrum host pathway therapeutic target. Evaluate promising therapeutics in combination with lead therapeutic candidates. Continue to expand the evaluation of drug compounds targeting key pathogen and/or host molecules. Conduct a validation of the computer model and a bioinformatics structure for the examination of protein interactions.</p> <p>FY10 - Continue efforts to evaluate novel drugs to treat against HFVs and ICB pathogen infections. Mature promising compounds in combination with lead therapeutic candidates.</p>				
<p>Development of Platform Technologies: Applied research efforts in platform technologies will continue to mature the components necessary to develop an integrated capability from pathogen identification and characterization to countermeasure delivery. Off-the-shelf technologies will be identified, evaluated, and where applicable, refined to demonstrate the ability to provide drug development capabilities. Drug evaluation needs will continue to advance the maturity of animal models specific for each BW agent therapeutic.</p> <p>FY10 - Identify enabling and critical technologies, formulate appropriate technology plans and acquisition strategies, and determine their performance objectives. Initiate development of an information network to serve as the backbone for a rapid drug discovery and development capability. Support development of platform technologies to higher levels of maturity. Genetic sequencing studies will model the types and quantity of</p>	0.000	0.000	16.783	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
data needed for the identification of unknown pathogen ID, including a genomic survey for countermeasure targets and genetically engineering. Evaluate the information network to serve as the backbone for a rapid drug discovery and development capability. Further pursue informatics to support analytical activities, event response, and science discovery. Initial work on advanced manufacturing will occur to enhance the rapid production of therapeutics.				
Vaccine Technology Development: Novel compounds that stimulate the immune system will be tested for their ability to enhance the immune response to vaccine candidates. FY08 - Optimized gene-based poxvirus vaccines and determined the immune response and efficacy in animal models. Tested the ability of immune cell binding compounds to enhance vaccine efficacy in animal models. Initiated evaluation of specific antigens that may confer immunity against several bio-threat agents. Assessed immune response to antigens of selected bio-threat target antigens. Pursued the use of immune stimulating peptides or immune cell targeting peptides to enhance vaccine efficacy in animal models. FY09 - Efforts will be re-aligned to Vaccine Research Support.	2.607	0.000	0.000	
Detection, Assessment, and Attribution: Rapid detection, threat assessment, and attribution of genetically engineered biothreat organisms using microarray based re-sequencing technologies FY08 - Demonstrated three-fold scale-up of experimental protocols and systems. Re-sequenced 30 Bacillus anthracis and 30 Yersinia pestis bacterial genomes, releasing data to other relevant Department of Defense (DoD) projects. Expanded a strain collection, focused on agents most relevant to Warfighters. Evaluated further microarray feature improvements on two microarray platforms. Developed re-sequencing and genotyping arrays for identification of 15 Bunyaviridae and Togaviridae viruses. Completed this effort and made the data available to the Department of Defense community.	2.300	0.000	0.000	
Viral Therapeutics: Identify, optimize and evaluate lead candidate therapeutics for efficacy against viral pathogens. FY08 - Optimized key dosing, administration, and drug characteristics of leading antivirals in non-human primate models. Utilized computer, laboratory, and animal models to consider novel and currently-available	3.600	0.430	2.101	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>antiviral technologies as therapeutics against conventional viral threat agents. Screened metal-based nanomaterials for their ability to inhibit isolated viral enzymes. Developed immune system modifying and host response interventions as helping agents to antiviral therapeutics. Developed small molecule screening programs for therapeutic candidates against the designated viral pathogens, which include smallpox, viral hemorrhagic fevers (e.g., Ebola, Marburg), arenaviruses (e.g., Lassa, Machupo), and viral encephalitis (e.g., Venezuelan equine encephalitis, eastern equine encephalitis, western equine encephalitis).</p> <p>FY09 - Determine the ability of heavy metal nanoparticle-based therapeutics to inhibit viral infection in a laboratory model system. Conduct proof-of-concept studies aimed at identifying therapeutic candidates for poorly characterized threats. Continue supporting therapeutics effective against well characterized threat agents towards advanced development. Screen multiple compound libraries for small molecule inhibitors of designated viral pathogens.</p> <p>FY10 - Initiate drug discovery for a second novel orthopox drug with a mechanism distinct from ST-246, a low-molecular-weight compound that is active against multiple orthopoxviruses. Expand drug discovery efforts for alphaviruses (VEE, EEE, and WEE). Establish clinical protocols to obtain human clinical samples from filovirus outbreaks in the Democratic Republic of the Congo. Test and evaluate lead candidate therapeutic compounds in relevant animal challenge models. Continue testing of heavy metal nanoparticle-based therapeutics for the ability to prevent viral infection in animal models. Identify lead compounds from small molecule library screening and optimize their action through medicinal chemistry. Test and evaluate small protein fragments to determine if their ability to prevent a virus from binding to cells represents a viable therapeutic interdiction point for designated viral pathogens.</p>				
<p>Bacterial Therapeutics: Identify, optimize and evaluate lead therapeutic candidates effective against designated bacterial threat agents.</p> <p>FY08 - Conducted proof-of-concept evaluation of a new single domain antibody that is smaller than conventional antibodies against plague. Evaluated small molecules that can prevent plague bacteria from injecting virulence factors into cells. Expanded development of antimicrobial protein fragments as anti-bacterial therapeutics with activity against specific threat agents. Focused research on treatment for the symptomatic anthrax patient.</p>	9.168	5.809	4.179	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>FY09 - Complete initial evaluation of a single domain antibody that is smaller than conventional antibodies against plague, and extend the application to other related bacteria if successful. Screen small molecules that can prevent plague bacteria from injecting virulence factors into cells in the laboratory, and extend application of assay to other related 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.</p> <p>FY10 - Complete evaluation of bacterial phosphatase inhibitors in a mouse model of plague infection. Test and evaluate lead candidate small molecules to determine their antimicrobial activity. Screen commercially available antimicrobial in advanced clinical development for their activity in the laboratory against bacterial threat agents.</p>				
<p>Multi-agent DNA Vaccines for Bio-Warfare Agents (Former DTO CB65): Molecular (i.e., naked DNA) vaccine platforms will be developed so that a single vaccine formulation provides protection against multiple bacterial and viral biothreat agents.</p> <p>FY08 - Assessed immune response and efficacy of multivalent DNA vaccines that included anthrax and plague elements. Defined protective responses and evaluated possible interference between vaccine components and the immune response in multiagent DNA vaccine formulations. Continued to explore alternative DNA vaccine delivery strategies and vaccine formulations for the development of immunity against intracellular bacterial pathogens. Conducted efficacy testing of native vaccine candidates, as well as, vaccine candidates genetically modified to express additional target proteins (antigens). Optimized DNA vaccine constructs that express multiple biothreat agent antigens. Further evaluated a multiple target spore display vaccine platform.</p> <p>FY09 - Optimize DNA multiagent vaccines that 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 unique immune stimulation formulations for the development of vaccines against intracellular bacterial pathogens. Finalize efficacy testing of native and genetically modified vaccine candidates. Complete testing of native and</p>	3.687	3.809	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
genetically modified vaccine candidates, particularly single formulation DNA vaccine constructs expressing multiple biothreat antigens. Test spore-based vaccines in animal models. Complete DTO CB65 in FY09. FY10 - This effort will be re-aligned to Vaccine Platforms and Research Tools.				
Multiagent Vaccine Platforms: Multi-agent vaccine platforms and formulations will be constructed capable of expressing multiple protein antigens from multiple pathogens, and evaluated in animal models. FY08 - Conducted further animal studies for development of candidate anthrax/plague/toxin and anthrax/plague/melioidosis multi-agent vaccine. Performed studies to determine laboratory based measures of immunity (or correlates of immunity) for select candidate vaccine projects. Pursued optimization studies of new vaccine formulations considering alternative immune stimulating compounds, routes of administration, and dosage schedules. Reviewed candidate vaccines for down-selection to primary candidates. FY09 - Further assess candidate multi-agent vaccines in animal models, and consider the inclusion of alternative agents. Explore novel platforms and vaccine formulations. Evaluate effectiveness in animal models. FY10 - Effort will be realigned to Vaccine Platforms and Research Tools.	1.731	1.342	0.000	
Toxin Therapeutics: Identify, optimize and evaluate therapeutic candidates that are effective against biological toxin agents. FY08 - Designed and developed specific antibodies with improved binding activity utilizing data generated from structural analysis of the Botulinum Neurotoxin (BoNT) receptor site. Identified potential inhibitors from compound repositories and protein fragment libraries using computer modeling and structural analysis with inhibitor bound to the toxin. Evaluated small molecule, specific antibody and single chain antibodies against Staphylococcal Enterotoxin B (SEB). FY09 - Evaluate next generation monoclonal antibodies for laboratory and animal effectiveness against BoNT. Characterize lead compounds for potency and specificity in laboratory models and animal models. Initiate development of inactive versions of BoNT substrates as therapeutics with the potential to restore nerve activity	13.737	10.528	9.217	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>following neuromuscular paralysis. Develop a cell-based high-throughput screening system for BoNT therapeutics derived from mouse cells and embryonic stem cells. Evaluate immune-modifying compounds for pre- and post-exposure therapy for SEB intoxication in laboratory and animal models.</p> <p>FY10 - Screen compound libraries utilizing a high-throughput screening system for BoNT therapeutics derived from mouse cells and embryonic stem cells. Test and evaluate lead candidate inhibitors in relevant laboratory and animal model systems of BoNT intoxication. Perform experimental analysis to clarify the contribution of protein modification of BoNT to its structure and biochemical activity as it relates to drug development. Conduct high-throughput screening of drug libraries to identify inhibitors of ricin toxicity.</p>				
<p>Vaccine Research Support: Identify the elements of a vaccine formulation that are necessary for an effective host immune response that confers protection against biothreat agents. Laboratory tests will be developed that are predictive of an effective vaccine. These predictive tests (correlates of immunity) will be used as the basis for rational vaccine design.</p> <p>FY08 - Validated additional intracellular bacterial pathogen (Burkholderia) target antigens in mice. Tested the immune response and efficacy of botulinum neurotoxin (BoNT) components as vaccines. Evaluated the immune response to and efficacy of non-protective, antigen-based vaccines against anthrax to combat genetically engineered or emerging strains. Tested the efficacy of disease inactivated, but metabolically active vaccines against brucellosis. Further defined and evaluated correlates of immunity for specific threat agents (e.g., tularemia, plague, and anthrax). Pursued development of filovirus antibody based assays and examined contributions of the cellular immune response. Evaluated the immune response in animals to filovirus vaccine formulations consisting of virus-like particles.</p> <p>FY09 - Further characterize immune correlates of protection elicited by alphavirus (WEE/VEE/EEE) and filovirus vaccines in animal models. Optimize alphavirus and filovirus antibody-based assays and evaluate their ability to predict protection. Explore additional intracellular pathogen antigens using animal model systems including the use of alternative vaccine delivery platforms for protection. Further evaluate the protective efficacy of BoNT components in small animal models. Extend the characterization of non-protective antigen vaccine candidates to additional small animal models. Pursue the use of immune stimulating protein fragments (peptides) or immune cell targeting peptides to enhance vaccine efficacy in animal models.</p>	2.444	6.548	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Efforts will be re-aligned to Viral Vaccines and Bacterial/Toxin Vaccines.				
Bacterial/Toxins Vaccines: Develop novel or improved anti-toxin vaccines and vaccines against bacterial biothreat agents for which no vaccines are currently available. FY10 - Test the efficacy of Burkholderia vaccine candidates against aerosol challenge in small animal models. Begin to determine the therapeutic regimen needed in conjunction with a vaccine to eliminate residual Burkholderia organisms and begin evaluation of the immune response elicited by the vaccine. Use comparative animal studies to test the efficacy of disease inactivated, but metabolically active vaccine candidates against Brucella species. Begin to compare the ability of the disease inactivated, but metabolically active vaccine candidates to protect mice against aerosol challenge with distinct strains of Brucella following oral immunization. Continue to test the immune stimulation and effectiveness of novel anthrax vaccines (e.g., multi-component genetically altered vaccines composed of spore antigens, etc.) to combat emerging and genetically engineered strains. Initiate studies aimed at generating a second-generation vaccine that protects against aerosolized Type A Francisella tularensis.	0.000	0.000	3.000	
Viral Vaccines: Design and test vaccines against the Filoviruses (Ebola and Marburg strains) and Alphaviruses (VEE, EEE, WEE) using distinct vaccine platforms. Determine correlates of immunity for alphaviruses and filoviruses and use this knowledge to direct rational design of vaccines and vaccine platforms, as well as, validation of vaccine formulations. FY10 - Identify correlates of immunity for alphavirus (VEE, EEE, WEE) vaccine candidates. Define immune correlates of protection for mature Marburg and Ebola virus vaccine candidates. Develop vaccine candidates for emerging filovirus strains (e.g. Ebola Uganda strain).	0.000	0.000	3.000	
Vaccine Platforms and Research Tools: Develop novel multiagent vaccine platforms, investigate potential immune interference between mature vaccine candidates, and determine the ability of different compounds to stimulate the immune response and enhance vaccine efficacy. Investigate alternative delivery (needle-free) mechanisms for vaccines, develop novel vaccine stabilization methodologies, characterize the human immune response to mature vaccine candidates to identify correlates of protection, and aid in down selection of distinct vaccine formulations.	0.000	0.000	4.356	

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B. Accomplishments/Planned Program (\$ in Millions)							FY 2008	FY 2009	FY 2010	FY 2011
<p>FY10 - Research multiagent vaccines, immune interference, immune stimulation formulations, vaccine delivery/stabilization, and efforts to predict the human immune response to vaccine candidates. Develop and test new platform technologies that support the expression of multiple antigens. Explore new multi-agent vaccine formulations for immune stimulation in animal models. Further examine devices for efficient administration of DNA vaccines. Begin evaluating alternate, needle-free immunization strategies (i.e., intranasal, oral, and transdermal administration) with current vaccine candidates (non-DNA) against biological threats. Conduct studies to advance the laboratory based artificial human immune system to optimize antibody production. If available, obtain samples from individuals in the Former Soviet Union that have either been vaccinated against or infected with endemic pathogens considered to be threat organisms in order to evaluate the human immunologic response to these agents and/or vaccines. Evaluate new immune stimulating formulations for their ability to enhance vaccine effectiveness in animal models by examining the antibody and cell-based immune responses.</p>										
C. Other Program Funding Summary (\$ in Millions)										
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
TB3/MEDICAL BIOLOGICAL DEFENSE (ATD)	95.996	188.748	204.576						Continuing	Continuing
D. Acquisition Strategy										
N/A										
E. Performance Metrics										
N/A										

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COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TC2: MEDICAL CHEMICAL DEFENSE (APPLIED RESEARCH)	36.154	35.922	40.587						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TC2) funds applied research for the investigation of new medical countermeasures to include prophylaxes, pretreatments, antidotes, skin decontaminants and therapeutic drugs against identified and emerging chemical warfare threat agents (to include a class of agents called, "Non Traditional Agents" (NTA's)). Research and development efforts in this project focus on formulation and scale-up of candidate compounds using current Good Laboratory Practices (cGLP).

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
<p>Diagnostic Technologies: Focuses on developing state-of-the-art laboratory/fieldable methods that detect exposure to chemical warfare agents (CWA) (e.g., nerve agents and vesicants) in clinical samples. It also targets identifying biomolecular targets that can be leveraged as analytical methodologies, as well as, laboratory and animal studies characterizing time-course and longevity of a particular analyte/biomarker.</p> <p>FY08 - Continued development of alternative sample collection/extraction technologies, such as, solvent free extraction as part of a rapid screening method to verify exposure to Chemical Warfare Agents (CWA's). Completed reproducibility studies for water reactive compounds and optimized fibers for select agents. Initiated development of a urine byproduct assay to detect chemical agent exposure. Developed a sample extraction technique and test methodology to detect the presence of chemical warfare analytes in hair samples. Assessed the feasibility of transitioning nerve agent detection capabilities from the laboratory to field portable technology.</p> <p>FY09 - Complete alternative sample collection/extraction technologies, such as, solvent free extraction as part of a rapid screening method to verify exposure to CWAs. Evaluate the combined sample extraction and analysis procedure for pre- and post-CWA exposure to assess the feasibility of detecting chemical warfare analytes in hair samples from animals. Incorporate promising antibody diagnostics and molecular technologies for hand-held CWA diagnostic platforms developed under the Small Business Innovative Research (SBIR) program into the core program for further development.</p>	1.248	1.381	1.229	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Continue development of definitive diagnostic biomarkers for early detection of CWA exposure using several different analytical approaches. Develop pre-symptomatic diagnostic technologies for eventual incorporation into handheld devices in order to detect CWA exposures.				
Respiratory and Systemic: Supports investigation of the systemic host response to chemical warfare agent (CWA) injury via all routes of exposure, with emphasis on the respiratory system and chronic effects of exposure. This involves the development of effective practical field and clinic management strategies and physical and pharmacological interventions to treat the injury processes. This work is designed to support eventual Food and Drug Administration (FDA) licensure of new compounds or new indications for licensed products for use in the treatment of chemical warfare casualties. FY08 - Completed protocol and animal model optimization. Utilized human tissue model of inhalational exposure to screen therapeutics to protect against lung injury. Evaluated and down-selected candidate compounds focusing on countermeasures effective against exposure to multiple agents. FY09 - Continue research on broad-based therapeutics effective against multiple agents and routes of exposures. FY10 - Evaluate safety, efficacy, dosing and relevant effects on the body and the body's effects on the drug of candidate countermeasures against lung injury. Investigation of down-selected potential candidate countermeasures based on molecular biology approaches to CWA lung injury. Continue studies of long-term health effects due to CWA exposure.	4.039	3.160	3.045	
Nerve Agent, Bioscavengers: Develop pretreatments that provide protection against all organophosphorous nerve agents. Bioscavengers should have the ability to rapidly bind and detoxify nerve agents, and have broad binding specificity and high catalytic efficiency for the destruction of agents. One molecule of catalytic bioscavenger should be capable of detoxifying numerous molecules nerve agents resulting in the need for a small quantity of catalytic bioscavenger to protect against large doses of nerve agents. FY08 - Evaluated gene-splicing methods and expression systems for large scale production and purification of genetically altered and catalytic bioscavenger proteins. Conducted studies in animals with specific genes	8.468	10.602	10.051	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>turned off to determine the effect of catalytic bioscavengers in those animals. Continued to develop short amino acid-based drugs as potential catalytic bioscavengers in animal models for safety and efficacy. Explored novel native/genetically altered catalytic bioscavengers. Utilized novel methods to improve/modify the destruction efficiency of selected catalytic bioscavengers. Assessed new, more efficient delivery formulations.</p> <p>FY09 - Refine gene-splicing methods and expression systems for large scale production and purification of genetically altered and catalytic bioscavengers. Continue investigating catalytic bioscavengers in mice that have various genes turned off. Optimize dose and route of administration of short amino acid based drugs as potential catalytic bioscavengers. Assess efficacy of novel catalytic bioscavengers. Evaluate catalytic bioscavengers with increased destruction efficiency. Test new, more efficient delivery formulations in animal models.</p> <p>FY10 - Develop formulations for improved PBPK and reduced immune system stimulation of catalytic/ stoichiometric bioscavengers, with a particular focus on providing protection against Non-Traditional Agents (NTAs). Investigate improved drug-delivery systems for 1st generation catalytic/stoichiometric bioscavengers. Conduct supportive studies toward licensure of catalytic stoichiometric bioscavengers.</p>				
SBIR - FY09 - Small Business Innovative Research.	0.000	0.404	0.000	
<p>Cutaneous and Ocular: Therapeutic strategies to effectively minimize injuries to dermal and ocular tissues resulting from exposure to CWAs involves the development of effective practical field and clinic management strategies and physical and pharmacological interventions to treat the injury processes. This work is designed to support eventual FDA licensure of new non-licensed compounds or new indications for licensed products for use in the treatment of chemical warfare casualties.</p> <p>FY08 - Maintained screening efforts to evaluate new and Federal Drug Administration (FDA) approved compounds, and down-selected those shown to be effective using laboratory and animal techniques. Determined the best candidate technologies for preventing and reversing damage to the eye following blister agent exposure.</p> <p>FY09 - Evaluate safety, efficacy, dosing and relevant effects on the body and the body's effects on the drug of candidate countermeasures against sulphur mustard injury. Evaluate cell-based therapeutic technologies.</p>	1.905	1.540	1.284	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>Test the protective effects of an FDA approved antibiotic against acute sulphur mustard injury. Evaluate the efficacy of drug modifiers of stem cells for blister injury. Assess effectiveness of anti-inflammatory drugs in the laboratory against sulphur mustard damage to the eye.</p> <p>FY10 - Continue to determine the efficacy of bioengineering and molecular biology approaches to treat blister agent ocular injury. Continue testing of cell-based approaches to facilitate blister agent wound healing. Continue development of a decontaminant for penetrating wounds containing CWAs. Maintain effort to determine the chronic consequences of blister agent exposure. Begin novel efforts to increase drug delivery of candidate countermeasures. Enhance current anti-inflammatory approaches to treating blister agent injury. Evaluate the commonality in mechanisms of blister-induced injury across tissues and routes of exposure.</p>				
<p>Neurologic: Therapeutic strategies to effectively minimize neurologic injuries resulting from exposure to CWAs. This involves the development of neuroprotectants, anticonvulsants, and improved neurotransmitter restorers. Supports eventual FDA licensure of new compounds or new indications for licensed products for use in the treatment of chemical warfare casualties.</p> <p>FY08 - Expanded the search for improved neurotransmitter restorers to reduce the effects of exposure to nerve agents. Evaluated agent-binding proteins as post-exposure therapeutics against nerve agents. Further evaluated FDA approved products demonstrating neuroprotective activity for efficacy in animals against nerve agent exposure.</p> <p>FY09 - Identify and develop broad-spectrum improved reactivators based on the mechanism of action of reactivation. Initiate testing of centrally acting neurotransmitter degrading enzyme restorers for efficacy using laboratory and animal models. Down-select novel and FDA approved anticonvulsants, neuroprotectants, anti-epileptics, and receptor competitors and neutralizing agents for neuroprotective activity against nerve agents. Define and optimize the utility of therapeutic agent-binding proteins.</p> <p>FY10 - Identify and develop drug-delivery systems to improve the restoration of nerve transmitters following exposure to chemical agents. Utilize structure-activity relationships to identify nerve impulse blocking drugs with reduced side effects and novel neuroprotectants and anti-epileptics to protect against nerve agents.</p>	8.441	8.132	8.798	
	2.235	1.800	2.802	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>Medical Toxicology (Non Traditional Agents (NTAs) and Other Agents): Investigate common mechanisms of agent injury. Determine the toxic effects of agents by probable routes of field exposure, as well as, standard experimental routes. Physiological parameters and pathological assessment will be used to establish the general mode and mechanism(s) of toxicity.</p> <p>FY08 - Extended the fidelity of predictive and computational tools by expanding the scope of validation studies to include multiple classes of NTAs.</p> <p>FY09 - 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.</p> <p>FY10 - Investigate and study receptor effects of common and agent-specific mechanisms of NTA injury for therapeutic intervention.</p>				
<p>Therapeutics for Non Traditional Agents (NTAs): Develop, assess, evaluate, and validate therapeutics for treatment as result from exposure to NTA's.</p> <p>FY08 - Evaluated the efficacy of currently available therapeutics for treatment resulting from exposure to NTAs and selected chemical warfare agents. Focused on therapies for respiratory injury following inhalational exposure and non-cholinergic mediated neurological injury, using animal models. Investigated the efficacy of the agent-binding proteins as post-exposure therapy.</p> <p>FY09 - 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 agent-binding proteins against NTAs.</p> <p>FY10 - Further development and validation of animal models for testing clinical efficacy of therapeutics against NTAs. Identify binding characteristics of NTAs, as well as mitigate NTA toxicity by researching and developing novel therapeutics.</p>	9.818	8.903	13.378	

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C. Other Program Funding Summary (\$ in Millions)										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	Cost To Complete	Total Cost
TC3/MEDICAL CHEMICAL DEFENSE (ATD)	24.183	26.482	29.092						Continuing	Continuing
D. Acquisition Strategy										
N/A										
E. Performance Metrics										
N/A										

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COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TR2: MEDICAL RADIOLOGICAL DEFENSE (APPLIED RESEARCH)	2.008	1.969	2.909						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TR2) funds applied research to develop medical countermeasures to protect the warfighter against radiological exposure. Specifically, innovative technical approaches will be used to develop products to mitigate health consequences resulting from Acute Radiation Exposure (ARS) and Delayed Effects of Acute Radiation Exposure (DEARE). The research and development of medical countermeasures for radiation exposure will ultimately enhance the survivability of warfighters and will serve to significantly minimize the development of acute radiation syndromes and subsequent health problems. Efforts funded under this project are collaboratively shared with other government agencies, with an emphasis on the development of pretreatments to protect first responders in the event of a radiological incident.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
SBIR - FY09 - Small Business Innovative Research.	0.000	0.022	0.000	
Radiation Medical Countermeasures: Develop medical countermeasures to protect the warfighter against radiological/nuclear exposure. DoD's mission is to develop both pretreatments (prophylaxis) and post-irradiation therapeutics against radiological/nuclear exposure. DoD is the only governmental agency currently developing medical prophylaxis to protect warfighters and/or first responders in the event of a radiological incident.	2.008	1.947	2.909	
FY08 - Evaluated efficacy of four drug candidates as pretreatment (prophylaxis) and/or post-irradiation therapeutic agents. Using promising drug candidates, initiated preliminary studies for preclinical efficacy of combined agents, which confer protection or supportive medical care against lethal radiation with minimal toxic side effects.				
FY09 - Down-select at least one promising drug candidate that has the ability to provide protection from the harmful effects of radiation exposure. Determine the pre-clinical efficacy of combined agents that confer protection or supportive medical care against the harmful effects of radiation exposure with minimal toxic side				

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B. Accomplishments/Planned Program (\$ in Millions)							FY 2008	FY 2009	FY 2010	FY 2011
<p>effects. Explore current Good Laboratory Practice (cGLP) test capability for selected candidate drugs against acute radiation syndrome (ARS) based on Food and Drug Administration's (FDA) animal testing requirements.</p> <p>FY10 - Evaluate mature and promising drug candidates for respiratory and gastrointestinal damage and repair, demonstrating efficacy, safety, and animal (rodents) survival exposed to lethal radiation for a future non-human primate (NHP) efficacy study. Identify common biochemical/physiological mechanisms for hematological, respiratory and gastrointestinal damage and repair, as well as, biology of cellular damage.</p>										
C. Other Program Funding Summary (\$ in Millions)										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
TR3/MEDICAL RADIOLOGICAL DEFENSE (ATD)	2.152	4.863	2.413						Continuing	Continuing
D. Acquisition Strategy										
N/A										
E. Performance Metrics										
N/A										

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Exhibit R-2, PB 2010 Chemical and Biological Defense Program RDT&E Budget Item Justification								DATE: April 2009		
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE					
0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)					PE 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)					
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	238.220	324.769	282.235						Continuing	Continuing
CB3: CHEMICAL BIOLOGICAL DEFENSE (ATD)	18.839	19.183	25.403						Continuing	Continuing
CI3: CONGRESSIONAL INTEREST ITEMS (ATD)	63.987	50.700	0.000						Continuing	Continuing
TB3: MEDICAL BIOLOGICAL DEFENSE (ATD)	95.996	188.748	204.576						Continuing	Continuing
TC3: MEDICAL CHEMICAL DEFENSE (ATD)	24.183	26.482	29.092						Continuing	Continuing
TE3: TEST & EVALUATION (ATD)	23.824	26.579	13.363						Continuing	Continuing
TR3: MEDICAL RADIOLOGICAL DEFENSE (ATD)	2.152	4.863	2.413						Continuing	Continuing
TT3: TECHBASE TECHNOLOGY TRANSITION	9.239	8.214	7.388						Continuing	Continuing

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, Biological, and Radiological (CBR) warfare. This program element (PE) funds advanced technology development for Joint Service and Service-specific requirements in both medical and physical sciences CBR defense areas. The medical program aims to produce drugs, vaccines and medical devices as countermeasures for CBR 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

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Exhibit R-2, PB 2010 Chemical and Biological Defense Program RDT&E Budget Item Justification **DATE:** April 2009

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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. Also research efforts are 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 biological warfare operational awareness, and the restoration of operations following a biological warfare or chemical warfare attack. This program is dedicated to conducting proof-of-principle field demonstrations, test of system-specific technologies to meet specific military needs.

B. Program Change Summary (\$ in Millions)

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
Previous President's Budget	245.591	337.927	311.052	
Current BES/President's Budget	238.220	324.769	282.235	
Total Adjustments	-7.371	-13.158	-28.817	
Congressional Program Reductions	0.000	-63.858		
Congressional Rescissions				
Total Congressional Increases	0.000	50.700		
Total Reprogrammings	-4.336	0.000		
SBIR/STTR Transfer	-3.035	0.000		
Other Adjustments	0.000	0.000	-28.817	

Congressional Increase Details (\$ in Millions)

Project: CI3, CONGRESSIONAL INTEREST ITEMS (ATD)

FY 2008	FY 2009
0.000	50.700

Change Summary Explanation

Funding: N/A - Adjustments less than 10% of total program.

Schedule: N/A

Technical: N/A

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification								DATE: April 2009		
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)				R-1 ITEM NOMENCLATURE PE 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)					PROJECT NUMBER CB3	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
CB3: CHEMICAL BIOLOGICAL DEFENSE (ATD)	18.839	19.183	25.403						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (CB3) demonstrates technology advancements for joint service application in the areas of detection, information systems technology, protection/hazard mitigation (formerly decontamination and protection), and technology transition efforts in these capability areas. These activities will speed maturing of advanced technologies to reduce risk in system-oriented integration/demonstration efforts. Detection focuses on advanced development of technologies from applied research for standoff and point detection and identification of chemical and biological agents. Information systems advanced technology focuses on areas of advanced warning and reporting, hazard prediction and assessment, simulation analysis and planning, and systems performance modeling. Starting in FY10, Decontamination and Protection capability areas will be merged into a new capability area called Protection and Hazard Mitigation. Protection and Hazard Mitigation focuses on advanced development of technologies that protect and reduce the chemical/biological threat or hazard to the warfighter, weapons platforms, and structures. This project funds advanced development of chemical and biological defense science and technology initiatives and transitions them to advanced development programs in Budget Activities 4 and 5, through prototypes that are evaluated in Advanced Technology Demonstration (ATDs) and Joint Warfighter Experimentation (JWE). This project also funds development of methodologies and capabilities for test and evaluation of the advanced technologies.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
Regenerative and Reactive Air Purification: Demonstration of chemical and biological air-purification alternative technologies that minimize or eliminate the need for expendable media within acceptable size, weight and power constraints.	0.850	0.000	0.000	
FY08 - Completed evaluation of the swing adsorption filtration including pressure/thermal swing adsorption (PTSA) and electro thermal swing adsorption (ESA) prototype.				
Detection Capabilities for Non-Traditional Agents: Develop detection technologies for Non-Traditional Agents.	2.000	1.494	2.000	
FY08 - Completed impact studies to incorporate modifications to standard Lightweight Chemical Detectors (LCD's) design and transitioned recommendations to advanced development programs such as the Joint Chemical Agent Detector (JCAD) program (see BA5.) Completed the studies necessary to fill the identified				

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APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	R-1 ITEM NOMENCLATURE PE 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)		PROJECT NUMBER CB3	
B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
gaps from the analytical studies on the impact of threat environments on the properties of neat agents. Completed the development of agent to simulant correlations in support of test and evaluation needs. FY09 - Assess and demonstrate antibodies assays in handheld format for small chemical molecules. FY10 - Develop detection test methodology and design parameters for the NTA test chamber.				
Technology Transition - Conduct competitive assessments of all mature technology from outside the Chemical and Biological Defense Program (CDBP) and assist in transition of promising technology efforts. FY08 - Completed transition of Department of Homeland Security's (DHS's) Low-cost Biological Aerosol Detector Systems (LBADS) to the Department of Defense's (DoD's) Joint Biological Tactical Detection Systems (JBTDS - see Budget Activity 4, Project CA4; Budget Activity 5, Project CA5). Continued competitive assessment of all mature technology from outside of the CDBP for rapid technology insertion into the capability areas. FY09 - Initiated and completed transition of a miniature, lightweight chemical and biological sensor to JPM-BioDetection from DHS. Initiated transition of the Integrated CB Agent Hazard Mitigation program from the Defense Advanced Research Projects Agency (DARPA) to the United States Army Corps of Engineers through component testing in a laboratory environment. Continued competitive assessment of all mature technology from outside of the CDBP for rapid technology insertion into the capability areas. FY10 - Continue transition of the Integrated CB Agent Hazard Mitigation with systems and neutralization efficiency testing in a laboratory environment. Continue competitive assessment of all mature technology from outside of the CDBP for rapid technology insertion into the capability areas.	2.960	2.878	4.724	
Sensor Data Fusion: Develop scientific techniques for fusing disparate information from multiple sources for insertion into the Joint Effects Model (JEM), Joint Warning and Reporting Network (JWARN), and Joint Operational Effects Federation (JOEF), and other identified acquisition programs. FY08 - Demonstrated and transitioned first-generation outdoor Sensor Placement Tool (SPT) to advanced development programs such as the Joint Warning and Reporting Network (JWARN) and the Joint Operational	0.293	0.592	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
Effects Federation (JOEF) (see BA4, Project IS4; BA5, Project IS5). Demonstrated prototype building interior Source Term Estimation (STE). Demonstrated prototype of second-generation outdoor SPT algorithm to include optimal hazard prediction capability. FY09 - Transition first generation outdoor STE/Hazard Refinement (HR) and second-generation SPT software to the Joint Effects Model (JEM), JWARN and JOEF. Transition first-generation building interior STE and HR software to JEM and JOEF. FY10 - Sensor Data Fusion efforts will be re-aligned to Advanced Warning and Reporting.				
Solid Phase: Demonstration of improved chemical and biological decontamination formulations that are compatible with the current family of decontamination systems. FY08 - Completed research efforts to develop reactive sorbent nano-active suspensions and sprayable powders and transition to advanced development programs such as the Joint Service Transportable Decontamination System (JSTDS). Developed, tested, and completed nano-active powders for use as adsorptive/reactive layers in a human remains pouch and transitioned to Human Remains Decon System (HRDS) program.	0.869	0.000	0.000	
Lightweight Integrated Fabric: Demonstration of lightweight chemical and biological protective textiles that can be used as an integrated combat duty uniform. FY10 - Develop systems integration of a complete chemical and biological (CB) ensemble that incorporates emerging designs and prototype concepts. Refine concepts for an integrated ensemble that will transition to advanced development programs such as the Uniform Integrated Protective Ensemble (UIPE) and the Individual Protection Advanced Technology Demonstration (IP Demo - see Project TT3, Experimental & Technology Demonstration and Project TT4). Continue limited field trials in a relevant environment.	0.000	0.000	0.639	
SBIR - FY09 - Small Business Innovative Research.	0.000	0.214	0.000	
Alternative Processes: Demonstration of non-traditional decontamination technologies and approaches which gain significantly improved effectiveness by complementary application.	0.786	1.957	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>FY08 - Completed research 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 and transitioned to advanced development programs. Initiated efforts to investigate reactive materials and nanotechnology for decontamination processes.</p> <p>FY09 - Continue efforts to investigate reactive materials and nanotechnology for decontamination processes.</p> <p>FY10 - Efforts will be re-aligned to Protection and Hazard Mitigation.</p>				
<p>Respiratory/Ocular Protection: Demonstration of design alternatives for chemical and biological air-purifying respirators to provide enhanced protection with lower physiological burden and improved interface with mission equipment.</p> <p>FY08 - Integrated protective mask designs with developmental helmet systems to provide seamless compatibility of chemical and biological protection with ballistic protection, and integration of communication and optical systems. Initiated development of initial high fidelity prototypes for early assessment of human and operational compatibility.</p> <p>FY09 - 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 Uniform Integrated Protective Ensemble (UIPE) Demonstration.</p> <p>FY10 - Efforts will be re-aligned to Protection and Hazard Mitigation.</p>	0.795	1.441	0.000	
<p>Battle Space Management: Develop collaborative information management technologies for insertion into the Joint Warning and Reporting Network (JWARN) and Joint Operational Effects Federation (JOEF) acquisition programs.</p> <p>FY08 - Transitioned Inter-LAN Socket Connection Manager and Joint Warning and Reporting Network (JWARN) Component Interface Device (JCID) on a Chip to the JWARN program. Transitioned Sensor</p>	0.847	0.549	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
Alert Verification for Operational Response (SAVIOR), a false alarm reduction capability, to the advanced development program for contamination avoidance. FY09 - Transition the capability to exchange and multi-level fusion of actionable information with real world Command and Control (C2) systems in Department of Defense, Coalition and Homeland Security/Homeland Defense (HLS/HLD) domains to JWARN. FY10 - Battle Space Management efforts will be re-aligned to Advanced Warning and Reporting.				
Chemical and Biological Stand-off Technology: Emphasis on the detection and identification of chemical and biological threats in near real time at a distance from the detector. Future programs focus on the improvement of algorithms, excitation sources, and detector elements to increase range, reduce false positives, increase sensitivity, and reduce cost. FY08 - Completed the development of test methodology to evaluate and assess the value of new signatures in broad regions of the electromagnetic spectrum. Completed prototype designs and initiate fabrication of enhanced biological standoff system based upon this new information to enhance selectivity for interference rejection. FY09 - 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 infrared electromagnetic spectrum to enhance selectivity for interference rejection. Initiate new effort to develop the next generation of standoff chemical technology to meet change in the threat environment. FY10 - Initiate field trials to validate chemical signature for chemical standoff detection and identification capabilities. Initiate an analysis of alternatives to support efforts in meeting new requirements for the next generation of standoff chemical technology. Initiate efforts in the development of new test methodology for assessing next generation chemical standoff technology to include ground truth systems for field assessments.	6.138	5.893	11.884	
Low-Resistance, Low-Profile Filtration: Demonstration of novel filtration media into a lightweight, low-profile, and low-burden individual protective filter, which has enhanced performance against a broader range of challenges that includes toxic industrial chemicals.	0.000	0.000	0.646	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Initiate brassboard prototype development efforts for the next generation filter for individual protection from CB agents, Toxic Industrial Chemicals (TIC's) and Non Traditional Agents (NTA' s), in efforts parallel to the IP Demo for collective protection filtration in support of advanced development programs such as the Joint Expeditionary Collective Protection (JECP) and support of collective protection in vehicular/platform systems in Major Defense Acquisition Programs (MDAP).				
Low-Burden Air Purifying Respirator: Demonstration of design alternatives for chemical and biological air-purifying respirators to provide enhanced protection with lower physiological burden and improved interface with mission equipment. FY10 - 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 in parallel excursions to the IP Demo.	0.000	0.000	0.527	
Advanced Warning and Reporting: Develop science and technologies for collaborative information management, fusion of disparate information from multiple sources, environmental databases and modeling, fusion of syndromic/diseases surveillance data, and synthetic environments for model performance evaluation and acquisition programs. FY10 - Transition enhanced version of first-generation building interior Source Term Estimation (STE) and Hazard Refinement (HR) software to the Joint Effects Model (JEM) and the Joint Operational Effects Federation (JOEF).	0.000	0.000	0.114	
Integrated Ensemble Development: Demonstration of lightweight chemical and biological protective textiles that can be used as an integrated combat duty uniform. FY08 - Integrated protective mask designs with developmental helmet systems to provide seamless compatibility of CB protection with ballistic protection, and integration of communication and optical systems. Initiated development of initial high fidelity prototypes for early assessment of human and operational compatibility.	0.820	1.481	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY09 - Continue integration of the protective mask designs with developmental helmet systems to provide seamless compatibility of chemical and biological 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 Uniform Integrated Protective Ensemble (UIPE) Demonstration. FY10 - Efforts will be re-aligned to Protection and Hazard Mitigation.				
Hazard Prediction and Assessment: Improve battlespace awareness by accurately predicting hazardous material releases, atmospheric transport and dispersion, and resulting human effects. Develop predictive capability for the source term of releases of chemical, biological, and industrial materials to include counterproliferation, chemical and biological weapons, accidents and ground effects from ballistic missiles. FY08 - Continued enhancement and testing in the Geographic Environmental Database Information System (GEDIS) 2.2 release. Completed initial interior building transport modeling algorithm and software development. Initiated improved Toxic Industrial Chemicals/Toxic Industrial Materials (TIC/TIM) prototype integration into the Joint Effects Model (JEM). Began extension of the Stationary Wind Fit with Turbulence (SWIFT) and provided updated mass consistency wind models and advanced urban models to JEM. Integrated advanced numerical weather prediction techniques for coastal, complex terrain and urban environments into JEM. FY09 - 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 Weather Research and Forecast/Urban Canopy Model (WRF/UCM) forecasts to drive JEM transport and dispersion prediction. Transition fully extended SWIFT mass consistency wind model to JEM. FY10 - Continue further refinements of the GEDIS data requirements tool with additional types of data such as climatology and population. Complete urban dispersion modeling for transition into JEM. Develop and	0.800	1.042	1.848	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
implement the configuration management prototype for transition of project results to advanced development programs.				
Logistically Sustainable Air Purification for Collective Protection: Demonstration of chemical and biological air-purification alternative technologies that minimize or eliminate the need for expendable media within acceptable size, weight and power constraints. FY10 - Initiate brassboard prototypes development of down-selected media-less technologies.	0.000	0.000	0.433	
Chemical Biological Defense Program Decision Capability: Develop tools for decision making for consequence management, human knowledge management, and health/human effects modeling including casualty estimation. FY08 - Transitioned Toxic Industrial Chemicals/Toxic Industrial Materials (TIC/TIM), long-term radiological effects, and Allied Medical Publication 8 (AMedP-8) nuclear models. Continued refinement of validation and verification (V&V) documentation from NBC Casualty Resource Estimation Support Tool (NBC CREST) to the Joint Operational Effects Federation (JOEF). Developed a biological and a chemical agent human response model accounting for particle size distribution (PSD) effects. Developed, implemented and tested additional agent response models accounting for PSD effects and initiated delivery of V&V software. Continued transition of NATO's AMedP-8 chemical and biological models from NBC CREST to JOEF. FY09 - 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. FY10 - CBDP Decision Capability efforts will be re-aligned to Simulation Analysis and Planning.	0.830	0.821	0.000	
General Purpose Formulations for Decontamination: Demonstration of improved chemical and biological decontamination formulations that are compatible with the current family of decontamination systems.	0.000	0.000	0.717	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Perform coupon tests, material compatibility and small item effectiveness evaluations for solid oxidants and green solvent/surfactant systems. Transition to Joint Portable Decon System (JPDS) and Joint Service Transportable Decon System (JSTDS) programs (see BA5, Project DE5).				
Chemical and Biological Warfare Effects on Operations: Develop the science behind the modeling and simulation of operations at the strategic, operational and tactical level in a CBRN environment for mobile forces, tactical aircraft, naval operations and fixed sites. FY08 - Initiated delivery of Output Analysis Tool (OAT), Chemical Hazard Estimation Method Risk Assessment tool (CHEMRAT) version 1.6, Chemical Convoy Operations Risk Vulnerability Estimation Tool (CORVET), and Simulated Training and Analysis for Fixed Facilities/Sites (STAFFS) tactical aircraft upgrades to the Joint Operational Effects Federation (JOEF). FY09 - Deliver chemical, biological, radiological, and nuclear (CBRN) operational effects methodologies for tactical and theater 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. FY10 - Chemical and Biological Warfare Effects on Operations will be re-aligned to Simulation Analysis and Planning.	0.851	0.821	0.000	
Decontamination System-of-Systems: Demonstration of non-traditional decontamination technologies and approaches which gain significantly improved effectiveness by complementary application. FY10 - Complete data package for self-decontaminating surfaces. Transition to the Hazard Mitigation for Materials and Equipment Restoration (HaMMER) Advanced Technology Demonstration (see Project TT3, E&TD).	0.000	0.000	0.200	
Simulation Analysis and Planning: Develop decision support tools and information management capabilities for planning and real-time analysis to determine and assess operational effects, risks, and impacts of CBRN incidents on decision making.	0.000	0.000	1.114	

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B. Accomplishments/Planned Program (\$ in Millions)							FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Verify respiratory tract models for prediction of human response as a function of particle size to improve casualty estimation for CBRN hazards and incorporate these models into the Joint Effect Model (JEM) for currently available agent data. Transition infection/contagious disease model to JEM. Transition sensor placement tool to acquisition programs. Transition CB effects on mobile forces analysis study and prototype for tactical and operational military operations to JOEF. Transition improved Incident Management/Consequence Management (IM/CM) tools and capabilities to advanced development programs.										
Systems Performance Modeling: Develop Chemical, Biological, Radiological and Nuclear (CBRN) data sharing capabilities. FY10 - Prototype a data collection and exchange capability. Develop processes and policies for collection and insertion of data into CBRN Data Backbone.							0.000	0.000	0.557	
C. Other Program Funding Summary (\$ in Millions)										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
CA4/CONTAMINATION AVOIDANCE (ACD&P)	3.621	7.792	39.554						Continuing	Continuing
DE4/DECONTAMINATION SYSTEMS (ACD&P)	4.151	8.643	0.000						Continuing	Continuing
IS4/INFORMATION SYSTEMS (ACD&P)	0.000	0.000	0.000						Continuing	Continuing
TE3/TEST & EVALUATION (ATD)	23.824	26.579	13.363						Continuing	Continuing
TE4/TEST & EVALUATION (ACD&P)	13.776	6.335	28.894						Continuing	Continuing
TT4/TECHBASE TECHNOLOGY TRANSITION (ACD&P)	13.218	17.267	26.761						Continuing	Continuing
D. Acquisition Strategy										
N/A										

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E. Performance Metrics

N/A

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COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
CI3: CONGRESSIONAL INTEREST ITEMS (ATD)	63.987	50.700	0.000						Continuing	Continuing

A. Mission Description and Budget Item Justification

The efforts listed in Section B of this justification include congressional interest programs for FY08 and FY09.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
<p>CBDP Initiative Fund Applied Research: The CBDIF goal is to fund new and innovative chemical and biological science and technology projects across a wide range of military operations. Established in FY 2003, it is congressionally directed with the intent to provide funds via a competitive acquisition to non-Government entities.</p> <p>FY08 - 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. Upon technical evaluation and selection of proposals, provide a report detailing the number of projects funded and areas of research.</p>	7.891	0.000	0.000	
<p>SBIR - FY09 - Small Business Innovative Research.</p>	0.000	0.565	0.000	
<p>Fraunhofer USA Center for Molecular Biology -</p> <p>FY08 - Delivered a combined multivalent one-shot vaccine that protects the Armed Forces and civilian communities against plague and anthrax.</p>	0.987	0.000	0.000	
<p>Hand-held Nanotechnology Enabled Bio-Warfare Agent Identification System -</p> <p>FY08 - Produced a light-weight, hand-held device defense-wide for identification of biological warfare agents.</p>	2.368	0.000	0.000	
<p>Long Range Stand Off System for Detection of Biological Materials -</p> <p>FY08 - Conducted research to develop an eye-safe standoff detection system using laser technology.</p>	1.105	0.000	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
Carbon Nanotube Chemical Detector - FY08 - Built upon the previous research (FY07) in developing a prototype arrayed single-walled carbon nanotube (SWNT) CWA detector. FY09 - Address improvements in sensitivity and selectivity through chemometric/principal component analyses and the development of artificial neural network (ANN) real-time optimum signature selection.	0.987	0.791	0.000	
Surface Enhanced Infrared Detection of Threats - FY08 - Developed a handheld biological and chemical agent detection device based on surface enhanced infrared detection methods. FY09 - Continued to develop a handheld biological and chemical agent detection device based on surface enhanced infrared detection methods.	2.604	1.187	0.000	
Small Accelerators and Detection Systems for Homeland Defense and National Security Applications - FY08 - Continued research from FY06 and FY07 for the development of a new high-power, mobile accelerator systems for CB agent detection and defeat.	1.579	0.000	0.000	
Total Perimeter Surveillance (TPS) - FY08 - Conducted research for the development of an unattended chem./bio threat detection system. FY09 - Demonstrate a prototype of the system.	1.578	0.989	0.000	
Photo Catalytic Oxidation (PCO) Demonstration for Water Reuse - FY08 - Continued research begun in FY06 to address the removal of NBC agents in drinking water in-line with existing water purification units.	1.973	2.373	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY09 - Continuation of research to determine the water purification unit's performance in the removal of high threat CBRN agents and TICs.				
Environmental Bioterrorism Detection Program - FY08 - Developed a comprehensive bio-surveillance monitoring system.	1.973	0.000	0.000	
Mobile Rapid Response Prototype - FY08 - Continued in the partnership of Hackensack University Medical Center with the Defense Threat Reduction Agency (DTRA), the Chemical Biological & Radiological Technology Alliance. FY09 - Continuation of the partnership of Hackensack University Medical Center with the Defense Threat Reduction Agency (DTRA), the Chemical Biological & Radiological Technology Alliance.	3.945	1.582	0.000	
Mobile Real-time, non-specific Viral Agent Detector - FY08 - Conducted research in the development of a real-time biological agent detector.	1.480	0.000	0.000	
Next Generation Gas Chromatographic Mass Spectrometer for WMD Civil Support Teams - FY08 - Improved commercially available GC-MS systems to provide chemical analysis and identification in the field which currently does not exist in person-portable form. This effort was directed toward instrument development and testing.	0.789	0.000	0.000	
NIDS Automated Bio Agent Identifier - FY08 - Conducted research for the development of multiplex handheld immunoassay tickets that are both human visually and machine read. FY09 - Continuation of research begun in FY08.	2.959	1.582	0.000	
Portable Rapid Bacterial Warfare Detection Unit -	4.341	3.956	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY08 - Conducted research to detect and identify microorganisms of military significance. Optimized a standardized process for real-time detection and identification of Bacterial Warfare Agents (BWA). FY09 - Develop a field deployable system based on IR spectroscopy.				
Continuation of Unmanned Vehicle CBRNE Unitary Sensor Suite Development and Demonstration - FY08 - Continued improvement and demonstration of chemical, biological, radiological, nuclear and toxic industrial material sensing technologies.	1.578	0.000	0.000	
UCLA High Speed and High Volume Laboratory Network for Infectious Diseases - FY08 - Continued prior research (FY07) to develop a new high speed, high throughput bioagent screening and genotyping capability. Implemented an automated phenotyping system and supporting capabilities. FY09 - Expand capability to include other biothreat agents, including bacterial and/or viruses (dual-use).	3.945	4.944	0.000	
Myeloid Progenitor for Acute Radiation Syndrome - (This effort was transferred to CBMS) FY08 - Accelerated 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.	2.368	0.000	0.000	
Antioxidant Micronutrient Therapeutic Countermeasures for Chemical Agents - FY08 - Continued research started in FY07 to determine if ingestion of antioxidants prior to exposure to non-lethal levels of sulfur mustard will reduce lung damage. FY09 - Test the hypothesis that a mixture of antioxidants before and after exposure to sulfur mustard may increase percent survival and survival time by decreasing oxidative damage and inflammation.	0.987	0.792	0.000	
Anthrax Monoclonal Antibody Therapeutic and Prophylaxis Program - FY08 - Conducted research to support safety and efficacy studies evaluating the co-administration of MDX-1303 and vaccine.	1.579	0.000	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
Plant Vaccine Development - FY08 - Conducted research to establish infrastructure and processes for cGMP production of vaccine candidates and to develop a combined multivalent one-shot vaccine formulation that protect against anthrax and plague. FY09 - Produce vaccine lots under cGMP and evaluate safety and toxicity and confirm protective efficacy of identified dual agent vaccines. Develop technology transfer and implementation programs.	2.960	1.582	0.000	
Advanced Emergency Medical Response Training Program - FY08 - Developed emergency medical response training program for consequence management of chemical or biological events.	1.579	0.000	0.000	
Multi-Purpose Biodefense Immunoarray - FY08 - Continued research that began in FY06 to develop a multi-purpose biodefense immunoarray. FY09 - Continuation of research from FY08.	0.987	0.792	0.000	
Improved CBR Filters - FY08 - Continued development and demonstration of alternative filters that would provide Toxic Industrial Chemicals (TIC) protection in addition to the standard chemical warfare agent (CWA) protection. FY09 - Initiate engineering phase with the goal of developing final design configurations that can be easily incorporated into new and existing filtration systems.	1.579	1.582	0.000	
Develop & Test Environmentally Safe Biocides for Bio-Defense - FY08 - Developed and tested new biocidal technologies for disinfection in bio-defense, environmental and marine contexts.	0.494	0.000	0.000	
Regenerative Chemical Biological Filtration Systems -	2.466	0.000	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY08 - Researched, developed, tested and evaluated regenerative chemical biological filtration systems.				
Warfighter Personnel Decontamination - FY08 - Continued FY07 RDT&E which had been focused on demonstrating the effectiveness of the Multipurpose Wipe system on skin surrogates. Effort will focused on demonstrating this same efficacy on surfaces.	0.789	0.000	0.000	
Reactive Coatings Enhanced to Resist Chem/Bio Contamination - FY08 - Continued FY07 research which was completed for the development of reactive coatings by developing an understanding of the requirements for such coatings, identifying potential active/activator technologies, developing test system hardware, and establishing the appropriate analytic methods to measure the performance of the candidate technologies.	1.736	0.000	0.000	
Chemical Warfare Agent Fate Model Verification and Validation Phase II - FY08 - Continued verification and validation of CWA agent fate evaporation model.	0.987	0.000	0.000	
Acinetobacter Baumannii Research - FY08 - Developed 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. FY09 - Continue the preclinical development of these agents by developing improved syntheses techniques.	1.973	1.978	0.000	
Strategic Bioterrorism Response for Battlefield Survival - FY08 - Developed 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.	1.421	0.000	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
Bio Agent Early Warning Detector - FY09 - Conduct advanced development of a stand-off bio agent detection system.	0.000	1.978	0.000	
Biological Agent Identifiers - FY09 - Continuation of industry research into biological agent identifiers without wet reagents.	0.000	1.582	0.000	
Eye-Safe Long Range Stand-off System for Detection of Chemical and Biological Weapons - FY09 - Continuation of research for eye-safe, laser based stand-off Chem/Bio detection systems.	0.000	1.483	0.000	
Mobile Continuous Air Monitor (MCAM) - FY09 - Continuation of research for a portable continuous monitor for biodetection.	0.000	1.582	0.000	
Rapid Response Institute - FY09 - TBD.	0.000	3.164	0.000	
Liquid Crystal Sensor Technology Research and Development for Force Protection - FY09 - Continuation of development of a passively operated sensor that rapidly detects toxins in the immediate environment.	0.000	2.373	0.000	
Biodefense Vaccine Development and Engineering of Antiviral Peptides - FY09 - TBD.	0.000	1.583	0.000	
Center for Advanced Emergency Response - FY09 - Continuation of development of emergency medical response training program for consequence management of chemical or biological events.	0.000	4.350	0.000	
ViriChip Rapid Virus Detection Systems -	0.000	1.582	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY09 - Research on the use of nanoscience technology for a virus detection system.				
Protective Self-Decontaminating Surfaces - FY09 - Previous RDT&E has demonstrated the technology to instantly neutralize chemical agents and kill a number of microbial entities. This effort will produce an advanced prototype to be capable of providing immediate on-site protection with multi-threat applicability.	0.000	1.582	0.000	
Contaminated Human Remains Pouch - FY09 - Conduct prototype development activities to test a contaminated human remains transportable container.	0.000	1.582	0.000	
Recombinant BChE Formulation Program - FY09 - TBD.	0.000	1.582	0.000	
Joint Material Decon System - FY09 - Reactive Overlay and Removable CBRN Coatings.	0.000	1.582	0.000	
C. Other Program Funding Summary (\$ in Millions) N/A				
D. Acquisition Strategy N/A				
E. Performance Metrics N/A				

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COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TB3: MEDICAL BIOLOGICAL DEFENSE (ATD)	95.996	188.748	204.576						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TB3) funds preclinical development of vaccines, therapeutic drugs, and diagnostic capabilities to provide safe and effective medical defense against validated biological threat agents including bacteria, toxins, and viruses. Innovative biotechnology approaches to advance medical systems designed to rapidly identify, diagnose, prevent, and treat disease due to exposure to biological threat agents will be evaluated. Entry of candidate vaccines, therapeutics, and diagnostic technologies into advanced development is facilitated by the development of technical data packages that support the Food and Drug Administration (FDA) Investigational New Drug (IND) licensure processes, DoD acquisition regulations, and the oversight of Phase 1 clinical trials in accordance with FDA guidelines. Categories of this project include core science efforts in biological based research and technology programs areas in biological defense capability areas such as Pretreatments, Diagnostics, and Therapeutics. Pretreatment efforts conduct research and development (R&D) of promising vaccines, medications, and technologies provided prior to potential exposure to biological agents. The goal is to reduce or to entirely prevent adverse effects of exposure. Diagnostic efforts are aimed at screening procedures and analytical methods to verify exposure and determine the effects of exposure biological warfare (BW) agents. Therapeutic efforts provide medical solutions to sustain and protect the warfighter in biological environments. Specifically, therapeutic efforts are aimed at developing medical countermeasures treat exposure to biological threats such as bacterial (plague, anthrax, glanders), viral (smallpox, encephalitic alphaviruses), and toxin (ricin, botulinum neurotoxin, staphylococcal enterotoxin).

This project also includes efforts such as the Transformational Medical Technologies Initiative (TMTI). The Transformational Medical Technologies Initiative (TMTI) was launched in FY 2006 as a key Quadrennial Defense Review initiative to respond to the threat of emerging or intentionally bioengineered biological threats. TMTI's mission is to protect the Warfighter from genetically engineered biological threats by providing a rapid response capability from identification of pathogens to the delivery of medical countermeasures. This mission is accomplished through two main efforts: 1) developing broad spectrum (multi-agent) therapeutics against BW agents (e.g, one drug that treats multiple agents); and 2) developing platform technologies to assist in the rapid development of medical countermeasures (MCMs) in response to BW agents (e.g, developing new and innovative ways to mass produce drugs in the event of a biological incident).

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
Multiagent (Broad Spectrum) Medical Countermeasures - This effort is mainly dedicated to the initiation and completion of multiple preclinical studies for each new drug, to include safety, toxicity, efficacy, and scalability work. The ability to formulate good manufacturing pilot lots and further maturation of promising	55.240	152.105	126.883	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>drug candidates will be the focus of activities in this capability area. Ultimately, the preclinical drug discovery process culminates in the submission of an Investigational New Drug (IND) application to the Food and Drug Administration (FDA), who conducts reviews and approves new drug candidates. Estimated attrition from preclinical phase to Phase I clinical studies is approximately 50%, thus not all drugs will survive the transition between preclinical development and Phase I studies.</p> <p>FY08 - Continued to identify potential IND candidate drugs for development. Initiated studies necessary to support up to four applications for an IND with the FDA. Completed pre-clinical research necessary to submit two IND applications to the FDA for antiviral drugs against hemorrhagic fever viruses (HFV), specifically targeted against the viral genes in both Ebola and Marburg. (Note: both IND applications were later accepted by the FDA, which will allow the candidate drugs to move into Phase I clinical trials). Continued drug discovery efforts for antisense ribonucleic acid (RNA) therapeutic candidate drugs against HFV pathogens. Developed technology to target molecules of common pathways within the host. Continued investigating use of existing of FDA-approved drugs to enhance effectiveness of current biological warfare (BW) agent countermeasures.</p> <p>FY09 - Continue to identify potential IND candidate drugs for development. Complete pre-clinical research necessary to submit up to ten additional applications for an IND with the FDA. Accelerate drug discovery efforts, incorporating new technology to expand the number of potential drug compounds suitable for advanced development. Implement use of the previously validated transgenic and other animal model systems to replicate human disease and disease response pathways. Begin implementation of test platforms for drug discovery, development, and manufacturing technologies. Continue investigating use of existing of FDA-approved drugs to enhance effectiveness of current BW agent countermeasures.</p> <p>FY10 - Continue to identify potential IND candidate drugs for development. Complete pre-clinical research necessary to submit up to seven additional applications for an IND with the FDA. Upon submission of an IND to the FDA for further evaluation, DoD Milestone A decisions will take place. Downselect contract performers who have had their IND applications accepted by the FDA. Initiate planning for Phase 1 clinical trials and other studies necessary to support advanced development efforts toward a New Drug Application (NDA) with the FDA. Continue investigating use of existing of FDA-approved drugs to enhance effectiveness of current BW agent countermeasures.</p>				

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>Therapy for Ebola and Marburg Virus Infections: Identify, optimize and evaluate potential therapeutic candidates effective against Filovirus infection including Ebola and Marburg Viruses.</p> <p>FY08 - Initiated testing in relevant small and large animal models to support Investigational New Drug (IND) application submission and Food and Drug Administration (FDA) licensure under the animal rule. Down-selected leading technologies based on results from animal studies in coordination with the advanced developer.</p> <p>FY09 - Complete FDA required studies to support the preclinical development and characterization of other leading therapeutic technologies against the Ebola virus and Marburg virus.</p>	5.797	5.370	0.000	
<p>Vaccine Research Support: Assess the effectiveness of candidate vaccines in animal models and perform preliminary evaluations of safety and duration of protective immunity.</p> <p>FY08 - Completed animal effectiveness studies for toxin vaccines. Down-selected filovirus vaccine candidates. Continued safety and effectiveness studies in animals. Began immunity duration studies; initiated stability testing. Evaluated filovirus vaccines for vaccine interference problems between components.</p> <p>FY09 - Further characterize safety, toxicity, and immunity duration studies in animals for filovirus vaccines. Optimize dose, route, and regimen for maximum effectiveness. Assess 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 production lots, and begin Investigational New Drug (IND) application preparation for Food and Drug Administration (FDA) evaluation. Analyze effectiveness, duration of immunity, and dosing regimens of second-generation vaccine against bacterial pathogens (including anthrax, plague, and tularensis).</p> <p>FY10 - Vaccine Research Support efforts will be re-aligned to Bacterial/Toxin and Viral Vaccines.</p>	8.007	7.740	0.000	
<p>Diagnostic Technologies: Development and verification of rapid, sensitive and specific tests for the identification of Biological Warfare Agents (BWAs) and their expressed toxins in biological fluids of warfighters for the diagnosis of exposure/infection. Discovery of biomarkers of response to exposure. Evaluation of next</p>	7.080	9.021	11.508	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>generation diagnostic technologies including portable instrument platforms, highly parallel and informative testing formats, and nanotechnology applications.</p> <p>FY08 - Continued to test optimal matrices/tissues for diagnostic testing using assays with advanced development programs such as the Joint Biological Agent Identification and Diagnostic System (JBAIDS) Block I assays. Used this data to augment the advanced developer's Food and Drug administration (FDA) assay submission packages. Applied new biosynthetic (recombinant) techniques for developing antibody-based diagnostic agents. Adapted real time Polymerase Chain Reaction (PCR) assays identifying genes responsible for antibiotic resistance in bio-threat agents to applicable instrumentation. Assessed enzymatic cascade signal amplification methods to enhance sensitivity of hybridization microarray platforms. Critically analyzed/ applied the results of the decision matrix to testing of next generation diagnostic devices with emphasis on technologies capable of integrating sample processing, nucleic acid, and antibody-based diagnostic testing. Accelerated development and testing of next generation diagnostic devices with the goal of transitioning two candidates to the advanced developer in FY09.</p> <p>FY09 - 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 effective for diagnosing exposure to bio-threat agents. Validate real time PCR assays identifying genes responsible for antibiotic resistance in bio-threat agents. Perform advanced assessment on the use of biosynthetic (recombinant) reagents on existing systems and improved test assays utilizing new technologies and approaches that enhance diagnosis of early exposure to BWAs.</p> <p>FY10 - Continue development of two additional candidates for a next generation diagnostic device. Develop an automated, prototype polymerase chain reaction system on microarray cartridge using light emitting chemical-based (or other sensitive signal-amplified) technology. Continue to refine and transition strain test panels for viral specificity (inclusivity and exclusivity) characterization. Characterize assay specificity to ensure assays consistently identify the intended target but not related targets. Use highly parallel and informative microarray screening techniques with thoroughly characterized affinity reagents for the discovery of novel biomarkers of host response as targets for assay development. Develop and verify assays as per standardized processes. Transition pilot production protocols for biosynthetic (recombinant) antigen production for bacterial BWAs. Maintain an animal tissue bank for validation of assay performance and as correlate reference materials from</p>				

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
animal BWA exposure studies. Develop and verify single domain biosynthetic (recombinant) antibodies to bacterial and viral BWA targets. Investigate methods of stabilization of BWA biomarkers in clinical samples to extend transport and limit cold chain requirements.				
SBIR - FY09 - Small Business Innovative Research.	0.000	2.123	0.000	
Development of Platform Technologies - Advanced technology and development activities for Platform Technologies include the maturation of components that in the near future will begin the process of integrating a countermeasure response pipeline. In addition, animal models will reach their highest maturity and be authenticated against challenge material and ready for clinical trials. Off-the-shelf technologies will be identified, evaluated, and refined to demonstrate the ability to provide drug development capabilities. Advanced manufacturing platforms will continue to mature and the technology will focus in on the type of specific therapeutics under development. FY10 - Conduct initial studies to determine dose-response, optimal route of administration and timing/ schedule of administration of product in relevant animal efficacy models. Based on completed studies, initiate development of the bioinformatics platform, which will integrate the various TMTI platforms by electronically structuring all TMTI data for rapid access and analysis. Continue development of rapid drug discovery and development platform technologies. Accelerate effort to develop and scale-up new rapid manufacturing platform technologies for biological drugs. Development efforts will bring these technologies into compliance with FDA current good manufacturing practices (cGMP) and quality requirements. Generate Technology Development Strategies that will assist in the development of a roadmap to support efforts that transition to engineering, manufacturing, and development efforts in Budget Activities 4 and 5. Begin integration of stand-alone platforms into capabilities that can be demonstrated as a system. Validate test platforms for drug discovery, development and manufacturing technologies that allow the incorporation of medical countermeasure technologies into the TMTI rapid response capability. Support computer models to advance/ enhance drug design. High throughput screening assays and technologies and novel platforms for target identification will also be investigated.	0.000	0.000	32.945	
Multiagent Vaccines, Western and Eastern Equine Encephalitis (WEE/EEE), and Vaccine Candidates for a Combined Equine Encephalitis Vaccine (Former DTO CB58): Evaluate alphavirus vaccine platforms for safety and effectiveness.	4.153	0.000	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY08 - Completed duration of immunity duration studies for each platform, compared individual constructs, and combined WEE/EEE formulations. Initiated studies to address the issue of interference between vaccine components and the immune response. Concluded safety and effectiveness studies in animal models. Down-selected alphavirus vaccine candidates. Completed DTO CB58.				
Viral Therapeutics: Identify, optimize and evaluate potential therapeutic candidates effective against designated viral threat agents. FY08 - Initiated animal studies to support FDA submissions, milestone approval, and product transition to advanced development. Completed development of a treatment algorithm for severe Ebola infection. Continued studies to develop two oral therapeutics for orthopox viruses. Conducted FDA required non-human primate studies to support FDA licensure of two oral therapeutics for orthopox virus infection. FY09 - Continue studies to support FDA submissions, milestone approval, and product transition to advanced development programs. Perform FDA required non-human primate studies necessary to complete the development of two oral therapeutics for orthopox viral infection. FY10 - Conduct non-human primate studies to determine if anti-inflammatory and anti-thrombotic host factors can be used therapeutically to produce a restorative effect on the blood vessel walls and increase survival from filovirus infection. Conduct remaining FDA required non-human primate studies necessary to complete the development of oral therapeutics for orthopox viral infection. Evaluate the efficacy of administering post-exposure therapeutic vaccine in conjunction with therapies that stop blood clotting in animals infected with filovirus. Continue animal studies to support FDA submissions, milestone approval, and product transition to advanced development.	6.114	5.885	9.652	
Multiagent Vaccine Platforms: Evaluate the safety and effectiveness of vaccine platforms for immunization against multiple biothreat agents. FY08 - Evaluated safety and effectiveness of anthrax/plague/toxin vaccines in large animals. Examined the effects of short nucleic acid chain immune stimulating formulations in animals.	3.074	2.322	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY09 - Evaluate safety and effectiveness of multi-agent vaccines (e.g., anthrax/plague/melioidosis); complete studies to determine interference between vaccine components and the immune response; conduct immunity duration studies. Down-select multiagent vaccine platforms, determine dosage, and route of administration. FY10 - Multi-agent Vaccine efforts will be re-aligned to Vaccine Platforms and Research Tools.				
Bacterial Therapeutics: identify, optimize, and evaluate potential therapeutic compounds effective against bacterial threat agents. FY08 - Conducted advanced safety and efficacy studies in non-human primates, considering FDA requirements for licensure of new therapeutics and approved therapeutics with a new indication. Coordinated efforts with advanced development programs to ensure the appropriate studies are conducted. FY09 - Test and evaluate FDA approved antibiotics for efficacy against aerosol exposure to bacterial threat agents in non-human primate models of plague. Initiate advanced safety and effectiveness studies for a new single domain antibody that is smaller than conventional antibodies against plague. FY10 - Test and evaluate the effectiveness of commercially available antibiotics against animals exposed to aerosol versions of plague and tularemia. Determine antibiotic susceptibility profiles for Yersinia pestis and Francisella tularensis in the laboratory.	4.135	2.478	2.700	
Toxin Therapeutics: identify, optimize and evaluate potential therapeutic candidates effective against biological toxin threat agents. FY08 - Evaluated lead compounds in support of FDA submissions, milestone approval, and future transition to advanced development. Developed therapeutic delivery systems in accordance with FDA requirements. FY09 - Continue optimization and structural activity relationship studies for BoNT small molecule therapeutics to achieve improved pharmacological properties. Test intraneuronal delivery of small molecules using prototype therapeutic delivery system. Evaluate immune modifying compounds for pre and post-exposure therapy for SEB intoxication.	2.396	1.704	1.500	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Initiate work to develop antitoxin preparation for Ricin and Staphylococcal Enterotoxin B (SEB). Define the therapeutic parameters for Ricin and SEB therapeutic. Test candidate BoNT small molecule therapeutics in animal challenge models. Perform advanced animal testing on small molecules that are protective against a lethal challenge of SEB in relevant animal models.				
Bacterial/Toxin Vaccines: Evaluate single agent bacterial and toxin vaccines for effectiveness in animal models. FY10 - Plan, prepare, and conduct Phase I clinical trial with the Ricin vaccine.	0.000	0.000	1.000	
Viral Vaccines: Lead vaccine candidates for alphaviruses and filoviruses will be evaluated for effectiveness and duration of protective immune response. Animal models will be developed for vaccine validation. FY10 - Initiate studies to develop/validate animal models for VEE, EEE, and WEE vaccines, as well as for filovirus vaccines, to fulfill future FDA animal rule requirements necessary for vaccine licensure. Test chemically inactivated and deoxyribonucleic acid (DNA) vaccine candidates against VEE, EEE, and WEE for effectiveness against aerosol delivered doses in animals. Conduct dose, schedule, and aerosol challenge studies in animals with Ebola vaccine candidates. Transition two Marburg virus vaccine candidates to advanced development programs, and determine protection duration studies on these two candidates. Conduct studies to further evaluate the effectiveness of combining the individual filoviruses (i.e., Ebola Sudan, Ebola Zaire, Ebola Uganda, and Marburg Angola) vaccines into one multi-agent vaccine. Conduct studies to further evaluate the effectiveness of combining the individual alphavirus (i.e., VEE, EEE, and WEE) vaccines into one multi-agent vaccine.	0.000	0.000	16.638	
Vaccine Platforms and Research Tools: studies will be conducted to determine immune interference between candidate vaccines, characterize alternative delivery mechanisms of mature vaccine candidates, and determine effects of vaccine stabilization on efficacy in large animals. FY10 - Research multiagent vaccines, immune interference, immune stimulating formulations, vaccine delivery/stabilization, and efforts to predict the human immune response to vaccine candidates. Initiate studies to examine potential immune interference between vaccines (e.g., filovirus interference with alphavirus vaccines; anthrax interference with plague vaccine, etc.) developed by the Department of Defense (DoD). Evaluate	0.000	0.000	1.750	

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B. Accomplishments/Planned Program (\$ in Millions)								FY 2008	FY 2009	FY 2010	FY 2011
mature Marburg vaccine candidates ready for transition to the advanced developer using the laboratory based human artificial immune system (i.e., MIMIC) technology.											
C. Other Program Funding Summary (\$ in Millions)											
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost	
MB4/MEDICAL BIOLOGICAL DEFENSE (ACD&P)	4.742	5.600	101.265						Continuing	Continuing	
MB5/MEDICAL BIOLOGICAL DEFENSE (SDD)	69.231	89.424	64.478						Continuing	Continuing	
D. Acquisition Strategy N/A											
E. Performance Metrics N/A											

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COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TC3: MEDICAL CHEMICAL DEFENSE (ATD)	24.183	26.482	29.092						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TC3) supports the advanced development of medical countermeasures to include prophylaxes, pretreatments, antidotes, skin decontaminants and therapeutic drugs against identified and emerging chemical warfare threat agents. 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 advanced development (i.e., efforts funded in Budget Activities 4 and 5) 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, as well as Department of Defense (DoD) acquisition regulations. Categories for this project include capability areas, such as, pretreatments, diagnostics, and Therapeutics to address Chemical Warfare Agent (CWA) exposure and Non-Traditional Agents (NTAs).

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
Nerve Agent, Bioscavengers: Develop pretreatments that provide protection against all organophosphorous nerve agents. Bioscavengers should have the ability to rapidly bind and detoxify nerve agents, and have broad binding specificity and high catalytic efficiency for the destruction of agents. One molecule of catalytic bioscavenger should be capable of detoxifying numerous molecules nerve agents resulting in the need for a small quantity of catalytic bioscavenger to protect against large doses of nerve agents.	5.207	6.636	7.948	
FY08 - Completed all remaining supportive studies for recombinant Bioscavenger Increment 2. Continued to evaluate animal expression systems for binding protein delivery. Pursued structural studies of potential catalytic bioscavengers. Optimized Physiological Based Pharmacokinetic (PBPK) models that predict the effectiveness of bioscavengers in animals. Conducted efficacy studies of catalytic bioscavengers.				
FY09 - Optimize animal expression systems for binding protein delivery. Complete structural studies of potential catalytic bioscavengers. Utilize PBPK models that predict efficacy of bioscavengers in animals for novel catalytic bioscavengers. Evaluate catalytic bioscavengers for safety, efficacy, stability, and immune system stimulation.				

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
FY10 - Develop formulations for improved PBPK and reduced immune system stimulation of catalytic bioscavengers. Investigate improved drug-delivery systems for 1st generation catalytic bioscavengers. Conduct supportive studies toward licensure of catalytic bioscavengers.				
<p>Cutaneous and Ocular: Minimize injuries to dermal and ocular tissues resulting from exposure to chemical warfare agents (CWA). This involves the development of effective practical field and clinical management strategies and physical and pharmacological interventions to treat the injury processes. This work is designed to support eventual Food and Drug Administration (FDA) licensure of new compounds or new indications for licensed products for use in the treatment of chemical warfare casualties.</p> <p>FY08 - Continued pivotal studies to support FDA licensure of wound healing products and anti-blister agents. Optimized dosing schemes, evaluated the body's effects on the drug, and refined approaches for potential human use. Down-selected new decontamination formulations and evaluated for efficacy in compliance with FDA regulations.</p> <p>FY09 - Initiate animal studies to determine long term effects of down-selected wound healing products and blister agents, in coordination with the advanced developer.</p> <p>FY10 - Evaluate commercial off-the-shelf irrigation systems for treatment of CWA exposure in the laboratory and animals. Continue animal studies to examine long-term effects of wound healing products. Down-select newly identified therapeutics with potential for treating mustard agent-induced ocular injury. Begin efficacy testing in compliance with FDA regulations for ocular administration.</p>	4.063	3.933	3.525	
<p>Diagnostic Technologies: Develop state-of-the-art laboratory/fieldable methods that detect exposure to chemical warfare agents (CWA) (e.g., nerve agents and vesicants) in clinical samples. It also targets the identification of biomolecular targets that can be leveraged as analytical methodologies, as well as, laboratory and animal studies characterizing time-course and longevity of a particular analyte/biomarker.</p> <p>FY08 - Performed method validation studies for the improved nerve agent detection method and initiated animal model exposure tests to characterize the assay. Continued metabolic profile studies in animal exposure models by examining the blood from agent exposed guinea pigs and assessed the feasibility of the</p>	0.671	0.701	1.461	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>methodology as a potential diagnostic technique. Initiated method validation for optimized sulfur mustard blood protein assay. Performed good laboratory practices validation studies on developed whole blood cholinesterase assay.</p> <p>FY09 - Conclude validation of the optimized sulfur mustard blood protein assay. Initiate validation of the urine byproduct assay. Conclude metabolic profile study and conduct data analysis. Complete validation of procedure to assess the presence of chemical warfare analytes from hair samples.</p> <p>FY10 - Further development of improved reactivation and solvent-free extraction methodologies for definitive CWA byproduct identification. Determine windows of opportunity for biomarker identification and subsequent therapeutic intervention for CWA in laboratory and animal models. Initiate a capability to pre-symptomatically diagnose Non-Traditional Agent (NTA) exposure.</p>				
SBIR - FY09 - Small Business Innovative Research.	0.000	0.296	0.000	
<p>Neurologic: Therapeutic strategies to effectively minimize neurologic injuries resulting from exposure to CWAs. This involves the development of neuroprotectants, anticonvulsants, and improved neurotransmitter restorers. Supports eventual FDA licensure of new compounds or new indications for licensed products for use in the treatment of chemical warfare casualties.</p> <p>FY08 - Tested novel and FDA approved neuroprotectants against nerve agents in one or more animal models with a focus on requirements to support the submission of investigational new drug applications and licensure documentation to the FDA for their approval. Initiated safety/side effect/dosing and the body's effects on the drug evaluation of new compounds.</p> <p>FY09 - Accelerate efforts to evaluate novel and FDA approved anticonvulsants, neuroprotectants, anti-epileptics, and receptor competitors and neutralizing agents for neuroprotective activity against nerve agents in animal models according to FDA guidelines.</p> <p>FY10 - Test broad-spectrum reactivators 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 the body's effects on the drug evaluation of new compounds. Continue to evaluate novel and FDA-approved anticonvulsants,</p>	10.195	10.966	13.467	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
neuroprotectants, anti-epileptics, and receptor competitors and neutralizing agents for neuroprotective activity against nerve agents in animal models.				
<p>Medical Toxicology (Non-Traditional Agents (NTAs) and Other agents): Investigate common mechanisms of agent injury. Determine the toxic effects of agents by probable routes of field exposure as well as standard experimental routes. Physiological parameters and pathological assessment will be used to establish the general mode and mechanism(s) of toxicity.</p> <p>FY08 - Verified and validated new generation computational tools for predictive modeling.</p> <p>FY09 - Develop, validate, and complete practical clinical strategies to aid in management of NTA casualties.</p>	3.047	2.950	0.000	
<p>CWA Operational Exposure Hazard Assessment Research: Work is designed to support FDA licensure of new compounds or new indications for licensed products for use in the treatment of chemical warfare casualties.</p> <p>FY08 - Conducted toxicity modeling to support animal-to-human extrapolations of toxicity and to predict toxicity with various routes and durations of exposure.</p> <p>FY09 - Complete data analysis and deliver dataset to define the operational effects from chemical agent contact and inhalation exposure.</p>	1.000	1.000	0.000	
<p>Respiratory and Systemic: Supports investigation of the systemic host response to CWA injury via all routes of exposure, with emphasis on the respiratory system and chronic effects of exposure. This involves the development of effective practical field and clinic management strategies, and physical and pharmacological interventions to treat the injury processes. Designed to support eventual FDA licensure of new compounds or new indications for licensed products for use in the treatment of chemical warfare casualties.</p> <p>FY10 - Identify and test potential therapeutics with a focus on FDA approved drugs that are currently used for other indications for treatment of CWA-induced lung damage. Investigate approaches to enhance inhalational delivery of selected candidate therapeutics. Evaluate commercially available aerosol bronchodilators as supportive therapy following acute inhalational exposure to CWAs.</p>	0.000	0.000	1.330	
	0.000	0.000	1.361	

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B. Accomplishments/Planned Program (\$ in Millions)							FY 2008	FY 2009	FY 2010	FY 2011
<p>Non Traditional Agents (NTAs): Develop common mechanisms of agent injury. Determine the toxic effects of agents by probable routes of field exposure and refine standard experimental routes. Physiological parameters and pathological assessment will be used to establish the general mode and mechanisms of toxicity.</p> <p>FY10 - Develop and evaluate novel and FDA licensed products as post-exposure therapeutics against NTA poisoning in advanced animal models.</p>										
C. Other Program Funding Summary (\$ in Millions)										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
MC4/MEDICAL CHEMICAL DEFENSE (ACD&P)	19.778	8.155	9.478						Continuing	Continuing
MC5/MEDICAL CHEMICAL DEFENSE (SDD)	14.149	22.068	14.086						Continuing	Continuing
D. Acquisition Strategy										
N/A										
E. Performance Metrics										
N/A										

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COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TE3: TEST & EVALUATION (ATD)	23.824	26.579	13.363						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TE3) supports the development of test and evaluation methodologies and protocols as new science and technology efforts are discovered and transitioned to advanced development programs. It includes methodology development for chemical and biological defense test and evaluation capabilities. These methodologies support development testing and operational testing with regard to advanced development programs that have unique chemical and biological defense requirements. These new methodologies and testing capabilities include the development of protocol and standards for use of chemical and biological simulants.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
SBIR - FY09 - Small Business Innovative Research.	0.000	0.305	0.000	
Test and Evaluation, Detection: Develop, test, and evaluate technologies and processes in support of detection capability testing.	7.666	7.156	6.000	
FY08 - Transitioned critical reagent program antigen variability research to Biosafety Level (BSL)-2 and BSL-3 production facilities. Completed and transitioned standard for background interferent references and test procedures. Completed range test validation system. Completed previous effort in optical acceptance measurement for test and evaluation antigens. Initiated decontamination and materials efforts in the design of a Non-Traditional Agent (NTA) chamber.				
FY09 - Continue development of methodologies and capabilities for test and evaluation of technologies currently in early stages of tech-base development. Initiate and complete Quality Assurance (QA) implementation and checkpoints for scaled-up antigen production runs and post-production conformance tests. Continue NTA chamber design effort by conducting liquid dissemination development and proof of principle tests with several agents and address questions regarding the safety of unprotected personnel using the chamber post decontamination.				
FY10 - Continue development of methodologies and capabilities for test and evaluation of technologies currently in early stages of tech-base development. Continue NTA chamber design effort by conducting				

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
dry dissemination development and proof of principle tests with several agents and address the questions regarding the safety of unprotected personnel using the chamber post decontamination.				
<p>Test and Evaluation, Threat Agent Science: Develop test and evaluation technologies and processes in support of Threat Agent Science activities, with a particular emphasis on Non-Traditional Agents.</p> <p>FY08 - Incorporated Non-Traditional agent data to define and developed improved NTA simulants that will address test and evaluation needs. Identified requirements for and initiated development of new simulants for chemical and biological (CB) warfare agents for use in test and evaluation efforts. Conducted experiments, scaled-up commercially available biopesticidal virus preparation and transition methods and reagents to Critical Reagent Program. Evaluated simulants developed to reflect masking/encapsulation technology used with CB agents. Evaluated standard protocols and analyzed results from the hazard assessment and correlation studies. Initiate TIC/battlefield contaminants methodologies study.</p> <p>FY09 - 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. Complete TIC/battlefield contaminants methodologies study.</p> <p>FY10 - Continue development of NTA Simulants. Provide a data base to define the specific characteristic(s) of CWA and BWA threats that must be simulated in order to test the range of types of CBD systems and technologies. Identify and develop simulant or suite of simulants to be used to facilitate field tests of multiple CWA and BWA detectors and/or a multi-purpose BWA/CWA detector. Develop the relationship between aerosolized biological simulants and aerosolized live biological agents for bio standoff detection and discrimination, including identifying the impact of interferents and varying environmental conditions on this relationship.</p>	3.410	3.891	1.558	
<p>Test and Evaluation, Information System Technology: Develop test and evaluation technologies and processes in support of Information System Technology activities.</p> <p>FY08 - Conducted requirements collection and review for systems performance models. Continued development on decontamination efficacy prediction model. Continued development on collective protection systems performance model. Continued development on individual protection equipment performance model.</p>	2.644	3.825	5.605	

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B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
<p>FY09 - Continue development on decontamination efficacy prediction model. Transition first module of decontamination model. Integrate state-of-the-art transport and dispersion models and visualization software into collective protection systems performance model. Integrate relevant analytical tools into individual protective equipment performance model. Initiate verification and validation processes on emerging test and evaluation models. Begin development of contamination avoidance systems performance model.</p> <p>FY10 - Develop and transition second module of decontamination model. Continue development and integration relevant to construction of systems performance models for collective protection, contamination avoidance, and individual protection. Build requirements for systems performance model integration and program-wide exploitation. Conduct requirements analysis for inclusion of data from test and evaluation community into CBRN Data Backbone.</p>				
<p>Test and Evaluation, Protection (FY08-09), Protection and Hazard Mitigation (FY10): Develop test and evaluation technologies and processes in support of Protect and Hazard Mitigation activities.</p> <p>FY08 - Continued development of collective protection shelter systems test and evaluation standards, Toxic Industrial Chemicals (TIC), and battlefield contaminant standards for Individual Protection Equipment (IPE) and Collective Protection (COLPRO). Continued standard procedures for IPE Assessment. Continued 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.</p> <p>FY09 - Complete development of collective protection shelter systems test and evaluation standards, Toxic Industrial Chemicals (TIC), and battlefield contaminant standards for Individual Protection Equipment (IPE) and Collective Protection (COLPRO). Complete standard procedures for IPE Assessment. 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.</p> <p>FY10 - Initiate methodology/source data effort to simulate IP durability test in lab and relate to field durability.</p>	8.529	9.992	0.200	
	1.575	1.410	0.000	

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B. Accomplishments/Planned Program (\$ in Millions)							FY 2008	FY 2009	FY 2010	FY 2011
<p>Test and Evaluation, Decontamination (FY08-09): Develop test and evaluation technologies and processes in support of Decontamination activities.</p> <p>FY08 - Completed 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. Completed test protocols for decontamination hazard byproduct and residual test standards and write and published test operations procedures.</p> <p>FY09 - Initiate and complete test and evaluation methodologies and protocols for assessing reactivity of alternative reactive material technologies and processes. Initiate and complete processes for relevant environment and relevant equipment testing for live agents and calculations for small item contact test that incorporates toxicological considerations.</p>										
C. Other Program Funding Summary (\$ in Millions)										
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
TE4/TEST & EVALUATION (ACD&P)	13.776	6.335	28.894						Continuing	Continuing
TE5/TEST & EVALUATION (SDD)	48.238	42.020	41.466						Continuing	Continuing
TE7/TEST & EVALUATION (OP SYS DEV)	6.887	7.119	4.891						Continuing	Continuing
D. Acquisition Strategy										
N/A										
E. Performance Metrics										
N/A										

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COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TR3: MEDICAL RADIOLOGICAL DEFENSE (ATD)	2.152	4.863	2.413						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TR3) funds advanced technology development of medical countermeasures against radiological exposure. Specifically, innovative technical approaches will be used to develop, refine, and transition promising products to advanced development efforts to mitigate health consequences resulting from Acute Radiation Exposure (ARS) and Delayed Effects of Acute Radiation Exposure (DEARE). Promising products and pertinent science and technology data will be used to support Investigational New Drug (IND) applications and Food and Drug Administration (FDA) licensure processes, with an emphasis on the development of pretreatments to protect first responders in the event of a radiological incident. Research efforts and data are collaboratively shared with other government agencies so that more mature and promising product candidates will be quickly transitioned to advanced development efforts.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
<p>Radiation Medical Countermeasures: Develop medical countermeasures to protect the warfighter against radiological/nuclear exposure. The Department of Defense is the only governmental agency currently developing medical prophylaxis to protect warfighters and/or first responders in the event of a radiological incident.</p> <p>FY08 - Evaluated multiple promising drug candidates to assess animal survival rate when exposed to lethal radiation. Initiated efficacy and safety analysis in non-human primates (NHP) and the assessment of drug mechanism of action and initial determination of formulation. Initiated evaluation of products and therapeutic regimens that mitigate and/or treat radiological injury, with emphasis on broad spectrum activity, ease of administration, and safety. Initiated evaluation of additional promising radioprotectant prophylaxis and post-irradiation therapeutic agents that prevent/mitigate lethal effects of radiological exposure.</p> <p>FY09 - Continue to evaluate at least two promising drug candidates to assess animal survival rate when exposed to lethal radiation. Evaluate efficacy of three to four therapeutic candidates and regimens that mitigate and/or treat post-radiation exposure, with emphasis on broad spectrum activity, ease of administration, and safety in NHPs. Continue to evaluate the preclinical efficacy and safety studies in NHPs, an assessment</p>	2.152	4.809	2.413	

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B. Accomplishments/Planned Program (\$ in Millions)							FY 2008	FY 2009	FY 2010	FY 2011
of drug mechanism of action, and the determination of drug formulation according to the FDA animal rule. Evaluate promising radioprotectants and post-irradiation therapeutic agents. FY10 - Evaluate mature and promising agents for respiratory and gastrointestinal damage and repair. Demonstrate efficacy and safety in non-human primates (NHPs). Begin down-selection and prepare transition of one mature radioprotectant to the advanced developer, using pertinent science and technology data to support an Investigational New Drug (IND) application for eventual FDA license.										
SBIR - FY09 - Small Business Innovative Research.							0.000	0.054	0.000	
C. Other Program Funding Summary (\$ in Millions)										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
MR4/MEDICAL RADIOLOGICAL DEFENSE	6.579	8.129	0.000						Continuing	Continuing
MR5/MEDICAL RADIOLOGICAL DEFENSE	0.000	2.936	8.311						Continuing	Continuing
D. Acquisition Strategy N/A										
E. Performance Metrics N/A										

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification								DATE: April 2009		
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)				R-1 ITEM NOMENCLATURE PE 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)					PROJECT NUMBER TT3	
COST (\$ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
TT3: TECHBASE TECHNOLOGY TRANSITION	9.239	8.214	7.388						Continuing	Continuing

A. Mission Description and Budget Item Justification

This project (TT3) supports technology transition, technology experimentation and demonstration efforts, and technology readiness assessments in support of unique chemical and biological Advanced Technology Demonstrations (ATD's) and Joint Concept Technology Demonstrations (JCTD's). Within this project are two primary capability areas: 1) Experiment and Technology Demonstrations; and, 2) Technology Readiness Assessment. The Experiment and Technology Demonstrations capability area focuses on integration, testing, and assessing candidate ATD's and JCTD's and includes three thrust areas (two of which are new sub-thrust areas that consolidate legacy systems and are annotated as such below): Advanced Remediation Technologies (ART), Early Warning Military Application in Reconnaissance Systems (EW-MARS), and Comprehensive Innovative Protection (CIP). The ART addresses Chemical, Biological, and Radiological (CBR) remediation and decontamination processes and demonstrates technologies and methods to restore assets such as mobile equipment, fixed sites, critical infrastructures, personal, and equipment to operational status as a result of having reduced or eliminated CBR contamination. The EW-MARS (new thrust area) achieves enhanced command and control decision making capabilities as a result of a combined and orchestrated family of chemical and biological defense systems deployed on various platforms in remote locations. The CIP (new thrust area) transitions mature technologies to improve individual and collective protection capabilities. The Technology Readiness Assessment capability area focuses on completing manufacturing readiness assessments, technology readiness evaluations, and assessing maturity levels before transitioning ATD's and JCTD's to advanced development efforts located in Budget Activity 4 (Project TT4).

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2008	FY 2009	FY 2010	FY 2011
FY08 - Completed Manufacturing Readiness Assessment (MRA) process. Conducted Technology Readiness Evaluation in support of the ART IBRD ATD.	2.050	2.666	2.430	
FY09 - Conduct Technology Readiness Evaluations in support of remediation and restoration technology demonstrations to identify technologies in support of the ART IBRD ATD and EW MARS-JFP ATD.				
FY10 - Continue Technology Readiness Evaluations in support of the EW MARS-JFP ATD. For the EW RASR ATD, assess the capability to rapidly survey large areas (whole rooms, courtyards, fields) and assess and identify contamination with Chemical Warfare Agents (CWAs), Toxic Industrial Chemicals (TICS) or Non-Traditional Agents (NTAs). Build and integrate key technology components integrated to demonstrate system				

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification			DATE: April 2009	
APPROPRIATION/BUDGET ACTIVITY 0400 - Research, Development, Test & Evaluation, Defense-Wide/BA 3 - Advanced Technology Development (ATD)	R-1 ITEM NOMENCLATURE PE 0603384BP CHEMICAL/BIOLOGICAL DEFENSE (ATD)		PROJECT NUMBER TT3	
B. Accomplishments/Planned Program (\$ in Millions)	FY 2008	FY 2009	FY 2010	FY 2011
level Force Protection capabilities in a Forward Operating Base scenario. Investigate the efficacy of rapid biological threat detection coupled with automatic, rapid delivery of supplies, therapeutics, and physiological monitoring equipment via unmanned systems for the CIP JMDSE ATD.				
<p>Advanced Remediation Technologies (ART):</p> <p>FY08 - Performed candidate technology maturation research/testing in preparation for the HaMMER ATD. Performed candidate technology maturation testing in preparation for Automated Detailed Equipment Decontamination for Land Vehicles (Auto Decon) efforts. Continued technology evaluations and gap analysis for Interagency Biological Remediation Demonstration (IBRD).</p> <p>FY09 - Complete biological decontamination technology and decision support system evaluations for IBRD. Complete biological technology demonstrations for IBRD. Complete testing of candidate technologies for Auto Decon. Continue testing of candidate technologies for the HaMMER ATD. IBRD and Auto Decon Efforts continue in and transition to Budget Activity 4 (See Project TT4).</p> <p>FY10 - Continue testing of candidate technologies for HaMMER ATD.</p> <p>Early Warning Military Applications in Reconnaissance Systems (EW-MARS):</p> <p>FY08 - Initiated an evaluation of early warning technologies to improve capability to detect and react to initial chemical or biological (CB) attack and prevent a second attack.</p> <p>FY09 - Analyze the capability of current- and near-term early warning technologies that may either be capable of or are required to sense CB attacks in preparation for the Early Warning/Military Applications in Reconnaissance/Surveillance ATDs (ie. MARS-JPF).</p> <p>FY10 - Conduct technology testing for EW/MARS Rapid Area Sensitive Site Reconnaissance (RASR) ATD. RASR will assess the capability to rapidly survey large areas (whole rooms, courtyards, fields) and assess and identify contamination with Chemical Warfare Agents (CWAs), Toxic Industrial Chemicals (TICS) or Non-</p>	7.189	5.455	4.958	

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Exhibit R-2a, PB 2010 Chemical and Biological Defense Program RDT&E Project Justification							DATE: April 2009			
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B. Accomplishments/Planned Program (\$ in Millions)							FY 2008	FY 2009	FY 2010	FY 2011
Traditional Agents (NTAs). Conduct a technical assessment to determine if a designated WMD payload was or was not onboard a missile delivery system for the EW/MARS Post Intercept WMD Identification (PIWID) ATD.										
SBIR - FY09 - Small Business Innovative Research.							0.000	0.093	0.000	
C. Other Program Funding Summary (\$ in Millions)										
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
TT4/TECHBASE TECHNOLOGY TRANSITION (ACD&P)	13.218	17.267	26.761						Continuing	Continuing
D. Acquisition Strategy										
N/A										
E. Performance Metrics										
N/A										

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

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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)
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
Total Program Element (PE) Cost	65865	62721	205952		
CA4 CONTAMINATION AVOIDANCE (ACD&P)	3621	7792	39554		
CM4 HOMELAND DEFENSE (ACD&P)	0	800	0		
DE4 DECONTAMINATION SYSTEMS (ACD&P)	4151	8643	0		
MB4 MEDICAL BIOLOGICAL DEFENSE (ACD&P)	4742	5600	101265		
MC4 MEDICAL CHEMICAL DEFENSE (ACD&P)	19778	8155	9478		
MR4 MEDICAL RADIOLOGICAL DEFENSE	6579	8129	0		
TE4 TEST & EVALUATION (ACD&P)	13776	6335	28894		
TT4 TECHBASE TECHNOLOGY TRANSITION (ACD&P)	13218	17267	26761		

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE May 2009
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)	
<p>A. <u>Mission Description and Budget Item Justification:</u> 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. This project funds development of a Transformational Rapid Drug Discovery and Development Capability (TRDDDC). Transformational Medical Technology Initiatives (TMTI) efforts in this area will include the continual build out of both a genomic sequencing and a bio-chemical informatics capability for the DoD. 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.</p> <p>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.</p>		
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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE May 2009
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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)
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B. <u>Program Change Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	
Previous President's Budget (FY 2009 PB)	63951	51291	171533	
Current Biennial Budget (FY 2010 PB)	65865	62721	205952	
Total Adjustments	1914	11430	34419	
a. Congressional Program Reductions	0	-170	0	
b. Congressional Increases	0	11600	0	
c. Reprogrammings	2704	0	0	
d. SBIR/STTR Transfer	-790	0	0	
e. Other Adjustments	0	0	34419	

Change Summary Explanation:

Funding: FY09 - Congressional increases to enhance projects within the development base (+\$1,200K CA4; +\$800K CM3; +\$2,400K CP4; +\$1,600K DE4; +\$5,600K MB4). Congressional general reductions and other adjustments (-\$21K CA4; -\$15K DE4; -\$26K MC4; -\$27K MR4; -\$21K TE4; -\$60K TT4).

FY10 - Program realignments, inflation adjustment, and other adjustments. (+\$14,108K CA4; -\$20,246K MB4; +2,478K MC4; -\$2,478K MR4; +\$6,497K TE4; +\$7,660K TT4) NTA adjustments (+\$2,600K CA4; +\$7,000K MC4; +\$16,800K TE4).

Schedule: N/A

Technical: N/A

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 CA4
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	FY 2008	FY 2009	FY 2010		
COST (In Thousands)	Actual	Estimate	Estimate		
CA4 CONTAMINATION AVOIDANCE (ACD&P)	3621	7792	39554		

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 Standoff Detector System (JBSDS), (2) Joint Biological Tactical Detection System (JBTDSD), (3) Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD), (4) Major Defense Acquisition Program (MDAP) Support, and (5) Next Generation Chemical Standoff Detection (NGCSD).

The JBSDS Increment 2 will use a development cycle that builds on the capabilities demonstrated during the development of JBSDS Increment 1. The JBSDS Increment 2 system will focus on decreasing size, weight and power requirements, improving the false alarm rate and detection sensitivity. JBSDS Increment 2 will focus on the development of a system that can be used at fixed site installations. JBSDS Increment 3 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 the U.S. forces at the tactical and operational levels of war.

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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 CA4
<p>The Joint Biological Tactical Detection System (JBTDs) program will be a lightweight biological agent system that will detect, warn, provide presumptive identification and samples for follow-on confirmatory analysis. JBTDs will provide a local alarm and when networked provide cooperative capability with reduced probability of false alarms. The JBTDs will be one man portable and capable of being battery operated. The JBTDs will be employed organically at the wing, battalion, squadron and lower levels by non-CBRN personnel in tactical environments across multiple operational locations (e.g. forward operating bases, operationally engaged units, amphibious landing sites, air base operations, etc) to provide near real time detection of biological attacks and notification to personnel in the potential hazard area. JBTDs will ultimately support force protection and maximize combat effectiveness by providing situational awareness and surveillance and enhancing medical response decision making. When networked, JBTDs will augment existing biological detection systems to provide a theater-wide seamless array capable of biological detection and warning.</p> <p>The JSLSCAD effort initiated the component improvements and the Technology Readiness Assessment (TRA) for the System of Systems (SoS) approach to address the CB early warning mission within the Next Generation Chemical Standoff Detection (NGCSD) program. The NGCSD SoS approach will increase the range of standoff detection and decrease detection time.</p> <p>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.</p> <p>The NGCSD is a new start effort which will provide early warning for both traditional and non-traditional chemical agent attacks at fixed sites, forward operating bases and on Service designated vehicles and ships. This effort will develop and integrate new standoff sensor technologies for future standoff systems. The detector will interoperate with the Services and Joint Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) architectures.</p>		
Project CA4/Line No: 077	Page 6 of 113 Pages	Exhibit R-2a (PE 0603884BP)

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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 CA4
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B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)	0	1187	17982
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JBSDS INC 2 - FY09 - Initiate Testing & Support Equipment Development.	0	1187	0
JBSDS INC 2 - FY10 - Initiate and continue Agent Performance Assessment.	0	0	1253
JBSDS INC 2 - FY10 - Continue Modeling & Simulation.	0	0	1250
JBSDS INC 2 - FY10 - Provide strategic, tactical planning, government system engineering, program/financial management, costing, contracting, scheduling, acquisition oversight and technical support.	0	0	6979
JBSDS INC 2 - FY10 - Initiate and continue Engineering & Manufacturing Development & Demonstration.	0	0	8500
Total	0	1187	17982

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 CA4
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)	3621	4909	10743
RDT&E Articles (Quantity)	0	0	28

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JBTDS - FY08/09/10 - Initiated and continue to provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	872	2286	2869
JBTDS - FY08/09 - Continue Pre-Milestone B technology development, analysis and risk reduction demonstrations.	692	1905	0
JBTDS - FY08/09/10 - Continue to conduct data fusion network demonstration and algorithm development verification/validation.	253	154	200
JBTDS - FY08/09/10 - Initiated and continue technology development testing and analysis; to include competitive prototypes and reagentless trial.	1804	564	3474
JBTDS - FY10 - Initiate competitive prototyping contract of potential candidates (28 systems @ \$53K each (Average cost for 3 components)).	0	0	1500

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
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 (Cont):		FY 2008	FY 2009	FY 2010
JBTDS - FY10 - Initiate assay development with Critical Reagents Program (CRP).		0	0	2500
JBTDS - FY10 - Conduct Manufacturing Readiness Assessment and Technology Readiness Assessment for finding maturity of potential candidates.		0	0	200
Total		3621	4909	10743
		<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JS LIGHTWEIGHT STANDOFF CHEM AGENT DET (JSLSCAD)		0	1607	0
RDT&E Articles (Quantity)		0	0	0
Accomplishments/Planned Program		FY 2008	FY 2009	FY 2010
JSLSCAD - FY09 - Provide Joint Service Support for Future Standoff Detection.		0	200	0
JSLSCAD - FY09 - Conduct strategic/tactical planning, systems engineering, and technology assessment for Future Standoff Detection.		0	945	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 CA4
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
JSLSCAD - FY09 - Conduct Technology Readiness Assessment (TRA) for Future Standoff Detection.	0	462	0
Total	0	1607	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
MDAP SUPPORT	0	0	1541
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
MDAP SPT - FY10 - Initiate System of Systems (SoS) integration of current shelter/decontamination capabilities to meet Joint Strike Fighter (JSF) survivability requirements.	0	0	764
MDAP SPT - FY10 - Assist Collective Protection Advanced Component Technology Demonstration (ATD) of improved air purification for the Abrams Main Battle Tank using current Catalytic Oxidation (CatOx) air purification processes.	0	0	777
Total	0	0	1541

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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 CA4
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
NEXT GENERATION CHEMICAL STANDOFF DETECTION (NGCSD)	0	0	9288
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
NGCSD - FY10 - Initiate sensor prototype development.	0	0	6988
NGCSD - FY10 - Conduct technology demonstration/technology readiness assessment.	0	0	2000
NGCSD - FY10 - Provide engineering support.	0	0	300
Total	0	0	9288

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	89	0
RDT&E Articles (Quantity)	0	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 CA4
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	89	0
Total	0	89	0

C. <u>Other Program Funding Summary:</u>					
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
CA5 CONTAMINATION AVOIDANCE (SDD)	45754	51924	98120		
JC0100 JOINT BIO POINT DETECTION SYSTEM (JBPDS)	77604	75545	45106		
JC0101 JS CHEM/BIO/RAD AGENT WATER MONITOR (JCBRAWM)	3416	6000	3194		
JC0250 JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)	3200	4000	0		
JC1500 NBC RECON VEHICLE (NBCRV)	7764	0	0		
JF0100 JOINT CHEMICAL AGENT DETECTOR (JCAD)	44838	53306	27780		
MC0100 JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)	22960	32699	54171		

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D. Acquisition Strategy:

JBSDS INCREMENT 1

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 1 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.

INCREMENT 2

The JBSDS Increment 2 program will pursue an evolutionary approach to provide capability to the warfighter in the shortest possible timeframe. The JBSDS Increment 2 program was separated into two efforts based on feedback from combat developers regarding Concept of Operations (CONOPS), future requirements needs and current technology readiness. JBSDS Increment 2 addresses the need for a 24 hour operational fixed site system. Increment 3 will address the need for a mobile system.

The JBSDS Increment 2 program has investigated, monitored and developed promising technology areas for biological standoff since 2004. The technology development phase has involved several partners within JSTO, ECBC, academia, national laboratories and several members of private industry. Technologies have been demonstrated in varying environments with numerous biological and interferent sources. The development work to date has focused on hardware maturation, algorithm development and agent signature measurements. Technology Demonstration V (Tech Demo V) for the Increment 2 JBSDS is scheduled for 3QFY09. Technology areas will be demonstrated at Tech Demo V and assessed based on preliminary CDD KPPs, KSAs and other requirements. A Technology Readiness Assessment (TRA) will also be completed for each technology area in the categories of hardware and system. Results from Tech Demo V, supporting signature efforts and modeling and simulation will be used to ensure a higher confidence for a majority of technologies that will be discussed in proposals submitted for the JBSDS Increment 2 EMD contract.

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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)	
JBTDs	<p>A competitively awarded contract is planned for the JBSDS Increment 2 EMD phase to develop and/or integrate prototypes for DT and complete an Operational Assessment (OA) prior to MS C. The justification for the type contract (Fixed Price or Cost Plus) will be completed prior to this decision in accordance with the latest Defense Acquisition and the Office of Management and Budget (OMB) guidelines. The appropriate system requirements reviews, test readiness reviews, software reviews and audits will be scheduled as needed within the EMD phase.</p> <p>Upon approval at MS C, the JBSDS System Manager will initiate acquisition of production representative systems to conduct a Multi-Service Operational Test and Evaluation (MOT&E).</p> <p>Each future increment defined via a separate CDD and 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. It is intended to continue to use M&S tools in order to lower the program risks and reduce costs and ensure a higher confidence in selected technologies.</p> <p>The Joint Biological Tactical Detection (JBTDs) program will pursue an evolutionary incremental approach to provide capability to the warfighter. The JBTDs program will develop, integrate, test, procure and field systems that improve biological aerosol detection and sampling capabilities. The JBTDs program will also reduce size, weight, power consumption, and logistic footprint over current systems. Test Readiness Evaluations (TRE) will support the JBTDs EMD phase by identifying mature technologies. Modeling and simulation tools will be used in order to lower program risks, reduce costs and ensure a higher confidence in selected technologies.</p>	
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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 CA4
JSLSCAD	<p>The acquisition strategy for the JSLSCAD production phase focused upon a dual path to procure required systems and concurrently develop and test system improvements to increase the military utility. The Milestone Decision Authority (MDA) approved procurement of additional JSLSCAD LRIP systems in February 2008. The Government awarded a Fixed Price Incentive contract to GD-ATP in July 2008 for production of systems to fulfill the NBCRV Extended LRIP requirements and additional delivery orders will be exercised for full rate production of systems to fulfill the remaining NBCRV requirements. The JSLSCAD program office awarded multiple contracts to support system engineering, software development, test & evaluation, and system support efforts to increase standoff detection capabilities to rapidly respond to evolving system integration requirements with minimal contractual lead time. All these efforts are being integrated into the Next Generation Chemical Standoff Detection (NGCSD) program.</p>	
MDAP SPRT	<p>Major Defense Acquisition Program (MDAP) Support program will integrate System of Systems (SoS) solutions across the Armed Service's for Major Defense Acquisition Programs (MDAP) having Chemical and Biological Radiological and Nuclear (CBRN) survivability requirements. The MDAP program will achieve these SoS solutions by: (1) leading CBRN architecture development and System Engineering efforts that result in SoS concepts that address requirements; (2) establishing agreements with the MDAPs on roles and responsibilities with respect to funding deliverables and integration; (3) demonstrating modular, net-centric, "plug-n-play" capabilities for mounted and dismounted CBRN reconnaissance requirements; (4) developing master schedules which synchronize support for CBRN capability integration with MDAPs' schedules; and (5) providing integrated program management across the CBRN commodity areas to deliver capabilities on time that support MDAP goals.</p>	
NGCSD	<p>The NGCSD program, which was initiated under the JSLSCAD program, will award Indefinite Delivery/Indefinite Quantity contract(s) to support system engineering, software development, test and 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.</p>	
Project CA4/Line No: 077	Page 15 of 113 Pages	Exhibit R-2a (PE 0603884BP)

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 CA4
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JBSDS													
HW SB - System Development & Demonstration Contract Award	C/CPFF	TBD	C	0	0	NONE	8000	2Q FY10					
JBTDS													
HW S - Competitive Prototype Contract	C/FFP	TBD	C	0	0	NONE	1500	2Q FY10					
MDAP SPRT													
HW S - Revolutionary Decontamination System	C/CPAF	TBD	C	0	0	NONE	764	2Q FY10					
HW S - Advanced CBRN Air Filtration System	C/CPAF	TBD	C	0	0	NONE	777	2Q FY10					
NGCSD													
HW SB - Initiate Sensor Prototype Development	C/CPFF	TBD	C	0	0	NONE	6988	3Q FY10					
Subtotal I. Product Development:					0		18029						

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

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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 CA4
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II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JBSDS													
ES S - INC 2 - Modeling & Simulation Test Support	C/FFP	Bricks, Sigal & Miller Inc., Kennett Square, PA	C	0	0	NONE	250	2Q FY10					
ES S - INC 2 - Modeling & Simulation Test Support	C/CPFF	NAVSEA, Johns Hopkins-Applied Physics Lab, Baltimore, MD	C	0	0	NONE	500	2Q FY10					
ES S - INC 2 - Modeling & Simulation Test Support	MIPR	Sandia National Lab, Albuquerque, NM	F	0	0	NONE	500	2Q FY10					
ES S - INC 2 - Modeling, Simulation & Data Analysis	MIPR	Various	U	0	0	NONE	1661	1Q FY10					
JBTDS													
ES S - C4I Integration	MIPR	JPM IS, San Diego, CA	U	145	154	2Q FY09	200	2Q FY10					
ES S - MS B Analysis and Document Development	MIPR	Various, TBD	U	214	1905	2Q FY09	0	NONE					
ES C - Assay Development	MIPR	CRP, Ft. Detrick, MD	U	0	0	NONE	2500	2Q FY10					
ES C - MRA	MIPR	TBD	U	0	0	NONE	150	3Q FY10					
ES C - TRA	MIPR	ECBC. APG, MD	U	0	0	NONE	50	3Q FY10					
Subtotal II. Support Costs:					2059		5811						

Remarks:

Project CA4/Line No: 077

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 CA4

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JBSDS													
DTE S - INC 2 - ITT	C/CPFF	ITT, Inc, Albuquerque, NM	C	0	1187	2Q FY09	0	NONE					
OTHT SB - INC 2 - Networking Algorithm Development	MIPR	MA Institute of Technology - Lincoln Labs, Boston, MA	F	0	0	NONE	500	2Q FY10					
OTHT SB - INC 2 - Agent Performance Analysis Support	MIPR	DPG, Dugway, UT	U	0	0	NONE	600	2Q FY10					
OTHT SB - INC 2 - Test Support Equipment	MIPR	Various	U	0	0	NONE	1750	2Q FY10					
JBTDs													
OTHT SB - Developmental Test Planning and IPT support	MIPR	ATEC, AFOTEC, MCOTEa, OPTEVFOR, Various	U	1572	564	2Q FY09	500	2Q FY10					
OTHT SB - Competitive Prototype Testing	MIPR	DPG, UT	U	0	0	NONE	2000	2Q FY10					
OTHT SB - Reagentless Trial	MIPR	TBD	U	0	0	NONE	974	2Q FY10					
JSLSCAD													
OTHT S - Technology Readiness Assessment	MIPR	Various	U	0	462	3Q FY09	0	NONE					

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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 CA4
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JBSDS													
PM/MS S - JPM BD	MIPR	JPM BD, APG, MD	U	0	0	NONE	1800	2Q FY10					
PM/MS S - PM/MS Other Government Agencies	MIPR	Various	U	0	0	NONE	921	2Q FY10					
PM/MS S - JPEO Management Support	Allot	JPEO, Falls Church, VA	U	0	0	NONE	1500	2Q FY10					
JBTDs													
PM/MS S - JPM BD, APG, MD	MIPR	JPM BD, APG, MD	U	930	2286	1Q FY09	2869	1Q FY10					
JSLSCAD													
PM/MS S - Management and Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	0	600	3Q FY09	0	NONE					
PM/MS C - Management and Systems Engineering Support	MIPR	JPM IS, San Diego, CA	U	0	145	3Q FY09	0	NONE					
PM/MS C - Management and Systems Engineering Support	MIPR	JPM BD, APG, MD	U	0	100	3Q FY09	0	NONE					
PM/MS C - Management and Systems Engineering Support	MIPR	JPM GN, Stafford, VA	U	0	100	3Q FY09	0	NONE					
PM/MS S - Joint Service Support	MIPR	Various	U	0	200	3Q FY09	0	NONE					
NGCSD													
PM/MS S - Program Management and Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	0	0	NONE	300	1Q FY10					

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 CA4
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IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	89	NONE	0	NONE					
Subtotal IV. Management Services:					3520		7390						

Remarks:

TOTAL PROJECT COST:					7792		39554						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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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 CA4
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
JBSDS												
Increment 2 - Requirements Trade-Off	1Q											
Increment 2 - Science & Technology	>>	—————							4Q			
Increment 2 - Pre-Milestone B	1Q	—————								2Q		
Increment 2 - Milestone B									2Q			
JBTDS												
Material Development Decision								4Q				
Capability Development Document									2Q			
Request for Proposal											3Q	
PDR											3Q	
MS B Decision												4Q
MDAP SPRT												
Catox Tech Demonstration for Abrams Main Battle Tank									1Q	————— >>		

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Exhibit R-4a, Schedule Profile	DATE May 2009
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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 CA4
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
MDAP SPRT (Cont)												
Advance Component Prototype Development of JSF Decontamination								4Q	————— >>			
NGCSD												
Material Development Decision (MDD)											3Q	
Prototype Development and Demo									1Q	—————		4Q
Technology Readiness Assessment									1Q	—————		4Q

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 CM4
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
CM4 HOMELAND DEFENSE (ACD&P)	0	800	0		

A. Mission Description and Budget Item Justification:

Project CM4 HOMELAND DEFENSE (ACD&P): This project funds component level testing of Commercial off-the-shelf (COTS) chemical and biological detection equipment in support of Weapons of Mass Destruction Civil Support Team (WMD-CST) operations. Complimentary development efforts continue into CM5 for the Analytical Laboratory System (ALS) Increment 1 and Unified Command Suite (UCS) Increment 1 upgrades. In addition, this project funds the development of COTS Training Devices in support of the WMD-CST mission.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
WMD - CIVIL SUPPORT TEAMS (WMD CST)	0	791	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
Congressional Add - FY09 - Large Scale Single-Use Biological Reactor for Rapid Response to Bioterrorism.	0	791	0
Total	0	791	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 CM4
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	9	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	9	0
Total	0	9	0

C. <u>Other Program Funding Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
CM5 HOMELAND DEFENSE (SDD)	0	2475	8674		
JS0004 WMD - CIVIL SUPPORT TEAMS (WMD CST)	9729	8300	11801		
JS0500 CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)	83200	80004	53789		

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RD&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)	PROJECT CM4
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D. Acquisition Strategy:

WMD CST This program utilizes multiple acquisition vehicles to deliver a CBRN capability to the WMD response units. CALS: The CALS program will upgrade the analytical capability with the objective of improving chemical and biological detection sensitivity and selectivity of the WMD CST Analytical Laboratory System Increment 1 and the 20th SUPCOM heavy and light tactical lab variants. Additionally the CALS will integrate the communications and reachback capability for mobile CBRN homeland defense capability as required by the JROC. Government off-the-shelf (GOTS) Detection, Protection, and Decontamination Equipment: Procure Chemical and Biological Defense equipment as outlined in Defense Reform Directive #25 (see GOTS items listed below under Program Unit Cost). COTS Evaluation: Evaluate existing and new COTS equipment for incorporation into the NGB CST Table of Distribution and Allowances (TDA) and USAR Letter of Authorization (LOA).

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 CM4
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
WMD CST													
HW C - Bche Formulation Program	PO	PharmAthene, Annapolis, MD	C	0	791	3Q FY09	0	NONE					
Subtotal I. Product Development:					791		0						

Remarks: MMSP - Additional Military Mail Screening Program funds executed under FY05, TT Bio, CA4.

II. Support Costs: Not applicable

III. Test and Evaluation: Not applicable

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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 CM4
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date						
ZSBIR														
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	9	NONE	0	NONE						
Subtotal IV. Management Services:					9		0							

Remarks:

TOTAL PROJECT COST:					800		0							
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Exhibit R-4a, Schedule Profile

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May 2009

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 CM4

Schedule Profile:

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 DE4
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
DE4 DECONTAMINATION SYSTEMS (ACD&P)	4151	8643	0		

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) and Joint Platform Interior Decontamination/Joint Material Decontamination System (JPID/JMDS) programs.

The HRDS, Increment 1, will utilize mature technologies to provide the capability for safe intra-theater handling and storage of Contaminated Human Remains (CHR) associated with a Chemical Warfare Agent (CWA) event. HRDS will be a Family-of-Systems (FoS) designed to leverage differing technology and requirements readiness across the three systems: (1) a Contaminated Human Remains Pouch (CHRP) to support the initial recovery of CHR from Point of Fatality to a Mortuary Affairs Decontamination Collection Point (MADCP), (2) a Contaminated Remains Transfer Case System (CHRTS) capability to store or transport CHR post MADCP operations, and (3) a Remains Decontamination System (RDS) to support the capability to store or transport CHR post MADCP operations.

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

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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 DE4
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B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
HUMAN REMAINS DECON SYSTEM (HRDS)	1223	2666	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
HRDS - FY08 - Conducted engineering, testing, contracting, and logistical planning to support the development of the acquisition strategy and requirements development for the CHRP. Conducted market research for CHRT.	1223	0	0
HRDS - FY09 - CHRT: Developed Pre-Milestone B documentation for statutory and regulatory requirements. Develop RFP, Test and Evaluation Plan (TEMP). Perform technology readiness assessment (TRA), logistics assessment and cost validation. Conduct Request for Information (RFI) and market survey.	0	2666	0
Total	1223	2666	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT MATERIAL DECON SYSTEM (JMDS)	1581	2373	0
RDT&E Articles (Quantity)	0	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 DE4
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
Congressional Interest Item - FY08 - Protective Self-Contaminating Surfaces.	1581	0	0
Congressional Interest Item - FY09 - Catalytic Oxidation Integrated (CATOX) Demonstration. Demonstration program to develop, test, and integrate a CATOX system into a U.S.Army vehicle.	0	2373	0
Total	1581	2373	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT PORTABLE DECON SYSTEM (JPDS)	556	1924	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JPDS - FY08 - Conducted market survey, analysis of alternatives, and technical support. FY09 - Continue efforts initiated in FY08.	556	1924	0
Total	556	1924	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT PLATFORM INTERIOR DECON (JPID)	0	1582	0
RDT&E Articles (Quantity)	0	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 DE4
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
Congressional Interest Item - FY09 - Environmentally Friendly Aircraft Decontamination System. Develop a VHP/Hot Air Prototype Decon System to support the decontamination of Tactical and Cargo Aircraft.	0	1582	0
Total	0	1582	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT SERVICE PERSONNEL/SKIN DECON SYSTEM (JSPDS)	791	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
Congressional Interest Item - FY08 - Next Generation/Improved Skin Decontamination System. Modified the NanoScale Reactive Nano Particle 212 formulation to enhance the efficacy and reactivity performance against chemical warfare agents.	791	0	0
Total	791	0	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	98	0
RDT&E Articles (Quantity)	0	0	0

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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	98	0
Total	0	98	0

C. <u>Other Program Funding Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
DE5 DECONTAMINATION SYSTEMS (SDD)	9408	13130	33704		
JD0055 JOINT SERVICE PERSONNEL/SKIN DECON SYSTEM (JSPDS)	18487	8280	0		
JD0056 JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)	18275	17224	22008		

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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D. Acquisition Strategy:

HRDS The HRDS, Increment 1, will utilize mature technologies to provide the capability for safe intra-theater handling and storage of Contaminated Human Remains (CHR) associated with a Chemical Warfare Agent (CWA) event. HRDS will be a Family-of-Systems (FoS) designed to leverage differing technology and requirements readiness across the three systems: (1) a Contaminated Human Remains Pouch (CHRP) to support the initial recovery of CHR from Point of Fatality to a Mortuary Affairs Decontamination Collection Point (MADCP); (2) a Contaminated Remains Transfer Case System (CHRTS) capability to store or transport CHR post MADCP operations; and (3) a Remains Decontamination System (RDS) to support the capability to store or transport CHR post MADCP operations.

JPDS DE4 JPDS will utilize an evolutionary acquisition strategy using an incremental development methodology. Increment 1 will focus largely upon fielding Hardware systems, improving the capability of the M13 Decontamination Apparatus.

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 JSSED 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 awarded 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. The JMDS program will integrate the competitive prototype effort into the JMDS Milestone C/LRIP Decision.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009
BUDGET ACTIVITY RD&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)	PROJECT DE4
<p>JSPDS The Joint Service Personnel/Skin Decontamination System (JSPDS) is a Food and Drug Administration (FDA) cleared individually carried skin decontamination kit. The JSPDS provides the warfighter the ability to decontaminate the skin, after exposure to Chemical/Biological (CB) warfare agents, in support of immediate and thorough personnel decontamination operations. Reactive Skin Decontamination Lotion (RSDL) provides the warfighter with improved capability over the existing M291 Skin Decontamination Kit (SDK) to reduce lethal and performance degrading effects of Chemical Warfare agents. Additionally, it can be used to decontaminate individual equipment, weapons, and casualties on unbroken skin.</p>		
Project DE4/Line No: 077	Page 37 of 113 Pages	Exhibit R-2a (PE 0603884BP)

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)
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PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)	PROJECT DE4
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date						
JMDS														
Congressional Interest Item - Catalytic Oxidation	SS/FP	Honeywell Aerospace, Phoenix, AZ	C	0	2373	2Q FY09	0	NONE						
JPDS														
HW C - Prototype Development	C/FP	TBD	C	0	1924	3Q FY09	0	NONE						
JPID														
SW SB - Prototype Development	SS/FFP	Steris Corp, Mentor, Ohio	C	0	1300	2Q FY09	0	NONE						
Subtotal I. Product Development:					5597		0							

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 DE4
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II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
HRDS													
ES S - Research Studies	MIPR	KCP, Kansas City, MO	U	23	50	3Q FY09	0	NONE					
TD/D S - Technical Support	MIPR	CASCOM, Fort Lee, VT	C	84	10	2Q FY09	0	NONE					
TD/D S - Technical Support	MIPR	Various	U	35	185	3Q FY09	0	NONE					
ES S - Acquisition Activities	MIPR	Various	U	0	485	2Q FY09	0	NONE					
Subtotal II. Support Costs:					730		0						

Remarks:

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
HRDS													
DTE S - Temp Development	MIPR	Various	U	0	275	2Q FY09	0	NONE					
JPID													
DTE S - Efficacy Test	MIPR	ECBC, MD	U	0	200	2Q FY09	0	NONE					
Subtotal III. Test and Evaluation:					475		0						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 DE4	

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
HRDS													
PM/MS SB - HRDS Program Management Support	C/FFP	Various	C	1081	1661	2Q FY09	0	NONE					
JPID													
PM/MS S - Program Management and Technical Support	C/FFP	Various	C	0	82	2Q FY09	0	NONE					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	98	NONE	0	NONE					
Subtotal IV. Management Services:					1841		0						

Remarks:

TOTAL PROJECT COST:					8643		0						
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Exhibit R-3 (PE 0603884BP)

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Exhibit R-4a, Schedule Profile	DATE May 2009
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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) DE4	PROJECT DE4
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
HRDS												
CHRT Market Survey					1Q							
CHRT MS B								4Q				
CHRT Development Testing									1Q	—————		4Q
JMDS												
Catalytic Oxidation Integrated Demonstration						2Q	—————					2Q
JPID												
Cong Interest Item-Environmentally Friendly Aircraft Decon System						2Q	—————					2Q
JSPDS												
Cong Interest Item Improved Skin Decon System						2Q	—————	4Q				

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 MB4
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
MB4 MEDICAL BIOLOGICAL DEFENSE (ACD&P)	4742	5600	101265		

A. Mission Description and Budget Item Justification:

Project MB4 MEDICAL BIOLOGICAL DEFENSE (ACD&P): This project (MB4) contains technology development (post Milestone A) efforts to include Filovirus Vaccine development and the Transformation Medical Technologies Initiative (TMTI). The Transformational Medical Technologies Initiative (TMTI) was launched in FY 2006 as a key Quadrennial Defense Review initiative to respond to the threat of emerging or intentionally bioengineered biological threats. TMTI's mission is to protect the Warfighter from genetically engineered biological threats by providing a rapid response capability from identification of pathogens to the delivery of medical countermeasures. This mission is accomplished by developing broad spectrum (multi-agent) therapeutics against biological warfare (BW) agents (e.g, one drug that treats multiple agents). The development of broad spectrum therapeutics involves developing a capability to treat exposure to hemorrhagic fever viruses (HFV's) (e.g. Ebola virus) and intracellular bacterial pathogens (ICB's) (e.g. Tularemia). Efforts are further classified as host-directed therapeutics (e.g, drugs that target common pathways within a human to prevent or treat a variety of diseases) or pathogen-directed therapeutics (e.g., drugs that attack a common pathway found in multiple threat agents). Attrition is high throughout the drug development process. Less than 10% of all preclinical compounds become a licensed drug. Causes for attrition include scientific failures, Food and Drug Administration (FDA) rejection at major milestone reviews, and loss through down-selection at DoD Milestone Decision points. Simply put, the development of medical countermeasures is an arduous process that requires extensive interaction with the FDA, from pre-clinical research to safety tests in human subjects (Phase I clinical studies), efficacy tests in humans/animals (Phase II clinical studies or pivotal animal efficacy studies), and expanded safety or efficacy studies (Phase III clinical studies), which culminate with a request to the FDA to license, market, and produce a drug. This interaction between the Department of Defense (DoD) and the FDA results in a coordinated, unified, and safe effort.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 MB4
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B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
CONGRESSIONAL INTEREST ITEMS	3161	3164	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
Congressional Interest Item - FY08 - Vacuum Sampling Pathogen Collection and Concentration. Developed the M-Vac, a field pathogen collection system. The M-Vac along with the Bacteria Reduction System (BRS) will greatly enhance the ability of soldiers, homeland defense officials, and law enforcement to find, extract and elute potentially deadly pathogens from surfaces.	3161	0	0
Congressional Interest Item - FY09 - Vacuum Sampling Pathogen Collection and Concentration. Continue development of the M-Vac System, a field pathogen collection system, along with the Bacteria Reduction System (BRS) to enhance the current capability to find, extract and elute potentially deadly pathogens from unique surfaces. A tube sampler will be developed, which will enable customers and inspectors to reach and sample inaccessible surfaces and areas. An effort will begin to miniaturize the sampling platform in order to meet DoD requirements.	0	3164	0
Total	3161	3164	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
CRITICAL REAGENTS PROGRAM (CRP)	0	1582	0
RDT&E Articles (Quantity)	0	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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) MB4
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
Congressional Add - FY09 - Biological Threat Antibody Research.	0	1582	0
Total	0	1582	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
NEXT GENERATION DIAGNOSTICS SYSTEM (NGDS)	1581	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
Congressional Interest Item - Dry Powder Inhaler Analyzer.	1581	0	0
Total	1581	0	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
TRANSFORMATIONAL MED TECH INITIATIVE (TMTI)	0	0	90111
RDT&E Articles (Quantity)	0	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 MB4
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
<p>Multigent Broad Spectrum Medical Countermeasures - Upon Milestone A approval, this effort will advance experimental broad-spectrum drug candidates with an accepted Investigational New Drug (IND) from the Food and Drug Administration (FDA) through the Technology Development phase. This includes the initiation and completion of Phase I clinical studies, where a new drug is introduced into humans, and early evidence is gathered on drug safety. Approve performers who have had their IND applications accepted by the FDA, and initiate Phase I clinical trials and other studies necessary to support a Milestone B decision and progress toward a New Drug Application (NDA) with the FDA. Phase I trials are the first stage of drug testing in human subjects in a relatively small (between 20-100) group of healthy human volunteers. Trials are designed to assess the safety pharmacokinetics (characteristic interactions of a drug and the body in terms of its absorption, distribution, metabolism and excretion) and pharmacodynamics (the action or effects of drugs on living organisms) of a drug. Phase I trials often include dose-ranging or dose escalation studies so that the appropriate dose for therapeutic use can be found. The tested range of doses will usually be a fraction of the dose that causes harm in animal testing.</p> <p>FY10 - Following review and approval of new drug candidates, initiate work on Phase I clinical trials for up to three novel drugs that show promise against several Biological Warfare (BW) threat agents. Commence Phase I clinical trials for one additional candidate drug: a previously licensed (re-purposed) drug that requires a different dosing than its existing label allows. Conduct additional safety tests on the re-purposed drug.</p>	0	0	90111
Total	0	0	90111

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
TECH TRANSFER FOR BIO SENSORS	0	791	0
RDT&E Articles (Quantity)	0	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 MB4
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
Congressional Add - FY09 - IM Formulation Development of Anthrax Therapeutic.	0	791	0
Total	0	791	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
FILOVIRUS (VAC FILO)	0	0	11154
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JVAP - Filovirus Vaccine - FY10 - Conduct Milestone A and enter into Advanced Component Development and Prototypes.	0	0	100
JVAP - Filovirus Vaccine - FY10 - Initiate and continue small scale manufacturing process development.	0	0	6534
JVAP - Filovirus Vaccine - FY10 - Initiate and continue non-clinical studies.	0	0	4520
Total	0	0	11154

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 MB4
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	63	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	63	0
Total	0	63	0

C. <u>Other Program Funding Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
JM0001 JOINT BIO AGENT IDENT AND DIAG SYSTEM (JBAIDS)	4902	479	0		
JX0005 DOD BIOLOGICAL VACCINE PROCUREMENT	48298	38109	12740		
JX0210 CRITICAL REAGENTS PROGRAM (CRP)	2413	0	0		
MB5 MEDICAL BIOLOGICAL DEFENSE (SDD)	69231	89424	64478		

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009
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		
<p>D. Acquisition Strategy:</p> <p>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.</p> <p>TMTI TMTI's ultimate goal is the delivery of FDA-licensed, therapeutics to the warfighter. This goal can be reached through any one of the following three acquisition approaches: 1) through the discovery of new drugs; 2) through application of new drug indications (i.e., through a commercial -off-the-shelf (COTS) approach); or, 3) through the re-engineering of previously developed drugs (i.e., through a Modified COTS approach). This may involve FDA-approved drugs or previously developed drug compounds that do not have an FDA license. Each of these approaches will require different entry points into both the drug development process and the defense acquisition management timeline. Moreover, each of these approaches will likely experience a different set of FDA regulatory requirements. In order to execute the overall acquisition strategy, TMTI has partnered with other elements within the DoD Chemical and Biological Defense Program, DoD agencies, private industry, and other DoD laboratories for the development of TMTI products. The contract types used to execute the program will depend on the circumstances, including maturity of the science, the legalities surrounding Intellectual Property (IP) and patent rights, and even the size of the performer. TMTI desires to retain "limited use" rights for any medical product being developed. In the earliest stages of any initiative, TMTI plans to streamline the drug development process by structuring contracts to include Contract Line Item Numbers (CLIN's) for advanced development, and even in some cases - Low Rate Initial Production (LRIP). Cost Plus Award Fee contracts or Other Transactions Authority (OTA) may be used with traditional or nontraditional defense contractors for most research and development contracts, while Indefinite Delivery/Indefinite Quantity (IDIQ) contracts will most likely be utilized for production efforts. Finally, developing platform technologies, such as modeling and simulation to predict drug-to-drug interaction effects prior to actual clinical trials, and the use of genetic sequencing and a bioinformatics backbone, are examples of how TMTI managers intend to augment private industry best practices to streamline the program management, test and evaluation, and overall TMTI product development.</p>		
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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009
BUDGET ACTIVITY RD&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)	PROJECT MB4
VAC FILO	Contract will be competed at Milestone A. Developer(s) and candidate(s) will be selected based on existing test data, technical approach and business case considerations. Because of inherent risk in development of vaccines for viral hemorrhagic fevers, funding requested will support development of two vaccine candidates through Milestone B, at which time, a down-select to a single candidate will be conducted. If technologically feasible, a combined Ebola/Marburg vaccine will be developed.	
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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 MB4
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
CRP													
SW C - Congressional add TBD	C/CPFF	TBD	C	0	1582	3Q FY09	0	NONE					
TMTI													
SW SB - Therapeutic validation	C/CPAF	AVI BioPharma - Portland, Oregon	C	0	0	NONE	22012	1Q FY10					
SW SB - Therapeutic validation	C/CPAF	Functional Genetics - Gaithersburg, Maryland	C	0	0	NONE	9487	1Q FY10					
TT Bio													
HW C - TT Bio - IM Formulation Development of Anthrax Therapeutic	C/CPFF	Elusys Therapeutics, Pine Brook, NJ	C	0	791	3Q FY09	0	NONE					
VAC FILO													
Manufacturing, Validation, Pilot Lot, and Consistency Lot Production	C/CPIF	TBD	C	0	0	NONE	4884	2Q FY10					
Subtotal I. Product Development:					2373		36383						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 MB4
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II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
TMTI													
TD/D SB - Regulatory Integration, Quality Assurance, & FDA Support Efforts	C/CPAF	AVI BioPharma - Portland, Oregon	C	0	0	NONE	15769	2Q FY10					
ES C - Regulatory Integration, Quality Assurance, & FDA Support Efforts	C/CPAF	Functional Genetics - Gaithersburg, Maryland	C	0	0	NONE	6759	2Q FY10					
VAC FILO													
Regulatory Integration (Environmental and FDA Documentation) and Delivery System	C/CPIF	TBD	C	0	0	NONE	1710	2Q FY10					
Subtotal II. Support Costs:					0		24238						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 MB4
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
CONG													
Congressional Interest Item - Vacuum Sampling Pathogen Collection	Allot	Dugway Proving Ground, DPG, UT	U	0	24	2Q FY09	0	NONE					
TMTI													
TMTI Program Office, Chemical Biological Medical Systems (CBMS), JPEO	Allot	Ft. Belvoir, VA; Ft. Detrick, MD; Falls Church, VA	U	0	0	NONE	13556	1Q FY10					
VAC FILO													
PM/MS S - Program Management/Program Manager Support	Allot	CBMS, Frederick, MD	U	0	0	NONE	684	4Q FY10					
PM/MS S - Contractor Systems Engineering/Program Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	0	0	NONE	456	3Q FY10					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	63	NONE	0	NONE					
Subtotal IV. Management Services:					87		14696						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RD&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P) MB4
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TOTAL PROJECT COST:		5600		101265					
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Exhibit R-4a, Schedule Profile	DATE May 2009
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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 MB4
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010				
	1	2	3	4	1	2	3	4	1	2	3	4	
NGDS													
Congressional Interest Item - Dry Powder Inhaler Atropine	1Q	—————							2Q				
TMTI													
Milestone A Decision (Hemorrhagic Fever Virus Therapeutics)								4Q					
AVI BioPharma Marburg and Ebola Phase I trials									1Q	————— >>			
AVI BioPharma Junin Phase I trials									1Q	————— >>			
Functional Genetics 080 Phase I trials									1Q	————— >>			
Milestone A Decision (Intracellular Bacteria Therapeutics)												4Q	
VAC FILO													
VAC FILO - Milestone A										2Q			

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Exhibit R-4a, Schedule Profile	DATE May 2009
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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 MB4
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
VAC FILO (Cont)												
VAC FILO - Manufacturing Process Development - Small Scale										2Q	———	>>
VAC FILO - Non-clinical Studies										2Q	———	>>

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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) MC4	PROJECT MC4
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
MC4 MEDICAL CHEMICAL DEFENSE (ACD&P)	19778	8155	9478		

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) 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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
BIOSCAVENGER (BSCAV)	13980	4346	0
RDT&E Articles (Quantity)	0	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
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		FY 2008	FY 2009	FY 2010
BSCAV Increment 2 - FY08 - Completed small scale manufacturing, process development, assay qualification, and test/evaluate medical defense products against traditional and non-traditional agents.		2032	0	0
BSCAV Increment 2 - FY08 - Completed Pre-Clinical Safety Studies.		1201	0	0
BSCAV Increment 2 - FY08 - Completed Investigational New Drug (IND) application.		258	0	0
BSCAV Increment 2 - FY08/09 - Continued and complete Phase 1 clinical safety studies. FY09 - Achieve Milestone B.		7035	1448	0
BSCAV Increment 2 - FY08/09 - Initiated and continue large scale manufacturing, process development, and assay validation. Transition to SDD phase.		2196	2598	0
BSCAV Increment 2 - FY08/09 - Initiated and complete NTA studies at US Army Medical Research Institute of Chemical Defense (USAMRICD).		1258	300	0
Total		13980	4346	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 MC4
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
DRY POWDER INHALER ATROPINE (DPIA)	0	0	2000
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
DPIA -	0	0	2000
FY10 - Initiate and complete formulation, analytical methods and device optimization.			
Total	0	0	2000

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
IMPROVED NERVE AGENT TREATMENT SYSTEM (INATS)	5798	3715	7478
RDT&E Articles (Quantity)	0	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
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		FY 2008	FY 2009	FY 2010
INATS - FY08 - Completed GLP (Good Laboratory Practices) - Pre-Clinical Safety Studies.		1000	0	0
INATS - FY08/09 - Continued and complete IND application effort. Conduct Milestone B.		275	300	0
INATS - FY 08/09/10 - Continue and complete process development and current Good Manufacturing Practice (cGMP) requirements, and stability in autoinjector.		1612	2070	2478
INATS - FY 08/09 - Continued and complete Phase I clinical safety studies.		1300	1345	0
INATS - FY08 - Provided strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.		1611	0	0
INATS - FY10 - Initiate and complete efficacy, safety, and toxicology studies of other candidate oximes.		0	0	2500
INATS - FY10 - Initiate and complete large scale synthesis, scale-up manufacturing, and stabilization in an operationally stable formulation of other candidate oximes.		0	0	2500
Total		5798	3715	7478

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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) MC4	PROJECT MC4
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	94	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	94	0
Total	0	94	0

C. <u>Other Program Funding Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
MC5 MEDICAL CHEMICAL DEFENSE (SDD)	14149	22068	14086		

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P) MC4	
<p>D. Acquisition Strategy:</p> <p>BSCAV The Bioscavenger acquisition strategy consists of a developmental program with three distinct increments.</p> <p>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.</p> <p>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.</p> <p>Unlike Bioscavenger Increment 1 and 2 technology, where the bioscavenger is ineffective after binding with nerve agents, Increment 3 will include products that continuously degrade nerve agents while retaining their effectiveness (catalytic Bioscavenger).</p>		
Project MC4/Line No: 077	Page 64 of 113 Pages	Exhibit R-2a (PE 0603884BP)

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009
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	
DPIA	<p>Medical Identification and Treatment Systems (MITS) Joint Product Management Office will manage the development of Field Aerosolized Atropine Increment 2 (Dry Powder Inhaler Atropine (DPIA)) for the DoD. For this post-Milestone B effort, the competitively selected contractor will serve as the systems integrator throughout development and shall be responsible for conducting the activities associated with drug development in a manner consistent with eventual approval by the Food and Drug Administration (FDA), including: human clinical safety studies; pharmacokinetic studies; and validated manufacturing. The contractor shall sponsor the drug to the FDA and hold all approvals and/or licenses.</p>	
INATS	<p>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.</p>	
Project MC4/Line No: 077	Page 65 of 113 Pages	Exhibit R-2a (PE 0603884BP)

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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) MC4
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II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
BSCAV													
BSCAV Inc 2 - Regulatory Integration, IND, and NDA Support Efforts	C/CPIF	PharmAthene, Inc., Annapolis, MD	C	5278	662	2Q FY09	0	NONE					
INATS													
INATS - Regulatory Integration, IND, and NDA Support Efforts	MIPR	Defense Technical Information Center, Edgewood, MD	U	1584	566	2Q FY09	372	2Q FY10					
Subtotal II. Support Costs:					1228		372						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 MC4
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
BSCAV													
BSCAV Inc 2 - Conduct Pre-Clinical and Phase 1 Clinical Safety Studies	C/CPIF	PharmAthene, Inc., Annapolis, MD	C	13898	1323	2Q FY09	0	NONE					
DPIA													
DPIA - Formulation, Analytical Methods & Device Optimization	C/CPIF	TBD	C	0	0	NONE	2000	2Q FY10					
INATS													
INATS - Conduct Pre-Clinical, Non-Clinical and Phase 1 Clinical Safety Studies	MIPR	Defense Technical Information Center, Edgewood, MD	U	4189	1076	2Q FY09	0	NONE					
INATS - Conduct Studies of Candidate Oximes	C/CPIF	TBD	C	0	0	NONE	2500	1Q FY10					
Subtotal III. Test and Evaluation:					2399		4500						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 MC4
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
BSCAV													
BSCAV - Product Management Support	MIPR	USAMMDA, Fort Detrick, MD	U	373	134	2Q FY09	0	NONE					
BSCAV - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	2796	315	2Q FY09	0	NONE					
BSCAV - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	3359	33	3Q FY09	0	NONE					
BSCAV - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	180	3Q FY09	0	NONE					
INATS													
INATS - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	1021	164	2Q FY09	168	2Q FY10					
INATS - Product Management Support	MIPR	USAMMDA, Fort Detrick, MD	U	250	145	2Q FY09	148	2Q FY10					
INATS - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	502	28	2Q FY09	0	NONE					
INATS - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	928	228	4Q FY09	0	NONE					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	94	NONE	0	NONE					

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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) MC4	PROJECT MC4
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IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
Subtotal IV. Management Services:					1321		316						

Remarks:

TOTAL PROJECT COST:					8155		9478						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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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 MC4
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
BSCAV												
BSCAV Inc. 2 - Small Scale Manufacturing	>>	————— 4Q										
BSCAV Inc. 2 - Pre-Clinical Safety Studies	>>	————— 3Q										
BSCAV Inc. 2 - IND Application	>>	————— 4Q										
BSCAV Inc. 2 - Phase 1 Clinical Safety Studies	>>	————— 4Q										
BSCAV Inc. 2 - Large Scale Manufacturing, Process Development & Assay Validation	1Q	—————										>>
BSCAV Inc. 2 - Milestone B								4Q				
DPIA												
DPIA - Formulation, Analytical Methodology & Device Optimization										2Q	————— 4Q	
INATS												

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Exhibit R-4a, Schedule Profile	DATE May 2009
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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 MC4
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010				
	1	2	3	4	1	2	3	4	1	2	3	4	
INATS (Cont)													
INATS - Process Development and cGMP Manufacturing Requirements	>>	—————							2Q				
INATS - Phase 1 Clinical Safety Studies	>>	—————							3Q				
INATS - GLP Pre-Clinical Safety Studies		2Q	—————		4Q								
INATS - IND Application		2Q	—————		1Q								
INATS - Milestone B						2Q	3Q						
INATS - Efficacy, Safety & Toxicology Studies of Candidate Oximes									1Q	—————			4Q
INATS - Large Scale Synthesis, Scale-Up Manufacturing & Stabilization of Candidate Oximes									1Q	—————			4Q

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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) MR4	PROJECT MR4
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	FY 2008	FY 2009	FY 2010		
COST (In Thousands)	Actual	Estimate	Estimate		
MR4 MEDICAL RADIOLOGICAL DEFENSE	6579	8129	0		

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.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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) MR4	PROJECT MR4
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Conducted an evaluation and determined requirements for incorporating a Biodosimetry Assessment Tool (BAT) system created by the Armed Forces Radiobiology Research Institute (AFRRI) onto the Medical Communication for Combat Casualty Care (MC4) suite of applications for the theater medical community. The BAT is a tool to deliver diagnostic information (clinical signs and symptoms, physical dosimetry, etc.) to federal health care providers responsible for the management of radiation casualties. It is designed primarily for early use after a radiation incident and permits collection, integration, and archiving of data obtained from patients accidentally exposed to ionizing radiation. This enables the generation of diagnostic indices for comparison with referenced radiation dose responses and this, in turn, facilitates the development of a multiparameter dose assessment. Additional clinical parameters useful for casualty management also are assessed. The resulting display of patient diagnostic information provides treating health care providers with concise and relevant information on which to base clinical decisions. This information is archived for further use in radiation protection management.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
MEDICAL RADIOLOGICAL COUNTERMEASURES (MRADC)	6579	8034	0
RDT&E Articles (Quantity)	0	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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) MR4	PROJECT MR4
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
MRADC - FY08/09 - Continue and complete process development and current Good Manufacturing Practices (cGMP) manufacturing requirements.	1526	2700	0
MRADC - FY08/09 - Continue and complete pre-clinical safety and toxicology studies for two candidates.	3317	634	0
MRADC - FY08/09 - Continue and complete Investigational New Drug (IND) application efforts for two candidates.	278	300	0
MRADC - FY08/09 - Initiate and complete non-clinical efficacy studies for two candidates. FY09 - Achieve Milestone B and transition a candidate to System Development and Demonstration (SDD) phase.	1458	4400	0
Total	6579	8034	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	95	0
RDT&E Articles (Quantity)	0	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 MR4
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	95	0
Total	0	95	0

C. <u>Other Program Funding Summary:</u>					
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
MR5 MEDICAL RADIOLOGICAL DEFENSE	0	2936	8311		

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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 MR4
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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. DHHS will be responsible for developing a MRADC that will treat hematological syndrome of acute radiation syndrome (ARS) and the DoD will be responsible for the development of a MRADC for the treatment of the gastrointestinal syndrome of ARS.

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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) MR4
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
MRADC													
MRADC - Process Development & cGMP Manufacturing	C/CPIF	Osiris Therapeutics, Inc., Columbia, MD	C	2890	3262	2Q FY09	0	NONE					
Subtotal I. Product Development:					3262		0						

Remarks:

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
MRADC													
MRADC - Regulatory Integration and IND Support Efforts	C/CPIF	Osiris Therapeutics, Inc., Columbia, MD	C	1186	1102	2Q FY09	0	NONE					
Subtotal II. Support Costs:					1102		0						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)										DATE May 2009			
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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 MR4			
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
MRADC													
MRADC - Pre-clinical, Toxicology & Phase 1 Clinical Safety Studies	C/CPIF	Osiris Therapeutics, Inc., Columbia, MD	C	2968	1223	2Q FY09	0	NONE					
MRADC - Pre-clinical, Toxicology Studies	C/CPIF	Cleveland BioLabs Inc, Buffalo, NY	C	4181	1223	3Q FY09	0	NONE					
Subtotal III. Test and Evaluation:					2446		0						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 MR4
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
MRADC													
MRADC - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	480	500	2Q FY09	0	NONE					
MRADC - Chem Bio Medical Systems	Allot	CBMS, Fort Detrick, MD	U	768	245	2Q FY09	0	NONE					
MRADC - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	334	3Q FY09	0	NONE					
MRADC - Product Management Services	MIPR	USAMMDA, FT Detrick, MD	U	0	145	2Q FY09	0	NONE					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	95	NONE	0	NONE					
Subtotal IV. Management Services:					1319		0						

Remarks:

TOTAL PROJECT COST:					8129		0						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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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) MR4
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
MRADC												
MRADC - Process development and cGMP		2Q	—————					4Q				
MRADC - Pre-Clinical Safety and Toxicology Studies for 2 candidates	>>	—————					4Q					
MRADC - IND Application for 2 candidates	>>	—————					4Q					
MRADC - Non-Clinical efficacy Studies for 2 candidates		2Q	—————					4Q				
MRADC - Milestone B							3Q	4Q				
MRADC - BioDosimetry				4Q								

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
TE4 TEST & EVALUATION (ACD&P)	13776	6335	28894		

A. Mission Description and Budget Item Justification:

Project TE4 TEST & EVALUATION (ACD&P): This funding supports the Joint Project Manager Nuclear, Biological, Chemical 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 upgrade of a chemical standoff test fixture. The NTA Facility provides a new capability at the Edgewood Chemical Biological Center (ECBC) to conduct highly toxic materials testing using new, emerging threat agents. 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 a chemical standoff detection test fixture located at Dugway Proving Ground (DPG). Major CBDP acquisition programs supported are: the Joint Chemical Agent Detector (JCAD); 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 Transportable Decontamination System (JSTDS); Joint Warning and Reporting Network (JWARN) hardware components; the Joint Protective Aircrew Ensemble (JPACE); the Joint Service Aircrew Mask (JSAM); the Joint Service Chemical Environment Survivability Mask (JSCESM); and the Joint Chemical Ensemble (JCE).

<h2 style="margin: 0;">CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)</h2>		DATE <p align="center">May 2009</p>
BUDGET ACTIVITY <p>RDT&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)</p>	PE NUMBER AND TITLE <p>0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P)</p> <p align="right">PROJECT TE4</p>	
<p>(2) Sense Laboratory (Biological): Products for this area include a Whole System Live Agent Test (WSLAT) "Strung Out" Chamber; WSLAT "Full System" Chamber; and upgrade of a bio-level 3 facility located at Dugway Proving Ground (DPG). The WSLAT "Strung Out" Chamber supports Joint Biological Point Detection component testing in biological live agent environments. The WSLAT "Full System" Chamber supports testing of all biological detection systems in production configuration in biological live agent environments. The Baker Laboratory Upgrade will provide a bio-level 3 fabricated infrastructure to host the WSLAT "Full System" Chamber. The upgrade will include bio-level 3 support laboratories and analytical instrumentation. 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) Block II.</p> <p>(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: the Joint Chemical Agent Detector (JCAD); 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); the Joint Effects Model (JEM); the Joint Operational Effects Federation (JOEF); and the Joint Expeditionary Collective Protection (JECP) System.</p>		
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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009
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
<p>(4) Individual Protection, Collective Protection and Decontamination (Shield and Sustain): Products for this area include: a Small Item Decontamination Chamber; Individual Protection Ensemble (IPE) 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 Small Item Decontamination Chamber provides an enhanced ability to conduct decontamination and residual agent off-gassing testing. The IPE 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. The Individual Protection Equipment (IPE) Grid provides test procedures to establish commonality measurements for system level 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 Aircrew Ensemble (JPACE); Joint Service General Purpose Mask (JSGPM); Joint Service Aircrew Mask (JSAM); Joint Service Chemical Environment Survivability Mask (JSCESM); and the Joint Chemical Ensemble (JCE).</p> <p>(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.</p>		
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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
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B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
TEST EQUIPMENT, STRATEGY & SUPPORT (PD TESS)	13776	6261	28894
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
PD TESS - Non-Traditional Agent (NTA) Test System - FY08 - Completed NTA test system initial design. Completed mock-up design and fabricated a full-scale simulant test fixture and instrumentation. FY09 - Evaluate/optimize mock-up performance. Initiate test fixtures design and procedures development. FY10 - Complete NTA test system engineering and initiate fabrication and purchase of test fixtures.	4271	5030	23839
PD TESS - DPG Chemistry Laboratory Upgrade - FY08 - Completed upgrade of chemical stand-off detection test systems.	421	0	0
PD TESS - Dynamic Test Chamber (DTC) - FY08 - Verified near real-time, low level agent detection referee instrumentation performance.	520	0	0
PD TESS - Test Grid Instrument Network & Design - FY08 - Conducted Test Grid/Range Test Validation System verification testing.	420	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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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
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
PD TESS - Individual Protection Equipment (IPE) XYZ Grid - FY08 - Completed and validated IPE handbooks.	61	0	0
PD TESS - IPE Mannequin - FY08 - Initiated and completed IPE Mannequin System and Chamber design.	7968	0	0
PD TESS - FY08 - Provided systems engineering support to integrate and execute Advanced Component Development & Prototype development efforts. FY09/10 - Continue systems engineering support.	115	1231	5055
Total	13776	6261	28894

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	74	0
RDT&E Articles (Quantity)	0	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
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	74	0
Total	0	74	0

C. Other Program Funding Summary:

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
TE5 TEST & EVALUATION (SDD)	48238	42020	41466		
TE7 TEST & EVALUATION (OP SYS DEV)	6887	7119	4891		

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, 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.

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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
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
PD TESS													
HW S - NTA Test System Mock-up Design	C/FFP	ARINC Engineering, Annapolis, MD	C	542	300	2Q FY09	1000	2Q FY10					
HW S - NTA Test System Mock Up Procedures/Fixtures	MIPR	ECBC, Aberdeen Proving Ground, MD	U	3729	4230	2Q FY09	6239	2Q FY10					
HW S - NTA Test System Design/Fabrication/Installation	C/FFP	TBD	C	3997	500	3Q FY09	16600	2Q FY10					
Subtotal I. Product Development:					5030		23839						

Remarks:

II. Support Costs: Not applicable

III. Test and Evaluation: Not applicable

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
PD TESS													
PM/MS S - Program Management/Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	3348	1231	2Q FY09	5055	1Q FY10					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	74	NONE	0	NONE					
Subtotal IV. Management Services:					1305		5055						

Remarks:

TOTAL PROJECT COST:					6335		28894						
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Exhibit R-3 (PE 0603884BP)

Exhibit R-4a, Schedule Profile	DATE May 2009
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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
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
PD TESS												
XYZ IPE Grid Handbook/Validation	>>	————— 4Q										
DPG Chem Lab Upgrades	>>	————— 4Q										
Dynamic Test Chamber Design/Fabrication/Installation/Validation	>>	—————			————— 4Q							

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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 TT4
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	FY 2008	FY 2009	FY 2010		
COST (In Thousands)	Actual	Estimate	Estimate		
TT4 TECHBASE TECHNOLOGY TRANSITION (ACD&P)	13218	17267	26761		

A. Mission Description and Budget Item Justification:

Project TT4 TECHBASE TECHNOLOGY TRANSITION (ACD&P): This project (TT4) validates high-risk/high-payoff technologies, concepts-of-operations, and reconnaissance and surveillance platforms that could significantly improve warfighter capabilities in preparation for transition of mature technologies to advanced development programs requiring chemical and biological (CB) defense technologies. These programs offer an opportunity to identify and efficiently mature emerging technologies from laboratory experiments to acquisition programs through risk reduction, engineering and integration. These Advanced Technology Demonstrations (ATDs) and Advanced Concept Technology Demonstrations (ACTDs) seek to demonstrate the potential for enhanced military operational capability and/or cost effectiveness. Upon conclusion of the technical and operational demonstrations, the user or sponsor provides a determination of the military utility and operational impact of the technology and capability 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. This project funds three major thrust areas (two of which are new thrust areas that consolidate legacy systems and are annotated as such below): Advanced Remediation Technologies (ART), Early Warning Military Application in Reconnaissance Systems (EW-MARS), and Comprehensive Innovative Protection (CIP). The ART addresses Chemical, Biological, and Radiological (CBR) remediation and decontamination processes and demonstrates technologies and methods to restore assets such as mobile equipment, fixed sites, critical infrastructures, personal, and equipment to operational status as a result of having reduced or eliminated CBR contamination. The EW-MARS (new thrust area) achieves enhanced command and control decision making capabilities as a result of a combined and orchestrated family of chemical and biological defense systems deployed on various platforms in remote locations. The CIP (new thrust area) transitions mature technologies to improve individual and collective protection capabilities for U.S. and coalition warfighters. The following is a description of specific efforts funded under each thrust area:

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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 TT4
<p>ART:</p> <p>Interagency Biological Restoration Demonstration (IBRD) - A Department of Defense (DoD) / Department of Homeland Security (DHS) collaborative effort that will provide a coordinated, systems approach to the recovery and restoration of wide urban areas. This will include Department of Defense (DoD) infrastructures and high traffic areas (transit/transportation facilities) following the aerosol release of a biological agent.</p> <p>Special Platform Interior Decontamination and Equipment Restoration (SPIDER) - A concept exploration effort that focused on decontaminating the interior of an aircraft following the release of a chemical agent. This effort merged into the Decontamination Family of Systems, also known as HaMMER (see below for description).</p> <p>Automated Detailed Equipment Decontamination for Land Vehicles (Auto Decon) - A chemical and biological decontamination process for land vehicles, which will prototype an improved decontamination process and will evaluate the current Detailed Equipment Decontamination (DED), which is the most thorough of Joint Service decontamination procedures. This effort will merge into the Decontamination Family of Systems, also known as HaMMER (see below for description).</p> <p>Hazard Mitigation Material and Equipment Restoration (HaMMER) - A layered strategy to identify individual technologies that may be collectively applied to reduce or eliminate chemical and biological hazards. It includes a Decontamination Family of Systems that gives the warfighter multiple capabilities to reduce or eliminate chemical hazards. This effort leverages upon and consolidates Auto Decon and SPIDER efforts described above.</p> <p>EW-MARS:</p> <p>CBRN Unmanned Ground Reconnaissance Vehicle (CUGR) - (Concluded in FY08) - A CBRN contamination detection and identification ACTD.</p> <p>Expeditionary Biological Detection (EBD) - (Concluded in FY08) - A man-portable, point-detector for aerosolized biological weapons ATD. The results of this effort will be utilized by the JMDSE (see below for description).</p>		
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<p>Military Applications in Reconnaissance Systems for Joint Force Protection (MARS-JFP) - A data fusion ATD that leverages early warning technologies developed in Budget Activity 3 (Project TT3) to improve the capability to detect and react to an initial chemical and biological attack, as well as prevent a second attack. Specifically, this effort focuses on force protection decision making for external, cross domain sensors for cueing/tipping, and managing resources of dynamically deployable high quality chemical and biological sensors.</p> <p>Rapid Area Surveillance Reconnaissance (RASR) - A sensitive-site exploration, standoff reconnaissance, ATD that leverages early warning technologies developed in Budget Activity 3 (Project TT3) to survey large areas (whole rooms, courtyards, fields) and assess and identify contamination with Chemical Warfare Agents (CWAs), Toxic Industrial Chemicals (TICS) and Non-Traditional Agents (NTAs).</p> <p>Post Intercept Weapons of Mass Destruction Identification (PIWID) - An ATD that leverages early warning technologies developed in Budget Activity 3 (Project TT3), which addresses both operational and technical issues associated with the capability to determine the presence of Weapons of Mass Destruction (WMD) in the threat payload of ballistic or cruise missile delivery systems after a successful active defense intercept.</p> <p>CIP: Demo-Low Burden Individual Protection Demonstration (IP Demo) - An ATD that leverages lightweight chemical and biological protective textiles developed in Budget Activity 3 (Project CB3, Protection and Hazard Mitigation), and will support the next generation Joint Chemical Ensemble. This effort will provide significantly decreased thermal burden correlated with acceptable levels of chemical and biological protection, as well as significantly increase the ability of the warfighter to accomplish a mission in a contaminated environment.</p> <p>Joint Medical Distance Support and Evaluation (JMDSE) - A Joint Concept Technology Demonstration (JCTD) that leverages the results of the EBD (see above for description) and seeks new detect-to-treat concept of operations (CONOPS) enabled by the deployment of new chemical and biological detection and identification capabilities to front line forces.</p>		
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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 TT4
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B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
TECH TRANSITION - JCTD AND DEMOS (TT DEMO)	13218	17065	26761
RDT&E Articles (Quantity)	4	0	2

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
<p>ART (Interagency Biological Restoration Demonstration (IBRD)):</p> <p>FY08 - Continued the Interagency Biological Restoration Demonstration (IBRD), a DoD-DHS collaborative effort. Developed restoration plans and established risk assessment and clearance goals. Developed sampling, characterization, and long term monitoring plans. Developed and exercised wide-area decontamination methods. Developed and demonstrated restoration system tools and conducted table top exercises, field exercises, and workshops.</p> <p>FY09 - Continue development of restoration plans. Continue risk assessment and clearance goals development. Conduct decontamination technologies efficacy testing relevant to an outdoor urban environment. Conduct agent fate and transport studies and demonstrations. Continue development and demonstration of system tools. Conduct table top exercises, field exercises, and workshops.</p>	261	5827	2761

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Bullet Text (cont)		FY 2008	FY 2009	FY 2010
FY10 - Complete IBRD development of restoration plans; complete established risk assessment and clearance goals. Develop sampling, characterization, and 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. Plan, coordinate, and execute the IBRD Final Demo/Table Top Exercise (TTX) in the Seattle urban area. Transition decontamination methods, restoration tools, agent fate and transport data to the advanced developer (Joint Program Manager for Guardian and Decontamination - see Budget Activities 4 and 5).		261	5827	2761
ART (Automated Detailed Equipment Decontamination for Land Vehicles (Auto Decon)): FY09 - Conduct Test and Evaluation (T&E) of current detailed equipment decontamination processes and prototype automated decontamination solutions. FY10 - Complete Test and Evaluation (T&E) of current detailed equipment decontamination processes and prototype automated decontamination solutions. Recommend optimized process for automated decontamination. Transition detailed decontamination system to the advanced developer (Joint Program Manager for Decontamination - see Budget Activities 4 and 5).		0	3000	3000
ART (Hazard Mitigation Material and Equipment Restoration (HaMMER)): FY09 - Initiate identification of system and component technologies, establish test protocols, and establish performance metrics. FY10 - Conduct component decontamination processes in which collective applications can be employed to eliminate or reduce chemical and biological decontamination.		0	500	7900
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
EW-MARS (Chemical Biological Radiological Nuclear (CBRN) Unmanned Ground Reconnaissance (CUGR) ACTD): FY08 - Completed concepts of operations (CONOPS) and Tactics, Techniques, and Procedures (TTP's) development, operational test planning, and execution. Completed CUGR residual support and extended user evaluation. Completed hardware and software modifications to meet transition plan requirements. Improved camera mount and range finder hardening to increase reliability and software maturation to reduce false positive rate. Transitioned system, data sets and kits to the advanced developer (Joint Program Manager for Nuclear Biological Chemical Contamination Avoidance, Guardian, and Consequence Management.)	9147	0	0
EW-MARS Thrust Area (Expeditionary Biological Detection (EBD)): FY08 - Completed CONOPS, TTPs development and operational test planning. Completed testing of biological detection technologies to evaluate capability to provide required functionality. Completed systems engineering, prototyping, technical testing and integration activities. Complete military utility assessment (MUA). Transitioned biological detection, trigger, and analysis capabilities to Joint Tactical Biological Detection System (JTBDS - see Budget Activity 5, Project CA5)).	3810	0	0
EW-MARS (Military Applications in Reconnaissance Systems for Joint Force Protection (MARS-JFP)): FY09 - Initiate operational concept generation. Validate the operational concepts through TTXs and operator in the loop command and control mockups. Develop risk management concepts and begin cross domain security architecture. Finalize ATD acquisition strategy. FY10 - Continue operational concept generation. Begin software development, operational and mockup development, and develop test plans and procedures. Execute initial lab based tech demo.	0	2000	3000

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Accomplishments/Planned Program (Cont):		FY 2008	FY 2009	FY 2010
<p>EW-MARS (Rapid Area Surveillance/Reconnaissance (RASR)):</p> <p>FY09 - Initiate operational concept planning and exercises. Conduct pathfinder demonstrations to baseline current state of the art and determine critical path.</p> <p>FY10 - Continue operational concept planning and exercises. Conduct pathfinder demonstrations to baseline current state of the art and determine critical path. Initiate competitive prototype industry awards and conduct technology readiness assessments. Initiate operational mockup, lesson plans and final development planning.</p>		0	3000	4000
<p>EW-MARS Thrust Area (Post Intercept Weapons of Mass Destruction Identification (PIWID)):</p> <p>FY09 - Initiate Joint Land Attack Cruise Missile Elevated Netted Sensor (JLENS) study. Leverage a missile intercept event for information gathering and baseline study. Conduct table top exercise to evaluate current TTPs.</p> <p>FY10 - Conduct post-intercept WMD simulant payload data collection while leveraging missile intercept event. Demonstrate sidecar re-processing of non-chemical and biological sensors to extract useful cue/tipping information.</p>		0	2000	2000
<p>CIP (Low Burden Individual Protection Demonstration (IP Demo)):</p> <p>FY10 - Perform and complete system level technical performance measure evaluations. Initiate and complete a system level user demonstration. Conduct and complete component level testing. Transition low burden individual protection overgarment to the advanced developer (Joint Program Manager for Individual Protection and the Program Manager for Soldier Equipment).</p>		0	0	3100
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
CIP (Joint Medical Distance Support and Evaluation (JMSDE)): FY09 - Initiate internal planning, program management, and documentation. Conduct overlay scenarios and initiate JMDSE to Joint Biological Tactical Decision System (JBTDs) interface evaluation. FY10 - Complete JMDSE to Joint Biological Tactical Decision System (JBTDs) interface evaluation. Conduct field demonstrations and military utility assessments. Develop CONOPS, training, test and security plans. Initiate software development.	0	738	1000
Total	13218	17065	26761

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	202	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	202	0
Total	0	202	0

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C. <u>Other Program Funding Summary:</u>					
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
TE3 TEST & EVALUATION (ATD)	23824	26579	13363		
TT3 TECHBASE TECHNOLOGY TRANSITION	9239	8214	7388		

D. Acquisition Strategy:

TT DEMO The Advanced Technology Demonstrations (ATD's) and Advanced Concept Technology Demonstrations (ACTDs) exploit mature and maturing technologies to solve important military problems. ATD's and ACTD's emphasize technology assessment and integration rather than technology development. The goal is to provide a prototype capability to the warfighter and to support in the evaluation of that capability. The warfighters evaluate the capabilities in real military exercises and at a scale sufficient to fully assess military utility. When possible, the ATDs will leverage results from existing chemical and biological science and technology (S&T) efforts and prior ATDs. Market research/baselining is performed prior to ATD initiation to determine if a suitable solution exists or whether a solicitation/sole source is required to develop a solution. The ATDs are typically managed by DoD, Federally Funded Research Development Centers (FFRDCs) or University Affiliated Research Centers (UARCs). This is done through the Military Interdepartmental Purchase Request (MIPR) or the Interagency Cost Reimbursable Order (IACRO) in accordance with the Economy Act. The ATD manager, who is typically responsible for total system development, can subcontract industry, academia, or other government agencies to perform individual component development.

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 TT4
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
TT DEMO													
HW S - (ART) HaMMER - Initiate Tech Order Development	MIPR	Army - ECBC, Edgewood, MD	U	0	957	2Q FY09	0	NONE					
HW S - (ART) IBRD System Design and Integration	PO	Pacific Northwest National Laboratory, Seattle, WA	F	0	375	2Q FY09	791	2Q FY10					
HW S - (ART) IRBD System Design and Integration	PO	Sandia National Laboratory, Albuquerque, NM	F	0	375	2Q FY09	0	NONE					
HW C - (EW) RASR Initiate System Design and Integration	MIPR	Army - ECBC, Edgewood, MD	U	0	1847	2Q FY09	0	NONE					
HW C - (ART) Auto Decon	MIPR	Army - ECBC, Edgewood, MD	U	0	0	NONE	300	1Q FY10					
HW C -(ART) HaMMER Product Development	MIPR	Army - ECBC, Edgewood, MD	U	0	0	NONE	2950	1Q FY10					
HW S - (ART) Hammer Product Development-SME	MIPR	Army - ECBC, Edgewood, MD	U	0	0	NONE	200	1Q FY10					
HW C - (EW) MARS JFP Product Development	PO	MITRE, Bedford, MA	F	0	0	NONE	200	2Q FY10					

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 TT4
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I. Product Development - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
HW C - (EW) MARS JFP Product Development	PO	Johns Hopkins Univ/Applied Physics Lab (JHU-APL), Laurel, MD	F	0	0	NONE	200	2Q FY10					
HW C - (EW) MARS JFP Product Development	PO	MIT/Lincoln Labs, Lexington, MA	F	0	0	NONE	200	2Q FY10					
HW C - (EW) RASR Product Development	PO	MIT/Lincoln Labs, Lexington, MA	F	0	0	NONE	1700	2Q FY10					
HW C - (EW) RASR Product Development	PO	Georgia Tech Institute of Technology, Atlanta, GA	F	0	0	NONE	500	2Q FY10					
HW C - (EW) PIWID Product Development	MIPR	JLENS, Huntsville, AL	U	0	0	NONE	500	1Q FY10					
HW C - (CIP) IP Demo Product Development	MIPR	US Army Natick Soldier RD&E Center, Natick, MA	U	0	0	NONE	300	1Q FY10					
HW C - (CIP) JMDSE Product Development	MIPR	US Army Natick Soldier RD&E Center, Natick, MA	U	0	0	NONE	150	1Q FY10					
Subtotal I. Product Development:					3554		7991						

Remarks:

Project TT4/Line No: 077

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 TT4
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II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
TT DEMO													
ILS C - (ART) HaMMER CONOPS Development	MIPR	Army - RDECOM, ECBC, Edgewood, MD	U	0	1323	2Q FY09	0	NONE					
ILS C - (ART) IBRD TTP and CONOPS Development	MIPR	SPAWAR, San Diego, CA	U	286	742	1Q FY09	250	1Q FY10					
ILS C - (ART) IBRD TTP and CONOPS Development	PO	Sandia National Laboratory, Albuquerque, NM	F	298	300	2Q FY09	0	NONE					
ILS C - (ART) IBRD TTP and CONOPS Development	MIPR	National Geospatial Intelligence Agency, Bethesda, MD	U	286	300	2Q FY09	0	NONE					
ILS C - (ART) IBRD TTP and CONOPS Development	PO	Los Alamos National Laboratory, Los Alamos, NM	F	0	908	2Q FY09	0	NONE					
ILS C - (ART) Auto Decon CONOPS Development	MIPR	USA Chemical School, Ft. Leonard Wood, MO	U	0	1306	1Q FY09	0	NONE					
ILS C - (ART) Auto Decon Support	MIPR	Edgewood Chemical and Biological Center (ECBC), Edgewood, MD	U	0	0	NONE	800	1Q FY10					

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 TT4
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II. Support Costs - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
ILS S - (ART) HaMMER System Support	MIPR	Research, Development & Engineering Cmd (RDECOM), Edgewood, MD	U	0	0	NONE	1400	1Q FY10					
ILS S - (ART) Hammer OM Support	MIPR	US European Command (USEUCOM), Stuttgart, GE	U	0	0	NONE	150	1Q FY10					
ILS S - (ART) HaMMER Support	MIPR	Edgewood Chemical and Biological Center, Edgewood, MD	U	0	0	NONE	500	1Q FY10					
ILS C - (EW) MARS JFP Support	MIPR	Edgewood Chemical and Biological Center, Edgewood, MD	U	0	0	NONE	465	1Q FY10					
ILS C - (EW) RASR OM Support	MIPR	20th Support Command, Aberdeen Proving Ground, MD	U	0	0	NONE	215	1Q FY10					
ILS C - (EW) RASR OM Support	MIPR	MARFORPAC (PACOM), Camp Smith, HI	U	0	0	NONE	220	1Q FY10					
ILS C - (EW) PIWID Support-Data Analysis	MIPR	Air Force Research Laboratory, Wright Patterson AFB, OH	U	0	0	NONE	200	1Q FY10					

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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) TT4
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
TT DEMO													
OTE C - (ART) HaMMER Operational Test	MIPR	Air Force - AFOTEC, Kirtland AFB, NM	U	0	1626	1Q FY09	0	NONE					
OTE C - (ART) IBRD Operational Test	Allot	DTRA Test and Evaluation (DTRA CXT), Albuquerque, NM	U	319	1181	2Q FY09	809	1Q FY10					
OTE C - (ART) IBRD Operational Test	PO	Sandia National Laboratory, Albuquerque, NM	F	204	656	2Q FY09	0	NONE					
OTE C - (ART) IBRD Operational Test	MIPR	National Geospatial Agency, Reston, VA	U	250	788	2Q FY09	0	NONE					
OTE C - (ART) Auto Decon Operational Test	MIPR	Air Force - AFOTEC Kirtland AFB, NM	U	0	631	1Q FY09	0	NONE					
OTE S - (ART) Auto Decon System Testing	MIPR	Army- ECBC, Edgewood, MD	U	0	0	NONE	800	2Q FY10					
OTE S - (ART) HaMMER System Testing	MIPR	Army- ECBC, Edgewood, MD	U	0	0	NONE	750	1Q FY10					
OTE S - (ART) HaMMER T&E Oversight	MIPR	Army- ECBC, Edgewood, MD	U	0	0	NONE	400	1Q FY10					
OTE C - (EW) MARS JFP Support	MIPR	US Army Environmental Command (AEC), Aberdeen, MD	U	0	0	NONE	400	1Q FY10					

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 TT4
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III. Test and Evaluation - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
OTE C - (EW) MARS JFP Support	MIPR	Dugway Proving Ground (DPG), DPG, UT	U	0	0	NONE	500	1Q FY10					
OTE C - (EW) RASR Component Testing	MIPR	US Army Environmental Command (AEC), Aberdeen, MD	U	0	0	NONE	225	1Q FY10					
OTE C - (EW) RASR Component Testing	MIPR	Dugway Proving Ground (DPG), DPG, UT	U	0	0	NONE	225	1Q FY10					
OTE C - (EW) RASR Component Testing	MIPR	US Army Developmental Test Command, Aberdeen, MD	U	0	0	NONE	226	1Q FY10					
OTE C - (EW) PIWID Component Testing	MIPR	Dugway Proving Ground (DPG), DPG, UT	U	0	0	NONE	400	1Q FY10					
OTE C - (EW) PIWID Component Testing	MIPR	JLENS, Huntsville, AL	U	0	0	NONE	400	1Q FY10					
OTE C - (CIP) IP Demo T&E	MIPR	US Army Natick Soldier RD&E Center, Natick, MA	U	0	0	NONE	1745	1Q FY10					
OTE C - (CIP) JMDSE Demo and Evaluation	MIPR	US Army Natick Soldier RD&E Center, Natick, MA	U	0	0	NONE	400	1Q FY10					
Subtotal III. Test and Evaluation:					4882		7280						

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 TT4
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III. Test and Evaluation - Cont.
 Remarks:

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
TT DEMO													
PM/MS S - HaMMER Program Management	MIPR	Army - ECBC Edgewood, MD	U	0	1266	1Q FY09	0	NONE					
PM/MS S - IBRD Program Management	MIPR	Space and Naval Warfare Systems Command (SPAWAR), San Diego, CA	U	488	838	2Q FY09	1000	1Q FY10					
PM/MS S - CB Program Management	MIPR	Air Force - AFRL, Dayton, OH	U	0	747	1Q FY09	0	NONE					
PM/MS S - BRD Program Management	PO	Sandia National Laboratory, Albuquerque, NM	F	387	899	2Q FY09	0	NONE					
PM/MS S - Auto Decon Management Support	MIPR	Army - ECBC, Edgewood, MD	U	0	0	NONE	1000	1Q FY10					
PM/MS S - HaMMER System Management	MIPR	Army - ECBC, Edgewood, MD	U	0	0	NONE	750	1Q FY10					
PM/MS S - HaMMER System Program Management	MIPR	Army - ECBC, Edgewood, MD	U	0	0	NONE	950	1Q FY10					

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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 TT4
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IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
PM/MS S - MARS JFP Program Management	MIPR	Army - ECBC, Edgewood, MD	U	0	0	NONE	1000	1Q FY10					
PM/MS S - RASR Program Management	MIPR	Army - ECBC, Edgewood, MD	U	0	0	NONE	729	1Q FY10					
PM/MS S - PIWID System Program Management	MIPR	JLENS, Huntsville, AL	U	0	0	NONE	300	1Q FY10					
PM/MS C - IP Demo Program Management	MIPR	US Army Natick Soldier RD&E Center, Natick, MA	U	0	0	NONE	636	1Q FY10					
PM/MS C - JMDSE Program Management	MIPR	US Army Natick Soldier RD&E Center, Natick, MA	U	0	0	NONE	250	1Q FY10					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	202	NONE	0	NONE					
Subtotal IV. Management Services:					3952		6615						

Remarks: TT DEMO - Management service costs cover all ten ATDs described in the R2a of this project (TT4).

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RD&E DEFENSE-WIDE/ BA4 - Advanced Component Development and Prototypes (ACD&P)	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (ACD&P) PROJECT TT4
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TOTAL PROJECT COST:		17267		26761						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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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 TT4
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
TT DEMO												
(EW) CUGR JCSD Demonstration	>>	————— 4Q										
(EW) Expeditionary Biological Demonstration	>>	————— 4Q										
(ART) Interagency Biological Restoration Demonstration (IBRD)	>>	—————			—————				————— 4Q			
(ART) Automated Detailed Equipment Decontamination for Land Vehicles (Auto Decon)	1Q	—————			—————				————— 4Q			
(ART) Hazard Mitigation, Material and Equipment Restoration (HaMMER)					1Q	—————			————— >>			
(EW) Military Applications in Reconnaissance/Support (MARS JFP)					1Q	—————			————— >>			
(EW) Rapid Area-Scan Sensitive-site Reconnaissance (RASR)					1Q	—————			————— >>			

Exhibit R-4a, Schedule Profile	DATE May 2009
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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 TT4
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
TT DEMO (Cont)												
(EW) Post Intercept WMD Identification (PIWID)					1Q	_____			_____ >>			
(CIP) IP Demo					1Q	_____			_____ >>			
(CIP) JMDSE					1Q	_____			_____ >>			

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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 May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
Total Program Element (PE) Cost	277699	300149	332895		
CA5 CONTAMINATION AVOIDANCE (SDD)	45754	51924	98120		
CM5 HOMELAND DEFENSE (SDD)	0	2475	8674		
CO5 COLLECTIVE PROTECTION (SDD)	11410	11355	12821		
DE5 DECONTAMINATION SYSTEMS (SDD)	9408	13130	33704		
IP5 INDIVIDUAL PROTECTION (SDD)	29631	22492	18782		
IS5 INFORMATION SYSTEMS (SDD)	49878	42325	32453		
MB5 MEDICAL BIOLOGICAL DEFENSE (SDD)	69231	89424	64478		
MC5 MEDICAL CHEMICAL DEFENSE (SDD)	14149	22068	14086		
MR5 MEDICAL RADIOLOGICAL DEFENSE	0	2936	8311		
TE5 TEST & EVALUATION (SDD)	48238	42020	41466		

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE May 2009
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	
<p>A. <u>Mission Description and Budget Item Justification:</u> 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.</p> <p>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.</p> <p>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.</p> <p>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. This program also funds development of a Transformational Rapid Drug Discovery and Development Capability (TRDDDC). Transformational Medical Technology Initiatives (TMTI) efforts in this area will include the continual build out of both a genomic sequencing and a bio-chemical informatics capability for the DoD.</p>		
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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE May 2009
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	
<p>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.</p> <p>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.</p>		
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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)
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B. <u>Program Change Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	
Previous President's Budget (FY 2009 PB)	251526	299373	212815	
Current Biennial Budget (FY 2010 PB)	277699	300149	332895	
Total Adjustments	26173	776	120080	
a. Congressional Program Reductions	0	-824	0	
b. Congressional Increases	0	1600	0	
c. Reprogrammings	29281	0	0	
d. SBIR/STTR Transfer	-3108	0	0	
e. Other Adjustments	0	0	120080	

Change Summary Explanation:

Funding: FY10 - Baseline program realignments to support RDT&E program initiatives (+\$56,335K CA5; +\$5,891K CM5; +\$10,400K CO5; +\$12,891K DE5; +\$19,196K IOP5; +\$5,800K IS5; +\$8,851K MB5); Adjustments to align T&E program initiatives (+\$5,115K TE5); Adjustments for inflation assumption changes (-\$2,181K CA5; -\$191K CM5; -\$283K CO5; -\$743K DE5; -\$414K IP5; -\$715K IS5; -\$1,425K MB5; -349K MC5; - \$129K MR5; -\$919K TE5): NTA Adjustments (+\$2,200 CA5; +\$750K MC5).

Schedule: N/A

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CA5
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
CA5 CONTAMINATION AVOIDANCE (SDD)	45754	51924	98120		

A. Mission Description and Budget Item Justification:

Project CA5 CONTAMINATION AVOIDANCE (SDD): This funding supports Engineering and Manufacturing Development and Low Rate Initial Production (EMD/LRIP) of an array of reconnaissance, detection and identification equipment, and warning systems.

Efforts funded in this project are: (1) Chemical, Biological, Radiological, and Nuclear CBRN Dismounted Reconnaissance Systems (formerly JNBCRS Increment 2); (2) Joint Biological Point Detection System (JBPDS); (3) Joint Biological Stand-off Detection System (JBSDS); (4) Joint Biological Tactical Detection System (JBTDS); (5) Joint Chemical Agent Detector (JCAD); (6) Joint Chemical Biological Radiological Agent Water Monitor (JCBRAWM); (7) Joint Service Chemical Biological and Chemical Reconnaissance Systems Increment 3 (JNBCRS 3); (8) Major Defense Acquisition Program (MDAP) Support; (9) Next Generation Chemical Standoff Detection (NGCSD); (10) Non-Traditional Agent Detection Support; and (11) Non-Traditional Agent Detection Sensor Suite Integration for NBC Reconnaissance Systems (SSI NBCRS) (formerly JNBCRS Increment 3).

The CBRN Dismounted Reconnaissance Systems program fills a mission critical need to enhance CBRN reconnaissance platoon capabilities. The program consists of two Phases. Phase I is the dismounted reconnaissance (DR) sets, kits and outfits (SKO) configuration which provides an immediate critical need consisting of COTS and GOTS integrated into a modular, transportable container for dismounted operations. It will form the basis for Phase II which is the Monitoring and Survey (MS) SKO. The MS SKO will feature technology insertion, the addition of net-centric capability, and tailoring to focus on the service-specific needs, to include NTA detection. JNBCRS Increment 2 is replaced by CBRN Dismounted Reconnaissance Systems for FY10.

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CA5
<p>JBPDS is a Joint Service biological detector system for the Services. The Army platforms include the JBPDS on the Biological Integrated Detection System (BIDS). 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. 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. 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.</p> <p>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.</p> <p>The JBSDS Increment 2 will use a development cycle that builds on the capabilities demonstrated during the development of JBSDS Increment 1. The JBSDS Increment 2 system will focus on decreasing size, weight and power requirements, improving the false alarm rate and detection sensitivity. JBSDS Increment 2 will focus on the development of a system that can be used at fixed site installations. JBSDS Increment 3 will focus on the development of a system that will operate on mobile platforms as determined by the warfighter. The JBSDS Increment 2 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 U.S. forces at the tactical and operational levels of war.</p>		
Project CA5/Line No: 111	Page 6 of 175 Pages	Exhibit R-2a (PE 0604384BP)

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CA5
<p>The Joint Biological Tactical Detection System (JBTDSD) program will be a lightweight biological agent system that will detect, warn, provide presumptive identification and samples for follow-on confirmatory analysis. JBTDSD will provide a local alarm and when networked provide cooperative capability with reduced probability of false alarms. The JBTDSD will be one man portable and capable of being battery operated. The JBTDSD will be employed organically at the wing, battalion, squadron and lower levels by non-CBRN personnel in tactical environments across multiple operational locations (e.g. forward operating bases, operationally engaged units, amphibious landing sites, air base operations, etc) to provide near real time detection of biological attacks and notification to personnel in the potential hazard area. JBTDSD will ultimately support force protection and maximize combat effectiveness by providing situational awareness and surveillance and enhancing medical response decision making. When networked, JBTDSD will augment existing biological detection systems to provide a theater-wide seamless array capable of biological detection and warning.</p> <p>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. JCAD will provide warfighter and simple platform mounted systems. The Enhanced JCAD will add low concentration detection, low volatility chemicals and expand platform utility will be added. 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.</p> <p>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 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.</p>		
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<p>The JNBCRS Increment 2 (which has been renamed to CBRN Dismounted Reconnaissance Systems for FY10) fills a mission critical need to enhance CBRN reconnaissance platoon capabilities. The program consists of two Phases. Phase I is the dismounted reconnaissance (DR) sets, kits and outfits (SKO) configuration which provides an immediate critical need consisting of COTS and GOTS integrated into a modular, transportable container for dismounted operations. It will form the basis for Phase II which is the Monitoring and Survey (MS) SKO. The MS SKO will feature technology insertion, the addition of net-centric capability, and tailoring to focus on the service-specific needs, to include NTA detection.</p> <p>The JNBCRS Increment 3 will provide Chemical Biological Mass Spectrometer (CBMS) Bio and Joint Contaminated Surface Detector (JCSD) capability to the Stryker Product Improvement Program and Future Mounted Armored Reconnaissance Platforms. The CBMS II Bio effort will add the biological weapon detection and identification capability to the existing chemical liquid, chemical vapor, and developmental toxic industrial chemical capabilities. 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 (TICs), and other Non-Traditional Agents (NTAs) 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 JNBCRS Increment 3 is renamed to SSI NBCRS starting in FY10.</p> <p>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.</p> <p>Non-Traditional Agent Detection (NTA) Support - The NTA Detection support program is a new start which will provide a family of broad spectrum detection systems, through spiral evolution, that will enhance the Warfighter's ability to attain situational awareness and respond to unknown and emerging hazards. The program will provide a near term capability to detect priority emerging threat materials in addition to affording a common core technology that can be exploited to serve a broad spectrum detection system for lab deployable, fixed site, and handheld applications.</p>		
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The JSLSCAD effort initiated the component improvements and the Technology Readiness Assessment (TRA) for the System of Systems (SoS) approach to address the CB early warning mission within the Next Generation Chemical Standoff Detection (NGCSD) program. The NGCSD SoS approach will increase the range of standoff detection and decrease detection time.

The NGCSD effort will provide early warning for both traditional and non-traditional chemical agent attacks at fixed sites, forward operating bases and on Service designated vehicles and ships. This effort will develop and integrate new standoff sensor technologies for future standoff systems. The detector will interoperate with the Services and Joint Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) architectures.

The SSI NBCRS will provide Chemical Biological Mass Spectrometer Block (CBMS) Bio and Joint Contaminated Surface Detector (JCSD) capability to the Stryker Nuclear, Biological and Chemical Reconnaissance Vehicle (NBCRV) and Joint Nuclear, Biological, Chemical Reconnaissance System (JNBCRS) Light Armored Vehicle (LAV). The CBMS Bio effort will add the biological weapon detection and identification capability to the existing chemical, liquid, chemical vapor, toxic industrial chemical capabilities. 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 (TICs), and other Non-Traditional Agents (NTAs) 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 SSI NBCRS was named JNBCRS Increment 3 prior to FY10.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
CBRN DISMOUNTED RECONNAISSANCE SYSTEMS	0	0	14118
RDT&E Articles (Quantity)	0	0	0

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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
CBRN DRS - FY10 - Conduct engineering support (Govt).	0	0	718
CBRN DRS - FY10 - Conduct Low Rate Initial Production Test & Evaluation.	0	0	4500
CBRN DRS - FY10 - Initiate Operational Assessment.	0	0	4300
CBRN DRS - FY10 - Initiate development of sensor interface compliance.	0	0	2400
CBRN DRS - FY10 - Initiate, design and develop NTA capability.	0	0	2200
Total	0	0	14118

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT BIO POINT DETECTION SYSTEM (JBPDS)	0	5281	18715
RDT&E Articles (Quantity)	0	0	0

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Accomplishments/Planned Program				
JBPDS - FY09/10 - Initiate and continue strategic and tactical planning, government system engineering, program/financial management, costing, contracting, scheduling, acquisition oversight and technical support.	0	600	806	
JBPDS - FY10 - Initiate integration of the new Identifier Line Replaceable Unit (LRU) into the JBPDS Build II system.	0	0	5078	
JBPDS - FY09 - Conduct engineering development, integration and testing of the JBPDS onto a new trailer platform with a 5kW generator.	0	2950	0	
JBPDS - FY10 - Initiate the development and testing of new consumables for the JBPDS Build II Identifier LRU (transition from lateral flow assay to electro chemical luminescence (ECL) assay).	0	0	2000	
JBPDS - FY09 - Initiate development of the new Detector Line Replaceable Unit (LRU) for the JBPDS Build II system. FY10 - Continue development and modification of new Detector LRU, conduct component level testing and initiate system level integration.	0	1731	5331	
JBPDS - FY10 - Initiate and complete development, component level testing and integration of the new Collector Line Replaceable Unit (LRU) for the JBPDS Build II system.	0	0	5500	
Total	0	5281	18715	

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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)	5085	10170	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JBSDS INC 2 - FY08/09 - Conduct Fluorescence System Development for Technology Demonstration V.	1850	1150	0
JBSDS INC 2 - FY09 - Conduct Agent Performance Assessment.	0	1787	0
JBSDS INC 2 - FY08/09 - Continue Modeling and Simulation.	325	1543	0
JBSDS INC 2 - FY08 - Completed Technology Demonstration Analysis and Reporting.	750	0	0
JBSDS INC 2 - FY08/09 - Provide strategic and tactical planning, government system engineering, program/financial management, costing, contracting, scheduling, acquisition oversight and technical support.	1035	2977	0
JBSDS INC 2 - FY09 - Develop Test Equipment for Technology Demonstration V.	0	2338	0

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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
JBSDS INC 1 - FY08 - Conducted Production Verification Testing-3B.	1125	0	0
JBSDS INC 1 - FY09 - Provide Test Support.	0	375	0
Total	5085	10170	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)	0	262	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JBTDS - FY09 - Conduct strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	0	262	0
Total	0	262	0

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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT CHEMICAL AGENT DETECTOR (JCAD)	11572	13617	8216
RDT&E Articles (Quantity)	44	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JCAD - FY08 - Completed JCAD Multi-Service Operational Test and Evaluation (MOT&E).	250	0	0
JCAD - FY08/09 - Purchase and support Enhanced JCAD systems.	880	608	0
JCAD - FY08/09/10 - Continue Enhanced JCAD Production Verification Testing (PVT).	8962	6500	7045
JCAD - FY08/09/10 - Provide systems engineering support.	1480	6509	1171
Total	11572	13617	8216

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JS CHEM/BIO/RAD AGENT WATER MONITOR (JCBRAWM)	2249	2550	0
RDT&E Articles (Quantity)	20	0	0

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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JCBRAWM - FY08 - Procured Increment 1 systems (20 systems with consumables).	444	0	0
JCBRAWM - FY08/09 - Provide government systems engineering support.	815	2550	0
JCBRAWM - FY08 - Conducted Increment 1 Multi-Service Operational Test and Evaluation (MOT&E).	720	0	0
JCBRAWM - FY08 - Corrected technical deficiencies identified during Multi-Service Operational Test and Evaluation (MOT&E) and conduct follow on test to validate.	270	0	0
Total	2249	2550	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS) INC 2	5394	6959	0
RDT&E Articles (Quantity)	0	0	0

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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JNBCRS INC 2 - FY08/09 - Initiate and continue program, develop program documentation, award contract for Integrated Logistics Support (ILS), design and test.	3000	4000	0
JNBCRS INC 2 - FY08 - Performed Developmental Test and Evaluation for Urgent Needs.	1500	0	0
JNBCRS INC 2 - FY08/09 - Initiate and continue DT/OT planning and other test agency support.	450	2500	0
JNBCRS INC 2 - FY08/09 - Initiate and continue Systems Engineering Support (Gov't).	444	459	0
Total	5394	6959	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS) INC 3	8033	3896	0
RDT&E Articles (Quantity)	0	0	0

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Accomplishments/Planned Program		FY 2008	FY 2009	FY 2010
JNBCRS INC 3 - FY08 - (CBMS II) Conducted Inter-agency agreement close out.		217	0	0
JNBCRS INC 3 - FY08 - (JCSD) Completed hardware maturation effort.		2419	0	0
JNBCRS INC 3 - FY08 - (JCSD) Completed software analysis and documentation support.		535	0	0
JNBCRS INC 3 - FY08 - (JCSD) Initiated and completed hardware development.		150	0	0
JNBCRS INC 3 - FY08/09 - (CBMS) Initiate and continue full and open competition for Chemical/Biological sensor capability.		3113	2397	0
JNBCRS INC 3 - FY08 - (JCSD/CBMS) Completed engineering support (Gov't).		850	0	0
JNBCRS INC 3 - FY08 - (CBMS) Completed developmental testing for Toxic Industrial Chemical (TIC) capability.		749	0	0
JNBCRS INC 3 - FY09 - Conduct and complete Design and Development Testing of Joint Warning and Reporting Network (JWARN) and Common CBRN Sensor Interface (CCSI) compliant detectors.		0	1499	0
Total		8033	3896	0

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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JS LIGHTWEIGHT STANDOFF CHEM AGENT DET (JSLSCAD)	8832	1815	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JSLSCAD - FY09 - Provide Test Site Support for Future Standoff Detection.	0	400	0
JSLSCAD - FY08 - Provided Test and Evaluation Support for Future Standoff Detection Operational Demo.	387	0	0
JSLSCAD - FY08 - Conducted Modeling and Analysis for Future Standoff Detection.	337	0	0
JSLSCAD - FY08/09 - Conduct Sensor Hardware Development to Support Future Standoff Detection Operational Demo.	2390	389	0
JSLSCAD - FY08/09 - Conduct Integrated Sensor Development and Testing from multiple vendors to support Future Standoff Detection Operational Demo.	2886	1026	0

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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
JSLSCAD - FY08 - Conducted Design and Development Testing of Joint Warning and Reporting Network (JWARN) and Common CBRN Sensor Interface (CCSI) compliant detectors.	2832	0	0
Total	8832	1815	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
MDAP SUPPORT	4589	6771	9370
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
MDAP SPRT - FY08/09 - Continue analysis and development of SoS architecture that supports MDAP operational architectures and provides Chemical Biological Radiological Nuclear (CBRN) defense capabilities.	2000	2125	0
MDAP SPRT - FY08/09 - Initiate and continue Developmental Test (DT) to validate and verify SoS concept prior to MDAP integration.	2000	3945	0
MDAP SPRT - FY08/09 - Provide strategic/tactical planning, government systems engineering, financial management, technology assessment, contracting, scheduling, acquisition oversight and technical support.	589	701	0

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Accomplishments/Planned Program (Cont):		FY 2008	FY 2009	FY 2010
MDAP SPRT- FY10 - Initiate development of MDAP Support Decision Support Networks and Software. This will enable CBRN information to be disseminated across the battle space in a more timely manner increasing command capability and Warfighter safety.		0	0	1084
MDAP SPRT - FY10 - Initiate development of modular CBRN sensing capabilities that will enable commander's to tailor their CBRN (Chemical, Biological, Radiological and Nuclear) detection efforts, while decreasing false positive readings.		0	0	1187
MDAP SPRT - FY10 - Initiate development of Advanced Technology Collective Protection Demonstrator to increase CBRN defensive capability and reduce logistical costs.		0	0	1070
MDAP SPRT - FY10 - Initiate development of reactive, removable decontamination coatings that will enable Warfighters to expeditiously decontaminate equipment in the field.		0	0	1235
MDAP SPRT- FY10 - Perform Decision Support Software modeling and simulation and trade-off analysis.		0	0	1683
MDAP SPRT - FY10 - Initiate Collective Protection Advanced Technology Demonstrator/Reactive Coating and Removal Coating Development Testing (DT).		0	0	800
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
MDAP SPRT - FY10 - Provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight, and technical support.	0	0	2311
Total	4589	6771	9370

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
NEXT GENERATION CHEMICAL STANDOFF DETECTION (NGCSD)	0	0	15579
RDT&E Articles (Quantity)	0	0	4

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
NGCSD - FY10 - Develop and procure prototype systems (4 sets of GFE components at a cost of \$600 each).	0	0	4000
NGCSD - FY10 - Initiate system integration contract to support multi-sensors data fusion.	0	0	5000
NGCSD - FY10 - Initiate service support for capability document development, CONOPS, Tactic, Techniques and Procedures (TTPs), etc..	0	0	450

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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
NGCSD - FY10 - Provide engineering support.	0	0	2479
NGCSD - FY10 - Initiate Developmental Test (DT) for next generation standoff detection.	0	0	2750
NGCSD - FY10 - Initiate logistics efforts for manuals, maintenance, sparing, etc.	0	0	600
NGCSD - FY10 - Initiate planning for Early Operational Assessment (EOA).	0	0	300
Total	0	0	15579

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
NON TRADITIONAL AGENT DETECTION	0	0	14608
RDT&E Articles (Quantity)	0	0	0

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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
NTA DETECT - FY10 - Initiate Commercial Off the Shelf (COTS)/Government Off the Shelf (GOTS) evaluation for Installation Force Protection Mission Areas.	0	0	1350
NTA DETECT - FY10 - Initiate integration of COTS components and library build for the Lab Deployable Mass Spectrometer.	0	0	1683
NTA DETECT - FY10 - Initiate engineering to support reduced form factor for the Man Portable Mass Spectrometer.	0	0	3075
NTA DETECT - FY10 - Initiate Development Testing (DT) and Operational Assessment (OA) to support initial capability and development testing of the mass spectrometer.	0	0	8500
Total	0	0	14608

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SENSOR SUITE AND INTEGRATION FOR NBC RECON SYSTEMS (SSI)	0	0	17514
RDT&E Articles (Quantity)	0	0	0

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Accomplishments/Planned Program		FY 2008	FY 2009	FY 2010
SSI NBCRS - FY10 - (CBMS) Initiate engineering support.		0	0	704
SSI NBCRS - FY10 - (CBMS) Initiate biological capability sensor development.		0	0	3500
SSI NBCRS - FY10 - (CBMS) Conduct biological capability sensor developmental test and evaluation.		0	0	2000
SSI NBCRS - FY10 - (JCSD) Initiate engineering support.		0	0	580
SSI NBCRS - FY10 - (JCSD) Initiate sensor system development and demonstration.		0	0	6930
SSI NBCRS - FY10 - (JCSD) Initiate sensor developmental testing and evaluation.		0	0	1300
SSI NBCRS - FY10 - (NBCRS SSI) Initiate platform integration of improved chemical and biological capable sensors.		0	0	2500
Total		0	0	17514

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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	603	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	603	0
Total	0	603	0

C. <u>Other Program Funding Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
JC0100 JOINT BIO POINT DETECTION SYSTEM (JBPDS)	77604	75545	45106		
JC0101 JS CHEM/BIO/RAD AGENT WATER MONITOR (JCBRAWM)	3416	6000	3194		
JC0250 JOINT BIO STANDOFF DETECTOR SYSTEM (JBSDS)	3200	4000	0		
JC1500 NBC RECON VEHICLE (NBCRV)	7764	0	0		
JF0100 JOINT CHEMICAL AGENT DETECTOR (JCAD)	44838	53306	27780		

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D. Acquisition Strategy:

CBRN DRS	The CBRN DRS program uses spiral development with an evolutionary component/suite upgrade acquisition approach. FY10 funding finalizes 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. CBRN DRS will enhance the Situation Awareness (SA) by providing a dismounted 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.
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. Through the course of Low Rate Initial Production (LRIP), the system was 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 continue to support the development of a Whole System Live Agent Test (WSLAT) capability.
JBSDS	INCREMENT 1 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 1 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.

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INCREMENT 2

The JBSDS Increment 2 program will pursue an evolutionary approach to provide capability to the warfighter in the shortest possible timeframe. The JBSDS Increment 2 program was separated into two efforts based on feedback from combat developers regarding Concept of Operations (CONOPS), future requirements needs and current technology readiness. JBSDS Increment 2 addresses the need for a 24 hour operational fixed site system. Increment 3 will address the need for a mobile system.

The JBSDS Increment 2 program has investigated, monitored and developed promising technology areas for biological standoff since 2004. The technology development phase has involved several partners within JSTO, ECBC, academia, national laboratories and several members of private industry. Technologies have been demonstrated in varying environments with numerous biological and interferent sources. The development work to date has focused on hardware maturation, algorithm development and agent signature measurements. Technology Demonstration V (Tech Demo V) for the Increment 2 JBSDS is scheduled for 3QFY09. Technology areas will be demonstrated at Tech Demo V and assessed based on preliminary CDD KPPs, KSAs and other requirements. A Technology Readiness Assessment (TRA) will also be completed for each technology area in the categories of hardware and system. Results from Tech Demo V, supporting signature efforts and modeling and simulation will be used to ensure a higher confidence for a majority of technologies that will be discussed in proposals submitted for the JBSDS Increment 2 EMD contract.

A competitively awarded contract is planned for the JBSDS Increment 2 EMD phase to develop and/or integrate prototypes for DT and complete an Operational Assessment (OA) prior to MS C. The justification for the type contract (Fixed Price or Cost Plus) will be completed prior to this decision in accordance with the latest Defense Acquisition and the Office of Management and Budget (OMB) guidelines. The appropriate system requirements reviews, test readiness reviews, software reviews and audits will be scheduled as needed within the EMD phase.

Upon approval at MS C, the JBSDS System Manager will initiate acquisition of production representative systems to conduct a Multi-Service Operational Test and Evaluation (MOT&E).

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JBTDS JCAD		PROJECT CA5 <p>Each future increment defined via a separate CDD and 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. It is intended to continue to use M&S tools in order to lower the program risks and reduce costs and ensure a higher confidence in selected technologies.</p> <p>The Joint Biological Tactical Detection (JBTDS) program will pursue an evolutionary incremental approach to provide capability to the warfighter. The JBTDS program will develop, integrate, test, procure and field systems that improve biological aerosol detection and sampling capabilities. The JBTDS program will also reduce size, weight, power consumption, and logistic footprint over current systems. Test Readiness Evaluations (TRE) will support the JBTDS EMD phase by identifying mature technologies. Modeling and simulation tools will be used in order to lower program risks, reduce costs and ensure a higher confidence in selected technologies.</p> <p>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. JCAD 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. The Enhanced JCAD will add low concentration detection and expanded platform utility will be added. 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) were added by modification, Jul 08. To add capability, a competitive solicitation was issued that includes FFP options for test articles, LRIP and FRP.</p>
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JCBRAWM	<p>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 based 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 2QFY07 and concluded in 1QFY08. 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 was required to optimize the items for use in water. MS C LRIP was approved 3QFY08. The JPM has initiated production of LRIP systems in partnership with Tobyhanna Army Depot. MOT&E was conducted in 4QFY08; FRP is planned for 3QFY09. JCBRAWM Increment 2 will improve on the Increment 1 biological detection capability. 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.</p>	
JNBCRS 2	<p>The CBRN DR (formally JNBCRS Inc 2) fills a mission critical need to enhance Chemical, Biological, Radiological and Nuclear (CBRN) dismounted reconnaissance platoon capabilities. The program consists of two Phases. Phase I is the dismounted reconnaissance (DR) sets kis and outfits (SKO) configuration which provides an immediate critical need consisting of COTS and GOTS integrated into a modular, transportable container for dismounted operations. It will form the basis for Phase II which is the Monitoring and Survey (MS) SKO. The MS SKO will feature technology insertion, the addition of net-centric capability, and tailoring to focus on the service-specific needs, to include NTA detection. JNBCRS Increment 2 is replaced by CBRN DR for FY10.</p>	
JNBCRS 3	<p>The JNBCRS Increment 3 program will develop and test system improvements to increase the military utility of the Stryker Product Improvement Program and Future Mounted Armored Reconnaissance Platforms. Separate Full & Open contracts will be awarded for both the CBMS Chem/BIO sensor and JCSD capabilities. Competitively awarding these contracts will reduce the acquisition life cycle costs, weight, power requirements, and size for the Reconnaissance platforms. The JCSD program will transition from the CBRN Unmanned Ground Reconnaissance (CUGR) Advanced Concept Technology Demonstration (ACTD) into the Engineering and Manufacturing Development & Demonstration phase in FY09. The JNBCRS Increment 3 program will be renamed to SSI NBCRS starting in FY10.</p>	
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JSLSCAD	<p>The acquisition strategy for the JSLSCAD production phase focused upon a dual path to procure required systems and concurrently develop and test system improvements to increase the military utility. The Milestone Decision Authority (MDA) approved procurement of additional JSLSCAD LRIP systems in February 2008. The Government awarded a Fixed Price Incentive contract to GD-ATP in July 2008 for production of systems to fulfill the NBCRV Extended LRIP requirements and additional delivery orders will be exercised for full rate production of systems to fulfill the remaining NBCRV requirements. The JSLSCAD program office awarded multiple contracts to support system engineering, software development, test & evaluation, and system support efforts to increase standoff detection capabilities to rapidly respond to evolving system integration requirements with minimal contractual lead time. All these efforts are being integrated into the Next Generation Chemical Standoff Detection (NGCSD) program.</p>	
MDAP SPRT	<p>Major Defense Acquisition Program (MDAP) Support program will integrate System of Systems (SoS) solutions across the Armed Service's for Major Defense Acquisition Programs (MDAP) having Chemical and Biological Radiological and Nuclear (CBRN) survivability requirements. The MDAP program will achieve these SoS solutions by: (1) leading CBRN architecture development and System Engineering efforts that result in SoS concepts that address requirements; (2) establishing agreements with the MDAPs on roles and responsibilities with respect to funding deliverables and integration; (3) demonstrating modular, net-centric, "plug-n-play" capabilities for mounted and dismounted CBRN reconnaissance requirements; (4) developing master schedules which synchronize support for CBRN capability integration with MDAPs' schedules; and (5) providing integrated program management across the CBRN commodity areas to deliver capabilities on time that support MDAP goals.</p>	
NGCSD	<p>The NGCSD program, which was initiated under the JSLSCAD program, will award Indefinite Delivery/Indefinite Quantity contract(s) to support system engineering, software development, test and 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.</p>	
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NTA DETECT	<p>The NTA program will pursue an evolutionary approach to provide capability to the warfighter in the shortest possible time. The NTA program will incrementally integrate, test, procure, and field systems that afford situational awareness and the ability to respond to unknown and emerging hazards to the Warfighter. Leveraging COTS/GOTS assessments will be used in order to lower program risks, reduce costs, and ensure a higher confidence in selected technologies.</p>	
SSI NBCRS	<p>The SSI NBCRS program, previously named JNBCRS Increment 3 prior to FY10, will develop and test platform specific prototype CBMS Biological capability and JCSD. System development will be performed by separate full and open contract solicitations for CBMS and JCSD respectively, and will demonstrate a technology readiness level (TRL) of six in laboratory and field testing. The contract efforts will finalize the technical approach and produce at least three prototypes of each system. Extensive laboratory and early user testing will be conducted prior to integration, test and evaluation into the JNBCRS LAV. Upon successful completion of the JNBCRS LAV integration, test and evaluation, a Milestone C In-Process Review (IPR) will be held to approve low-rate initial production of the CBMS Bio and JCSD. The CBMS Bio and JCSD will be introduced to the Stryker Fleets via Sensor Suite Improvements in FY14.</p>	
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
CBRN DRS													
DRMS SKO Program Development	C/CPIF	TBD	C	0	0	NONE	1000	2Q FY10					
DRMS SKO Program Development	C/CPIF	TBD	C	0	0	NONE	1400	2Q FY10					
NTA Detection	C/CPIF	TBD	C	0	0	NONE	2200	2Q FY10					
JBPDS													
HW S - Trailer Development	MIPR	ECBC, APG, MD	U	0	600	1Q FY09	0	NONE					
HW SB - New Identifier development, modification and integration	C/CPFF	General Dynamics-Armament and Technical, Charlotte, NC	C	0	0	NONE	2774	2Q FY10					
HW SB - New Collector development, modification and integration	C/CPFF	General Dynamics-Armament and Technical, Charlotte, NC	C	0	0	NONE	4719	2Q FY10					
HW SB - New Detector (RAAD) development, modification and integration	MIPR	MIT-LL, Boston, MA	C	0	1731	2Q FY09	3358	2Q FY10					
HW C - Development of new consumables for new Identifier	MIPR	JPM CBMS, Ft. Detrick, MD	U	0	0	NONE	1450	1Q FY10					
HW SB - New Detector (RAAD) development, modification and integration	C/CPFF	General Dynamics - Armament & Technical, Charlotte, NC	C	0	0	NONE	1670	2Q FY10					

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I. Product Development - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JBSDS													
SW SB - INC 2 Design & develop prototypes	MIPR	Sandia National Lab/ITT, Albuquerque, NM	F	1850	900	2Q FY09	0	NONE					
SW SB - INC 2 Agent performance analysis	MIPR	Johns Hopkins - APL, Baltimore, MD, MIT-LL, Boston, MA	F	0	700	2Q FY09	0	NONE					
JCAD													
HW S - Purchase Commercial Detectors	C/FFP	Smiths Detection	C	0	608	3Q FY09	0	NONE					
JNBCRS 2													
JNBCRS INC 2 - System design and development of Monitoring and Survey SKO	C/CPFF	ICX, Pittsburgh, PA	C	1000	3000	2Q FY09	0	NONE					
JNBCRS INC 2 - System design and development of Monitoring and Survey SKO	C/CPFF	ICX, Pittsburgh, PA	C	1500	1000	2Q FY09	0	NONE					
JNBCRS 3													
CBMS - Chemical/Biological Sensor Capability	C/FPI	TBD	C	0	2397	4Q FY09	0	NONE					
JSLSCAD													
SW S - Integrated sensor Development and Testing	C/CPFF	TBD	U	0	1026	3Q FY09	0	NONE					

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I. Product Development - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
HW S - Sensor Hardware Development	MIPR	JHU-APL	U	0	389	3Q FY09	0	NONE					
MDAP SPRT													
SW SB - Integrate Commodity Area Hardware Systems to SoS Configuration	MIPR	ECBC, Edgewood, MD	C	2000	2125	2Q FY09	0	NONE					
SW S - Decision Support Software	C/CPAF	TBD	C	0	0	NONE	1084	2Q FY10					
SW S - Develop Modular CBRN Sensing Capability	C/CPAF	TBD	C	0	0	NONE	1187	2Q FY10					
HW S - Develop Advanced Technology Collective Protection Demonstrator	C/CPAF	TBD	C	0	0	NONE	1070	2Q FY10					
HW S - Develop Reactive/Removal Coatings	C/CPAF	TBD	C	0	0	NONE	1235	2Q FY10					
SW S - Decision Support Software Modeling and Simulation and Trade-Off Analysis	C/CPAF	TBD	C	0	0	NONE	1683	2Q FY10					
NGCSD													
HW SB - Prototype System Development and Procurement (4 GFE components)	C/CPFF	TBD	C	0	0	NONE	4000	3Q FY10					
SW C - System Integration Contract	C/CPFF	TBD	C	0	0	NONE	5000	3Q FY10					

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I. Product Development - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
NTA DETECT													
HW S - DESI Mass Spec	C/CPAF	ICX, Arlington, VA	C	0	0	NONE	2475	2Q FY10					
HW S - GOTS/ COTS Dual Use Assessment	C/CPAF	BATTELLE, Crystal City, VA	C	0	0	NONE	1104	2Q FY10					
SW S - DESI Mass Spec Library Development	MIPR	RDECOM, Aberdeen Proving Ground, MD	U	0	0	NONE	950	1Q FY10					
SSI NBCRS													
HW C - (CBMS) Biological Sensor Capability Development	C/CPIF	TBD	C	0	0	NONE	3500	2Q FY10					
HW C - (JSCD) Sensor System Development and Demonstration	C/FPI	TBD	C	0	0	NONE	6930	2Q FY10					
HW S - (SSI NBCRS) Platform Integration - JNBCRS LAV	C/FPI	TBD	C	0	0	NONE	2500	3Q FY10					
Subtotal I. Product Development:					14476		51289						

Remarks: JCBRAWM - FY08 - Increment 1 - 20 systems with consumables

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II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JBPDS													
ILS S - Trailer logistics and support documentation	C/FFP	General Dynamics - Armament and Technical, Charlotte, NC	C	0	1350	3Q FY09	0	NONE					
ILS SB - New Identifier/Collector/Detector logistics and support documentation	C/CPFF	General Dynamics - Armament and Technical, Charlotte, NC	C	0	0	NONE	1018	2Q FY10					
ILS SB - New Detector logistics and support documentation	MIPR	MIT-LL, Boston, MA	C	0	0	NONE	217	2Q FY10					
JBSDS													
ES S - INC 2 Modeling & simulation, test support	C/FFP	Bricks, Sigal & Miller, Inc, Kennett Square, PA	C	664	362	2Q FY09	0	NONE					
ES S - INC 2 Modeling & simulation, test support	C/CPFF	NAVSEA, Johns Hopkins-Applied Physics Lab, Baltimore, MD	C	4118	975	2Q FY09	0	NONE					
ES S - INC 2 Modeling & simulation, test support	MIPR	Sandia National Lab, Albuquerque, NM	F	0	1838	2Q FY09	0	NONE					
ILS SB - INC 2 Logistics support	MIPR	ECBC, Aberdeen Proving Ground, MD	U	0	100	2Q FY09	0	NONE					
ES SB - INC 2 Tech Demo V Test Equipment Support	MIPR	ECBC, Aberdeen Proving Ground, MD	U	0	500	3Q FY09	0	NONE					

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II. Support Costs - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
ES S - INC 2 Modeling & simulation test support	C/FFP	Affero Resources, LLC, Edgewood, MD	C	0	326	3Q FY09	0	NONE					
NGCSD													
TD/D S - Logistics Development and Management	MIPR	Various	U	0	0	NONE	600	2Q FY10					
NTA DETECT													
ES SB - Mass Spectrometer Analysis and Evaluation	PO	TBD	U	0	0	NONE	675	1Q FY10					
Subtotal II. Support Costs:					5451		2510						

Remarks: JBPDS - JBPDS - FY11 - Build II LRIP - 22 systems @ \$413.6K each.

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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
CBRN DRS													
DTE S - DR SKO LRIP	MIPR	ATEC, Alexandria, VA	U	0	0	NONE	4500	2Q FY10					
DTE S - MS SKO Developmental Testing	MIPR	ATEC, Alexandria, VA	U	0	0	NONE	4300	2Q FY10					
JBPDS													
DTE S - Trailer developmental testing	MIPR	ATEC, Aberdeen Proving Ground, MD	U	0	1000	2Q FY09	0	NONE					
DTE SB - New Identifier/Collector/Detector developmental testing	C/CPFF	General Dynamics - Armament and Technical, Charlotte, NC	C	0	0	NONE	2253	2Q FY10					
OTE C - Identifier consumable testing	MIPR	JPM CBMS, Ft Detrick, MD	U	0	0	NONE	450	1Q FY10					
JBSDS													
OTHT SB - INC 2 Networking algorithm development	MIPR	MA Institute of Technology-Lincoln Labs, Boston, MA	F	325	568	2Q FY09	0	NONE					
DTE SB - INC 2 Pre-Tech Demo V testing	MIPR	ITT, Albuquerque, NM	C	0	250	2Q FY09	0	NONE					
OTHT SB - INC 2 Agent performance analysis support	MIPR	DPG, Dugway, UT	U	0	399	2Q FY09	0	NONE					
OTHT SB - INC 1 Test Support	MIPR	DPG, Dugway, UT	U	0	375	3Q FY09	0	NONE					
JCAD													
DTE S - Enhanced JCAD Developmental Test	MIPR	Various	U	25272	6500	4Q FY09	7045	2Q FY10					

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III. Test and Evaluation - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date						
JNBCRS 2														
OTE S - Initiate testing evaluation	MIPR	ATEC, Alexandria, VA	U	0	2500	2Q FY09	0	NONE						
JNBCRS 3														
DTE C - Design and Development Testing of JWARN/CCSI compliant detector	SS/CPFF	Smiths Detection, Edgewood, MD	U	0	1499	3Q FY09	0	NONE						
JSLSCAD														
OTHT S - Test Site Support	MIPR	Dugway Proving Ground, UT	U	0	400	2Q FY09	0	NONE						
MDAP SPRT														
DTE S - Demonstration and Technology (DT) Testing to Validate SoS Concept	MIPR	TBD	U	2000	3945	2Q FY09	0	NONE						
DTE S - Collective Protection, Reactive/Removable Coating DT	MIPR	ECBC, Edgewood, MD	U	0	0	NONE	800	1Q FY10						
NGCSD														
DTE S - Developmental Test Planning and Execution	MIPR	Various	U	0	0	NONE	2750	2Q FY10						
OTE S - Plan/Conduct Early Operational Assessment	MIPR	Various	U	0	0	NONE	472	2Q FY10						
NTA DETECT														
DTE S - Developmental Test Mass Spectrometer	MIPR	ECBC, APG, MD	U	0	0	NONE	8500	1Q FY10						

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III. Test and Evaluation - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
SSI NBCRS													
DTE C - (CBMS) Biological Developmental Testing	MIPR	Various	C	0	0	NONE	2000	2Q FY10					
DTE C - (JCSD) Developmental Testing	MIPR	Various	C	0	0	NONE	1300	2Q FY10					
Subtotal III. Test and Evaluation:					17436		34370						

Remarks:

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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
CBRN DRS													
PM/MS-S - Program Management and System Engineering Support	PO	JPM NBC CA, APG, MD	U	0	0	NONE	718	1Q FY10					
JBPDS													
PM/MS S - Project Management	MIPR	JPM BD, APG, MD	U	1846	600	1Q FY09	806	1Q FY10					
JBSDS													
PM/MS S - JPM BD, APG, MD	MIPR	JPM BD, APG, MD	U	6284	1318	2Q FY09	0	NONE					
PM/MS S - PM/MS other services (USN, USMC, USAF, US Army)	MIPR	Various	U	2727	100	2Q FY09	0	NONE					
JPEO Management Support	Allot	JPEO, Falls Church, VA	U	1000	1359	2Q FY09	0	NONE					
PM/MS SB - ECBC	MIPR	ECBC, Aberdeen Proving Ground, MD	U	0	100	2Q FY09	0	NONE					
JBTDS													
PM/MS SB - JPM BD	MIPR	APG, MD	C	0	262	2Q FY09	0	NONE					
JCAD													
PM/MS S - Joint Service Support	MIPR	Various	U	1480	6509	2Q FY09	1171	2Q FY10					
JCBRAWM													
PM/MS S - Joint Service Support	MIPR	JPM NBC CA, APG, MD	U	1175	2350	1Q FY09	0	NONE					
PM/MS S - Joint Service Integrated Product Support	MIPR	Various	U	200	200	2Q FY09	0	NONE					
JNBCRS 2													
PM/MS S - Program Management and Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	444	459	1Q FY09	0	NONE					

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CA5
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IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
MDAP SPRT													
PM/MS S - MDAP SPRT Cell Planning and Management Support	Allot	MDAP SPRT Cell, Falls Church, VA	U	589	701	1Q FY09	0	NONE					
PM/MS S - JPEO-CBD	Allot	Falls Church, VA	U	0	0	NONE	2311	2Q FY10					
NGCSD													
PM/MS S - Program Management and Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	0	0	NONE	1907	2Q FY10					
PM/MS S - Joint Service Support	MIPR	Various	U	0	0	NONE	400	2Q FY10					
PM/MS S - Service Combat Developer Support	MIPR	Various	U	0	0	NONE	450	2Q FY10					
NTA DETECT													
PM/MS S - Program Management support	PO	JPEO, Falls Church, VA	U	0	0	NONE	904	4Q FY10					
SSI NBCRS													
PM/MS S - (CBMS) Program Management and Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	0	0	NONE	704	1Q FY10					
PM/MS S - (JCSD) Program Management and Systems Engineering Support	MIPR	JPM NBC CA, APG, MD	U	0	0	NONE	580	1Q FY10					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	603	NONE	0	NONE					

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CA5
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IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
Subtotal IV. Management Services:					14561		9951						

Remarks:

TOTAL PROJECT COST:		51924		98120									
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CA5
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
CBRN DRS												
Conduct Production Verification Test/Operational Test & Evaluation (DR SKO)										2Q	———	>>
Conduct Production Qualification Test/Operational Assessment (MSSKO)									1Q	———	———	4Q
Program Initiation (DR MSSKO)	1Q											
Combined Developmental Operational Assessment			3Q	4Q								
Milestone B (MSSKO)									1Q	———	———	>>
Milestone C LRIP (DR SKO)									1Q	———	———	>>
NTA Detection Capability Development										2Q	———	>>
JBPDS												
Design and Validate Selected Upgrades	>>	———	3Q									
Whole System Live Agent Test	>>	———	3Q									

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CA5
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
JBPDS (Cont)												
Follow-On Operational Test and Evaluation (FOT&E)	1Q											
MS C Full Rate Production Decision (FRP)							3Q					
FRP Contract Award							3Q					
Full Rate Production (First Full Contract Award)										2Q	————	>>
Build II - Development and Integration						2Q	————	————	————	————	————	>>
JBSDS												
Increment 1 JBSDS Production Verification Test	1Q											
Increment 1 JBSDS Multi-Service Operational Test & Evaluation (MOT&E)	1Q											
Increment I JBSDS LRIP 2		2Q	————	————	————	2Q						
Increment 1 JBSDS Full Material Release							3Q	4Q				

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CA5
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010				
	1	2	3	4	1	2	3	4	1	2	3	4	
JBSDS (Cont)													
Increment 1 JBSDS First Unit Equipped (FUE)							3Q	4Q					
Increment 2 - Requirements Trade-Off	1Q												
Increment 2 - Science & Technology	>>	—————						4Q					
Increment 2 - Pre-Milestone B	1Q	—————							—————				2Q
Increment 2 - Milestone B									—————				2Q
Increment 2 - Engineering & Manufacturing Development & Demonstration											3Q	>>	
JCAD													
JCAD Enhanced - Gate 2 Decision (Down-select)							3Q						
JCAD Enhanced - LRIP Contract Award												4Q	
JCBRAWM													
Operational Test Increment 1				4Q									

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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
JCBRAWM (Cont)												
Development Test Increment 1	1Q											
MS C Increment 1 Low Rate Initial Production (LRIP)			3Q									
Multi-Service Operational Test & Evaluation				4Q								
MS C Increment 1 Full Rate Production (FRP) Decision							3Q					
IOC Increment 1								4Q	1Q			
Development Test Increment 2			3Q				3Q					
JNBCRS 2												
JNBCRS Inc 2 - Program Initiation	1Q											
JNBCRS INC 2 - Combined Developmental/Operational Assessment			3Q	4Q								
JNBCRS INC 2 - MBSKO Milestone B - Low Rate Initial Production (LRIP)							3Q					
JNBCRS 3												

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CA5
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
JNBCRS 3 (Cont)												
JNBCRS INC 3 (JCSD) - Hardware Maturation Effort	1Q	—————			—————			2Q				
JNBCRS INC 3 (CBMS) - Chemical/Biological Full & Open Competition								4Q	—————			3Q
JSLSCAD												
SoS Technology Demo				4Q	1Q							
SoS Program				4Q	—————			4Q				
SoS Operational Demo							3Q	4Q				
MDAP SPRT												
System of Systems (SoS) Component Development	>>	2Q										
Data Fusion Algorithm Development	>>	—————			—————			—————			2Q	
Collective Protection Advanced Technology Demonstrator Developmental Test (DT)											3Q	4Q

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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
MDAP SPRT (Cont)												
Reactive/Removable Coating Developmental Test (DT)												4Q
NGCSD												
Material Development Decision (MDD)											3Q	
Development Test Planning									2Q	3Q		
Development Testing												4Q
NTA DETECT												
COTS/GOTS DT/MUA									1Q	———		3Q
COTS/GOTS Field Expanded Capability									2Q	3Q		
Lab Deployable Mass Spec DT/OA											3Q	>>

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CM5
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
CM5 HOMELAND DEFENSE (SDD)	0	2475	8674		

A. Mission Description and Budget Item Justification:

Project CM5 HOMELAND DEFENSE (SDD): The FY10-11 PM Consequence Management program supports the development of a Common Analytical Laboratory System capability (CALs) that will be modular, scalable and adaptable to a variety of CONOPS and environmental conditions. Currently, fielded systems have been designed independently by various agencies with the intent of meeting a specific units requirements. As a result, multiple mobile lab configurations exist with differing sustainment tails and lacking in commonality. The system under development will incorporate an open architecture that can accommodate quick installation or removal of equipment as mission requirements dictate. As well, it will provide the ability to rapidly develop a common operating picture allowing first responders and DoD officials to determine the appropriate course of action. The analytical detection package fielded will be fitted to the specific mission and CONOPS of the gaining unit and be able to detect and identify Chemical Warfare Agents (CWAs), Toxic Industrial Chemicals (TICs), Toxic Industrial Materials (TIMs), Biological Warfare Agents (BWAs), Lower Explosive Limits (LEL), and radioactive particles in all sample types.

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 protecting personnel. This 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.

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CM5
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B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
COMMON ANALYTICAL LABORATORY SYSTEM (CAL S)	0	0	5764
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
FY10 - Initiate Program Office Planning and Programming.	0	0	499
FY10 - Initiate System Engineering and Logistics Support.	0	0	971
FY10 - Subsystem Design and Development - Open Architecture Design Analytics and Laboratory Information Management.	0	0	3562
FY10 - Developmental Testing.	0	0	732
Total	0	0	5764

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)	0	2447	2910
RDT&E Articles (Quantity)	0	0	0

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CM5
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
CBIPP - System Methodologies Development FY09 - Supports development of analytical methodologies to expand CBRN detection, identification, and protection capabilities.	0	750	0
CBIPP - Technology Evaluation - FY09 - Supports the evaluation of CBRN detection, identification, information management, and decision support technologies.	0	1697	0
SPU CBE - Technology Evaluation - FY10 - Supports the evaluation of CBRN detection , identification, information management and decision support technologies.	0	0	1770
SPU CBE - System Protocols Development - FY10 - Supports the development of methodologies used to perform CBRN detection and evaluation under various environmental conditions.	0	0	1140
Total	0	2447	2910

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	28	0
RDT&E Articles (Quantity)	0	0	0

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CM5
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	28	0
Total	0	28	0

<u>C. Other Program Funding Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
JS0004 WMD - CIVIL SUPPORT TEAMS (WMD CST)	9729	8300	11801		
JS0500 CB INSTALLATION/FORCE PROTECTION PROGRAM (FORCE PROT)	83200	80004	53789		

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BUDGET ACTIVITY RDTE&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CM5

D. Acquisition Strategy:

CALS The Common Analytical Laboratory System (CALC) will follow an incremental approach designed to address known joint force capability requirements for Chemical, Biological, Radiological and Nuclear (CBRN) detection which includes Toxic Industrial Chemicals (TICs), Toxic Industrial Materials (TIMs), Chemical Warfare Agents (CWAs), Biological Warfare Agents (BWAs). As well, it will address situational awareness by leveraging efforts underway with JPEO CBD to the extent possible. And it will accommodate these component requirements within a modular and scalable concept framework.

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.

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II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date				
CALS												
ES S - Engineering Support	MIPR	Edgewood Chemical and Biological Center, Edgewood. MD	U	0	0	NONE	499	1Q FY10				
Subtotal II. Support Costs:					0		499					

Remarks:

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date				
CALS												
DTE SB - Analytical System Developmental Testing	MIPR	TBD	U	0	0	NONE	732	3Q FY10				
FORCE PROT												
OTHT C - System Component Testing	C/FP	TBD	C	0	0	NONE	1770	1Q FY10				
Subtotal III. Test and Evaluation:					0		2502					

Remarks:

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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
CALS													
PM/MS HW - Program Office - Planning and Programming	MIPR	Edgewood Chemical Biological Center, Edgewood, MD	U	0	0	NONE	971	1Q FY10					
FORCE PROT													
Limited Objective Experiment	MIPR		N	0	450	2Q FY09	0	NONE					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	28	NONE	0	NONE					
Subtotal IV. Management Services:					478		971						

Remarks: FORCE PROT - To Be Determined

TOTAL PROJECT COST:		2475		8674									
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
CALS												
CALS Program Initiation										2Q		
CALS Design, Development and Integration										2Q	———	>>
FORCE PROT												
System Methodologies Development					1Q	———	4Q					
Technology Evaluation					1Q	———	4Q					
System Architecture Development									1Q	———	4Q	
Bio-Collection/Detection Evaluation									1Q	———	4Q	

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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
CO5 COLLECTIVE PROTECTION (SDD)	11410	11355	12821		

A. Mission Description and Budget Item Justification:

Project CO5 COLLECTIVE PROTECTION (SDD): Funding supports System Development and Demonstration and Low Rate Initial Production (SDD/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 CBR 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 CBR contamination.

Systems funded under this project are: Joint Expeditionary Collective Protection (JECP).

JECP provides the Joint Expeditionary Forces a CP capability which is lightweight, compact, modular, and affordable. A family of systems is planned that will allow the application of CP to transportable 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), radiological particles, heat, dust, and sand. The employment of JECP is a strategic deterrence against enemy use of CBR agents or TIMs, and will reduce the need for personnel and equipment decontamination.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)	11410	11223	12821
RDT&E Articles (Quantity)	54	0	0

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Accomplishments/Planned Program		FY 2008	FY 2009	FY 2010
<p>JECP -</p> <p>FY08 - Awarded SDD contract for prototype development and testing including an Early Operational Assessment (EOA).</p> <p>FY09/10 - Develop and test prototypes consisting of 24 tent kits at an estimated unit cost of \$75K each, 12 structure kits at an estimated unit cost of \$56K each, and 6 of each configuration of stand alone system (man-portable-\$7K, small-\$22K, medium-\$67K, and large-\$167K), 9 single person airlock at an estimated unit cost of \$5K each and 9 multi-person airlocks at an estimated unit cost of \$30K each with an estimated total cost of all prototypes of \$4365K. Integrate contractor into the Joint IPT structure, build contractor Work Breakdown Structure (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 and conduct configuration management, risk management, logistics planning and contractor developmental testing.</p>		4847	3978	1647
<p>JECP -</p> <p>FY08 - Initiated development of Agent Simulant Relations (ASR) and select candidate simulants for system and component testing.</p> <p>FY09/10 - Conduct Performance Specification Testing (PST) on prototype components and subsystems. PST will include Barrier Materials Swatch Testing, Air-Purification System Testing, Closures Testing, and NBC Contamination Survivability Testing.</p> <p>FY10 - Conduct Production Qualification Testing (PQT) on prototype systems. PQT will include Reliability and Maintainability Analysis, System Verification (Static), System Verification (Dynamic), System Field Challenge Combined DT/OT (OA-1), post-field swatch testing, post field closures testing, and post field static challenge testing.</p>		1000	2012	6238
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Accomplishments/Planned Program (Cont):		FY 2008	FY 2009	FY 2010
<p>JECP -</p> <p>FY08/09/10 - Conduct Systems Engineering Integrated Product Team (IPT). Provide systems engineering acquisition documentation for MS B and MS C. Finalize system architecture, and system Work Breakdown Structure (WBS). Develop and maintain a Requirements Traceability Matrix (RTM). Provide technical oversight of the SDD contractor. Plan and conduct technical reviews including a SRR, SFR, PDR, and CDR. Provide Subject Matter Expertise (SME) support to the Joint Requirements Office (JRO) for Capabilities Production Document (CPD) development. Validate and verify system configuration.</p>		1092	950	745
<p>JECP -</p> <p>FY08/09/10 - Conduct Test and Evaluation (T&E) IPT. Provide T&E acquisition documentation for MS B and MS C. Integrate the Joint test threat support package into the TEMP. Identify requirements for a system performance model. Coordinate model development, verification, and validation. Conduct integrated test planning, coordination, and test readiness reviews associated with all developmental testing and operational testing test events.</p>		1314	1126	1000
<p>JECP -</p> <p>FY08/09/10 - Initiate a supportability analysis to address logistics support elements, including: maintenance philosophy; manpower and personnel; supply support; Tech Data; support and test equipment; training and training support through the Integrated Logistics Support Integrated Product Team (IPT).</p> <p>FY08/09 - 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 (FoS) documentation and support strategy for New Equipment Training (NET) program. Initiate NET program for JECP FoS.</p>		195	500	500
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
JECF - FY08/09/10 - Provide program management and contractor support, including: financial tracking to include earned value management; schedule monitoring; System Design Development (SDD) contract management; and JPEO/JPM reporting requirements. Finalize acquisition documentation for MS B and MS C including the Single Acquisition Management Plan (SAMP), Acquisition Program Baseline (APB), Security Classification Guide (SCG), etc.). Conduct source selection planning and support award of System Development and Demonstration contract.	846	1657	1801
JECF - FY08/09/10 - Provide strategic tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	2116	1000	890
Total	11410	11223	12821

	FY 2008	FY 2009	FY 2010
SBIR/STTR	0	132	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	132	0
Total	0	132	0

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CO5
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C. <u>Other Program Funding Summary:</u>					
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
JN0014 COLLECTIVE PROT SYS AMPHIB BACKFIT (CPS BKFT)	11592	15819	12000		
JP0911 CP FIELD HOSPITALS (CPFH)	3496	5333	3446		
R12301 CB PROTECTIVE SHELTER (CBPS)	24500	16521	12492		

D. Acquisition Strategy:

JECP Strategy based on evolutionary 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 were 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 System Performance Specification (SPS) were used to award competitive cost plus incentive fee contract 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 Fixed Price Incentive Successive Target (FPIS) option 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 FPIS option with five one-year ordering periods. Full and open competition will be used with an updated SPS to award follow-on production contracts. Following JECP achieving Full Operational Capability, the Expeditionary Collective Protection-Enhanced Program will provide solutions to meet emerging and evolving User needs.

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CO5
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JECP													
HW S - Prototype Development	C/CPIF	Science Applications International Corporation, San Diego, CA	C	4847	3978	2Q FY09	1647	2Q FY10					
Subtotal I. Product Development:					3978		1647						

Remarks:

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JECP													
ES S - Systems Engineering IPT	MIPR	Various	U	2292	950	1Q FY09	745	1Q FY10					
ILS S - Product Support IPT	MIPR	Various	U	391	500	1Q FY09	500	1Q FY10					
Subtotal II. Support Costs:					1450		1245						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CO5
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JECP													
PM/MS S - APMO Support	MIPR	NSWC Dahlgren, Dahlgren, VA	U	1619	712	1Q FY09	620	1Q FY10					
PM/MS S - APMO Contractor Support	C/FP	Solutions Development Corporation, Dahlgren, VA	C	323	271	2Q FY09	330	2Q FY10					
PM/MS S - JPM-ColPro Support	MIPR	NSWC Dahlgren, Dahlgren, VA	U	0	674	1Q FY09	851	1Q FY10					
PM/MS S - JPEO-CBD Support	MIPR	JPEO CBD, Falls Church, VA	U	2116	1000	1Q FY09	890	1Q FY10					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	132	NONE	0	NONE					
Subtotal IV. Management Services:					2789		2691						

Remarks:

TOTAL PROJECT COST:					11355		12821						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT CO5
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
JECP												
Complete CDD				4Q								
Request for Proposal (RFP)	1Q	2Q										
MS B Decision		2Q										
System Development Demonstration Contract Award				4Q								
Prototype System Development & Testing				4Q	>>							
Production Qualification Testing (PQT)												4Q

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT DE5
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
DE5 DECONTAMINATION SYSTEMS (SDD)	9408	13130	33704		

A. Mission Description and Budget Item Justification:

Project DE5 DECONTAMINATION SYSTEMS (SDD): This project funds System Development and Demonstration (SDD) for: (1) Decontamination Competitive Prototype; (2) the Decontamination Family of Systems (DFoS); (3) the Human Remains Decontamination System (HRDS); (4) Joint Platform Interior Decon (JPID); (5) the Joint Service Sensitive Equipment Decontamination (JSSED); and (6) the Joint Service Transportable Decontamination System - Small Scale (JSTDS-SS).

The Decontamination Competitive Prototype (DC PROTO) Program will reduce performance risks to the JSSED and JPID programs and identify a solution for the Joint Strike Fighter (JSF) peculiar interior/exterior decontamination requirement to support their Live Fire testing in FY13. DC PROTO will obtain prototypes and conduct a prototype shoot-off that will demonstrate the best decontamination technology for the JSF Live Fire test and increase sensitive equipment and platform interior decontamination data set. DC PROTO will evaluate other technologies that can be inserted into the JSSED/JPID programs to increase the capability of the selected JSSED/JPID technology while supporting the JSF test requirements. The DC PROTO effort will run parallel with the JSSED/JPID Engineering Manufacturing and Demonstration contract as a separate program to maintain independent of the evaluation for JSF and to prevent interference with the JSSED/JPID schedule.

The Decontamination Family of Systems (DFoS) program is a new start which will facilitate the rapid transition of mature S&T Research developments to existing JPM-Decon Programs of Record and guide S&T community efforts toward meeting the needs of the warfighter. DFoS will develop a Family of Systems to include equipment to improve decontamination processes, and decontaminant solutions, to meet the capability gaps for decontaminating chemical and biological warfare agents from personnel, equipment, vehicle interiors/exterior, terrain, and fixed facilities.

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT DE5
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The HRDS, Increment 1, will utilize mature technologies to provide the capability for safe intra-theater handling and storage of Contaminated Human Remains (CHR) associated with a Chemical Warfare Agent (CWA) event. HRDS will be a Family-of-Systems (FoS) designed to leverage differing technology and requirements readiness across the three systems: (1) a Contaminated Human Remains Pouch (CHRP) to support the initial recovery of CHR from Point of Fatality to a Mortuary Affairs Decontamination Collection Point (MADCP); (2) a Contaminated Remains Transfer Case System (CHRTS) capability to store or transport CHR post MADCP operations; and (3) a Remains Decontamination System (RDS) to support the capability to store or transport CHR post MADCP operations.

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. The JSSED will fill the capability to decontaminate chemical and biological warfare agents from individual sensitive equipment. Sensitive equipment includes high value or critical sensitive individual electronics and optics that cannot be decontaminated using existing methods without damage. The JPID 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. Platform interiors are the interiors of aircraft, vehicles, ships, maintenance facilities and buildings. Neither of these capabilities currently exists in DoD.

The JSTDS Small Scale program will be transported by existing platforms in close proximity to combat operations and will be used in support of 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.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
DECONTAMINATION COMPETITIVE PROTOTYPE	0	0	8912
RDT&E Articles (Quantity)	0	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009														
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																
DC PROTO -		FY 2008	FY 2009	FY 2010												
FY10 - Conduct market survey/Industry Day/Sources Sought.		0	0	104												
DC PROTO -		0	0	8808												
FY10 - Select mature technologies capable of meeting Large Frame Aircraft and Platform Interior Decontamination requirements. Evaluate and test these technologies as compared to the JSSED and JPID requirements. Conduct live agent efficacy tests, material compatibility test, conduct early operational assessment and system integration evaluations on selected technologies for multiple airframes, tactical vehicles and sensitive equipment.																
Total		0	0	8912												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center;"><u>FY 2008</u></th> <th style="text-align: center;"><u>FY 2009</u></th> <th style="text-align: center;"><u>FY 2010</u></th> </tr> </thead> <tbody> <tr> <td>DECONTAMINATION FAMILY OF SYSTEMS (DFS)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">6164</td> </tr> <tr> <td>RDT&E Articles (Quantity)</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </tbody> </table>						<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	DECONTAMINATION FAMILY OF SYSTEMS (DFS)	0	0	6164	RDT&E Articles (Quantity)	0	0	0
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>													
DECONTAMINATION FAMILY OF SYSTEMS (DFS)	0	0	6164													
RDT&E Articles (Quantity)	0	0	0													
Accomplishments/Planned Program																
DFoS -		FY 2008	FY 2009	FY 2010												
FY10 - Initiate evaluation and developmental test efforts of Sprayable Powders for Surface Decon, Electro-Chemically generated Chlorine Dioxide (eClO2), Portable Electro-Chemically generated Chlorine Dioxide (eClO2) Surface Decon, MIL-PRF-87937 (Super Soap), Portable Decon Vehicle Interiors, and Decon Wipes.		0	0	3034												
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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT DE5
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
DFoS - FY10 - Initiate efficacy and material compatibility testing for Decon Assurance/Agent Disclosure, Dry Decon/No Rinse and a scalable system that applies a decontaminant that is adaptable to multiple agents dependent on the decon scenario (Dial-a-Decon), developmental test efforts.	0	0	3130
Total	0	0	6164

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
HUMAN REMAINS DECON SYSTEM (HRDS)	0	0	5757
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
HRDS - FY10 - Conduct developmental testing and analysis of the Contaminated Human Remains Transfer Case (CHRT).	0	0	5757
Total	0	0	5757

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT PLATFORM INTERIOR DECON (JPID)	0	0	6387
RDT&E Articles (Quantity)	0	0	5

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT DE5
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JPID - FY10 - Design and Development of prototypes and logistics planning.	0	0	4887
JPID - FY10 - Fabrication of 5 JPID prototypes (at \$300K each) for agent testing.	0	0	1500
Total	0	0	6387

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JS SENSITIVE EQUIP DECON (JSSED)	8727	12979	6484
RDT&E Articles (Quantity)	0	0	9

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JSSSED - FY08 - Completed preliminary design and baseline test.	7880	0	0
JSSSED - FY08/09 - Assessed the efficacy of HPV as a technology risk reduction.	847	375	0
JSSSED - FY09 - Initiate Prototype design and development.	0	12604	0

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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
JSSSED - FY10 - Conduct Developmental Testing and supportability demonstration.	0	0	3784
JSSSED - FY10 - Fabricate 9 JSSSED Prototypes (at \$300K each) for Developmental Testing.	0	0	2700
Total	8727	12979	6484

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)	681	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JSTDS-SS - FY08 - Completed Operational Test and Evaluation.	681	0	0
Total	681	0	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	151	0
RDT&E Articles (Quantity)	0	0	0

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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	151	0
Total	0	151	0

<u>C. Other Program Funding Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
JD0055 JOINT SERVICE PERSONNEL/SKIN DECON SYSTEM (JSPDS)	18487	8280	0		
JD0056 JS TRANS DECON SYSTEM - SMALL SCALE (JSTDS-SS)	18275	17224	22008		

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D. Acquisition Strategy:

- DC PROTO** DC PROTO will conduct a Sources Sought for a prototype suitable for sensitive equipment and platform interior decontamination prototypes. The competitive prototype results will be integrated into the JSSED and JPID programs for program risk reduction.
- DFS** The DFoS program will utilize an incremental acquisition strategy to transition various developmental technology efforts (i.e. COTS, JSTO/DTRA efforts, etc.) to meet the needs current and future capability gaps. DFoS will support MDAP and Program of Record (POR) capability gaps by transitioning mature technologies.
- HRDS** The HRDS, Increment 1, will utilize mature technologies to provide the capability for safe intra-theater handling and storage of Contaminated Human Remains (CHR) associated with a Chemical Warfare Agent (CWA) event. HRDS will be a Family-of-Systems (FoS) designed to leverage differing technology and requirements readiness across the three systems: (1) a Contaminated Human Remains Pouch (CHRP) to support the initial recovery of CHR from Point of Fatality to a Mortuary Affairs Decontamination Collection Point (MADCP); (2) a Contaminated Remains Transfer Case System (CHRTS) capability to store or transport CHR post MADCP operations; and (3) a Remains Decontamination System (RDS) to support the capability to store or transport CHR post MADCP operations.
- 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 JSSED 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 awarded 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. The JMDS program will integrate the competitive prototype effort into the JMDS Milestone C/LRIP Decision.

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BUDGET ACTIVITY RD&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT DE5
JSSSED	DC PROTO will conduct sources sought for a prototype of suitable sensitive equipment and platform interior decontamination prototypes. The Competitive Prototype results will be integrated into the JSSSED and JPID programs for program risk reduction. Will coordinate Test and Evaluation with JMDS test plan and Service CONOPS.	
JSTDS SS	The JSTDS SS program implements an evolutionary acquisition strategy using incremental development. Increment 1 will focus largely upon fielding hardware systems that improve upon the capability of the M17 Lightweight Decontamination System.	
<p>Project DE5/Line No: 111</p> <p align="center">Page 79 of 175 Pages</p> <p align="right">Exhibit R-2a (PE 0604384BP)</p>		

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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
DFS													
HW C - Electro-Chemically generated eClO2	MIPR	RDECOM/Natick, Natick, MA	U	0	0	NONE	973	1Q FY10					
HW C - Portable Decon Vehicle Interiors (Decon wipes)	MIPR	RDECOM-Natick, MA	U	0	0	NONE	827	2Q FY10					
HW C - Disclosure Sprays	MIPR	RDECOM-Natick, MA	U	0	0	NONE	682	2Q FY10					
HRDS													
HW C - Contaminated HR Transfer Case (CHRT)	C/FFP	TBD	C	0	0	NONE	500	1Q FY10					
JPID													
HW C - SDD Contract, System development and fabrication	C/CPIF	Teledyne Brown Engineering, Huntsville, AL	C	0	0	NONE	3000	2Q FY10					
JSSD													
HW S - SDD Contract - System Development and Fabrication	C/CPIF	Teledyne Brown Engineering - Huntsville, AL	C	6081	8251	2Q FY09	3000	2Q FY10					
Subtotal I. Product Development:					8251		8982						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
DC PROTO													
Competitive Prototype Testing	MIPR	TBD	U	0	0	NONE	8295	3Q FY10					
DFS													
DTE C - Dry Decon/No Rinse Decon	MIPR	TBD	U	0	0	NONE	975	1Q FY10					
DTE C - Electro-Chemically generated eClO2	MIPR	TBD	U	0	0	NONE	825	2Q FY10					
DTE C - Decon Wipes	MIPR	TBD	U	0	0	NONE	647	3Q FY10					
HRDS													
DTE S - CHRT Developmental Testing	MIPR	TBD	U	0	0	NONE	2375	1Q FY10					
JPID													
JPID Development Testing	MIPR	ATEC, Aberdeen Proving Ground, MD	U	0	0	NONE	2528	1Q FY10					
JSSSED													
OTHT SB - JSSSED/JMDS developmental test planning/execution	MIPR	ATEC, Aberdeen, MD	U	951	293	1Q FY09	1500	1Q FY10					
DTE C - Technology Readiness Assessment	C/FFP	CUBRC, Buffalo, NY	C	0	375	2Q FY09	0	NONE					
Subtotal III. Test and Evaluation:					668		17145						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
DC PROTO													
Program Management Support	MIPR	ECBC, MD	U	0	0	NONE	513	1Q FY10					
DFS													
PM/MS S - DFoS Integrated Product Team Support	MIPR	RDECOM-Natick, MA	U	0	0	NONE	605	1Q FY10					
PM/MS C - Program Support	MIPR	Marine Corps Systems Command, Quantico, VA	U	0	0	NONE	630	1Q FY10					
HRDS													
PM/MS S - CHRT Program Office Support	MIPR	RDECOM-Natick, MA	C	0	0	NONE	1661	2Q FY10					
JPID													
JPID Service Integrated Product Team Support	MIPR	Various	U	0	0	NONE	859	1Q FY10					
JSSSED													
PM/MS S - JSSSED/JMDS Service Integrated Product Team Support	MIPR	Various	U	2613	4060	2Q FY09	1984	1Q FY10					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	151	NONE	0	NONE					
Subtotal IV. Management Services:					4211		6252						

Remarks:

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Exhibit R-3 (PE 0604384BP)

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TOTAL PROJECT COST:		13130		33704						
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
DC PROTO												
Market Survey/Industry Day/Sources Sought									1Q	2Q		
Competitive Prototype Test											3Q	>>
DFS												
eCI02									1Q	_____ >>		
Portable Decon Vehicle Interiors (Decon wipes)						2Q	_____ >>					
Agent Disclosure Spray									1Q	_____ >>		
Self Decon Coatings											3Q	>>
Decon Assurance/Applicator Systems											3Q	>>
Dry Decon/No Rinse						2Q	_____ >>					
RSDL Reformulation/Decontaminate						2Q	_____ 4Q					
HRDS												
CHRT Market Survey					1Q							
CHRT MS B								4Q				
CHRT Development Testing									1Q	_____ 4Q		

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D. Schedule Profile (cont):	FY 2008				FY 2009				FY 2010				
	1	2	3	4	1	2	3	4	1	2	3	4	
JPID													
JPID Systems Design and Development	1Q	—————							4Q				
JPID Developmental Test							3Q	————— >>					
JPID Early Operational Assessment												4Q	
JPID Competitive Prototype											3Q	>>	
JSSSED													
JSSSED/JMDS System Development	1Q	—————							4Q				
JSSSED/JMDS Developmental Test							3Q	————— 4Q					
JSSSED/JMDS Early Operational Assessment												4Q	
JSSSED/JMDS Competitive Prototype											3Q	>>	
JSSSED/JMDS Early Operational Assessment												4Q	
JSTDS SS													
IOT&E	1Q												
Full Rate Production							3Q	————— >>					

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IP5
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
IP5 INDIVIDUAL PROTECTION (SDD)	29631	22492	18782		

A. Mission Description and Budget Item Justification:

Project IP5 INDIVIDUAL PROTECTION (SDD): This project funds System Demonstration and Development (SDD) of individual protection equipment, 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.

The three efforts listed below are funded in this program:

(1) The Joint Service Aircrew Mask (JSAM). JSAM is an Acquisition Category (ACAT) III Family of Systems (FOS) respiration system being incrementally developed. JSAM Type IA Apache is for use with the Integrated Helmet And Display Sighting System, JSAM Fixed Wing (FW) respirator and JSAM Type I Rotor Wing (RW) is being developed for use in the majority of the Department of Defense's (DoD's) Rotary Wing aircraft. The F-35 JSAM is being developed with the FW JSAM to meet the needs of the Major Defense Acquisition Program, the Joint Strike Fighter (JSF). The goal of overall JSAM project 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 most Army, Air Force, Navy and Marine rotary and fixed-wing aircrew members. The FW JSAM 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. All JSAM Increments will be compatible with most below-the-neck CB ensembles and existing aircrew life support equipment. They will include a protective hood assembly, CB filter, blower assembly, and an intercom for ground communication. They will provide flame and thermal protection, provide hypoxia protection to 60,000 feet, demist/emergency demist and anti-drown features. The Type I and Type IA variants are being designed to be capable of being donned/doffed in flight.

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IP5
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(2) The Joint Service General Purpose Mask (JSGPM) funds System Demonstration and Development (SDD) of respiratory and ocular protection technologies aimed at providing incremental upgrades for the Joint Service General Purpose Mask (JSGPM). Additionally, this project funds the Technology Development (TD) phase of the Respiratory and Ocular Protection Equipment (ROPE) program for developing revolutionary materials, designs and concepts that may transitioned into future Chem/Bio ensemble (Joint Chemical Ensemble). Performance enhancements for all respiratory and ocular protection programs will be focused on increasing the protection levels of the systems from Chemical Warfare Agents (CWAs) and Toxic Industrial Chemicals (TICs) while reducing the physiological and logistical burdens.

(3) The Lightweight Chemical Biological Ensemble (LCBE), aimed at increasing individual protection levels while reducing physiological and logistical burdens.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JS AIRCREW MASK (JSAM)	29631	22230	14969
RDT&E Articles (Quantity)	0	0	544

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)		PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)		PROJECT IP5
Accomplishments/Planned Program		FY 2008	FY 2009	FY 2010
JSAM MPU-6 (Apache) - FY08 - Completed design and Government Development Test (DT). Initiated Operational Test (OT). FY09 - Complete OT. FY10 - Prepare and complete documentation for Full Rate Production Decision.		15867	11104	8752
JSAM MPU-5 (RW) - FY08 - Completed Down-selection designs; continued prototyping. Initiated DT (includes flight testing). FY09 - Continue DT. FY10 - Prepare specific mask tooling for prototypes. Complete DT. Produce MPU-5 prototypes (256 units at a cost of \$4,400 ea) for OT.				
JSAM Fixed Wing (FW) - FY08 - Initiated DT ground tests and flight clearance. FY09 - Initiate DT flight testing, Chem/Bio, environmental and continue integration testing for joint service aircraft platforms. FY10 - Continue and complete DT flight testing. Start and complete OT and prepare documentation for MS C. Produce prototypes (288 prototypes at a unit cost of \$4,130 ea) for OT.		13764	11126	6217
Total		29631	22230	14969
Project IP5/Line No: 111 Page 89 of 175 Pages Exhibit R-2a (PE 0604384BP)				

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IP5
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JS GENERAL PURPOSE MASK (JSGPM)	0	0	1468
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
PHASE 1 ROPE: M50 and M51 - Short-term TIC Capability Enhancement - FY10 - Conduct Government sorbent screening. Initiate filter qualification testing on potential candidates.	0	0	475
PHASE 2 ROPE: M50 and M51 - Long-term Future Filtration - FY10 - Conduct analysis of Market Survey results and conduct initial DT of possible respiratory and ocular protection candidates. Conduct further DT on possible candidates and provide recommendations on which material, concept and/or design that may be transitioned to the JCE program. Conduct method verification of enhanced TIC protection assessment.	0	0	993
Total	0	0	1468

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
LIGHTWEIGHT CB ENSEMBLE (LCBE)	0	0	2345
RDT&E Articles (Quantity)	0	0	0

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IP5
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
LCBE - FY10 - Establish IPT to prepare RFI/RFP and review industry opportunities. Initiate DT efforts.	0	0	2345
Total	0	0	2345

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	262	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	262	0
Total	0	262	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IP5
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<u>C. Other Program Funding Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
IP7 INDIVIDUAL PROTECTION OPERATIONAL SYS DEV	0	4614	0		
JI0002 JS AIRCREW MASK (JSAM)	4576	0	23116		
JI0003 JOINT SERVICE GENERAL PURPOSE MASK (JSGPM/JSCESM)	45533	42490	48432		
JI0015 JOINT PROTECTIVE AIRCREW ENSEMBLE (JPACE)	15890	0	0		
JSM001 JOINT SERVICE MASK LEAKAGE TESTER (JSMLTS)	9854	0	0		
MA0400 PROTECTIVE CLOTHING (JSLIST)	38745	37484	20456		

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IP5
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D. Acquisition Strategy:

JSAM The JSAM Acquisition Program Baseline Agreement (APBA) identifies JSAM Type IA Apache (MPU-6) as the Rotary Wing (RW) Integrated Helmet and Display Sighting System (IHADSS) variant. The JSAM Type I RW (MPU-5) that is being developed for the majority of RW aircrew. JSAM Type IA Apache (MPU-6) will be fielded first. Appropriate production options will be exercised.

The JSAM Type II Fixed Wing (FW) variant will meet the needs of the FW aircrew, and majority of the requirements for the JSF JSAM. The FW development contract (with production options) was awarded 13 April 2006.

JSGPM JSGPM: All possible candidates will be identified through the Request For Information (RFI) published by the Filter Additional Source Qualification (FASQ) team in 2005. The candidates will be screened against CWAs and TICs at the sorbent level. Candidates that show an indication that it may provide a performance enhancement may be transitioned into filter qualification testing. The qualification of a new filtration media for JSGPM will be based on the current JSGPM filter specification.

ROPE: The Respiratory and Ocular Protection Equipment program will be based on full and open competition. A Request For Information was released in July 2008 to evaluate what novel concepts, materials and designs that could be pursued for the next generation system. An analysis of the results of the market survey will be conducted and potential candidates will be pursued for further evaluation.

LCBE The LCBE program strategy employs an evolutionary approach to provide a lightweight system that protects against emerging chemical, biological agents, across all mission areas and profiles. The LCBE acquisition strategy will use full and open competition.

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IP5
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JSAM													
HW S - Contractor Development Types I/IA	C/CPAF	AVOX, Lancaster, NY	C	31428	5925	2Q FY09	795	1Q FY10					
SW SB - Contractor Development Type II	C/FPI	Gentex, Rancho Cucamonga, CA	C	8573	5085	1Q FY09	4626	1Q FY10					
Subtotal I. Product Development:					11010		5421						

Remarks:

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JSGPM													
ES C - JSGPM Filter	MIPR	ECBC, APG, MD	U	0	0	NONE	118	1Q FY10					
ES C - JSGPM Filter	MIPR	NRL, Washington, DC	U	0	0	NONE	100	1Q FY10					
LCBE													
ES S - Engineering IPT	MIPR	Various	U	0	0	NONE	349	1Q FY10					
Subtotal II. Support Costs:					0		567						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IP5
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date				
JSAM												
PM/MS C - Program Management/Management Support	MIPR	Various	U	14326	1074	3Q FY09	2700	1Q FY10				
JSGPM												
PM/MS C - Conduct Market Survey Analysis	MIPR	JPMO IP, Stafford, VA	U	0	0	NONE	200	1Q FY10				
LCBE												
PM/MS S - JPMO IP Program Management	MIPR	JPMO IP, Stafford, VA	U	0	0	NONE	396	1Q FY10				
ZSBIR												
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	262	NONE	0	NONE				
Subtotal IV. Management Services:					1336		3296					

Remarks:

TOTAL PROJECT COST:					22492		18782					
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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IP5
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
JSAM												
DT Type IA Apache	>>	—————			1Q							
OT&E Type IA Apache		2Q	—————		—————				1Q			
MS C FRP Decision Type IA Apache							3Q					
IOC Type IA Apache										2Q		
DT Type I RW	>>	—————			—————				1Q			
DT Type II FW	1Q	—————			—————				1Q			
Milestone C (LRIP) Type II Fixed Wing											3Q	
JSGPM												
JSGPM Sorbent Testing									1Q	2Q		
JSGPM Filter Qualification Testing											3Q	>>
ROPE Market Survey Analysis									1Q	2Q		
ROPE Method Verification											3Q	4Q
ROPE Candidate Screening											3Q	>>
LCBE												
LCBE Start IPT									1Q			

Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDTE&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IP5
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
LCBE (Cont)												
LCBE Start DT											3Q	>>

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IS5
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
IS5 INFORMATION SYSTEMS (SDD)	49878	42325	32453		

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 is DoD's only accredited model for predicting hazards associated with the release of contaminants into the environment. JEM is being developed in separate increments and is 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 operates 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. At the time of this submission, JEM Increment 2 schedule events beyond FY12 are tentative, pending approval of the Increment 2 CDD.

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.

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IS5
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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. At the time of this submission, no CDD or funding has been approved for Increment 2, and there are therefore no schedule events.

The JPEO-CBD SSA is a JPEO-CBD enterprise-wide, user developmental support and service organization focusing on development assistance and net-centric interoperability. The SSA provides the Chemical, Biological, Radiological, Nuclear (CBRN) Warfighter with Joint Service solutions for Integrated Architectures, 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.

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IS5
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B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT EFFECTS MODEL (JEM)	14379	14553	18814
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JEM - FY08/09/10 - Support operational demonstrations and exercises.	46	331	698
JEM - FY08/09/10 - Conduct independent verification, validation, and accreditation of JEM software and models.	590	979	1615
JEM - FY08/09/10 - Perform JEM Increment 2 Systems Engineering Tasks to include requirements analysis, architecture analysis, configuration management, human-system integration, security analysis, and DoD architecture artifact development.	981	1021	795
JEM - FY08/09/10 - Continue JEM program financial management, scheduling, planning and reporting.	1856	1912	1945

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
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):		FY 2008	FY 2009	FY 2010
JEM - FY08/09/10 - Perform software upgrades on fielded 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), US Forces Korea (USFK) US Air Force Europe (USAFE), US National Guard Civil Support Teams (CST), (etc). Global Command and Control System (GCCS) - Joint/Army/Air Force/Maritime (J/A/AF/M), Maneuver Control System (MCS).		2172	2209	2229
JEM - FY08/10 - Prepare for and conduct Operational Assessments (OA) on target platforms with the Service Operational Test Agencies (OTAs). Prepared for independent Multi-Service Operational Test and Evaluation (funds for actual conduct in bullet above).		997	0	728
JEM - FY08/09/10 - Prepare for and conduct Multi-Service Operational Test and Evaluation (MOT&E) and Follow-on Test and Evaluation (FOT&E).		2216	1480	1491
JEM - FY08/09/10 - Provide Scientific Subject Matter Expertise (SME) and support to JEM Model IPT. Revalidate Increment 2 technology analysis from FY04 analysis, develop prototype options for down-select and prepare for Increment 2 Milestone B.		500	500	506
<p>Project IS5/Line No: 111</p> <p align="center">Page 102 of 175 Pages</p> <p align="right">Exhibit R-2a (PE 0604384BP)</p>				

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IS5
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
JEM - FY08/09/10 - Conduct Science and Technology transition and development of JEM Increment 2 software. Analyze existing and future software architecture. Develop Increment 2 Risk Reduction Prototype. Migrate 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.	4025	5174	6734
JEM - FY08/09/10 - Plan and perform Governmental DT. Verify that the 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).	590	947	2073
JEM - FY08 - Updated Computer Based Training (CBT), instructor lead training and courseware. Updated infrastructure and software support capability. Updated deployment plan and other applicable supporting documentation for JEM.	406	0	0
Total	14379	14553	18814

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT OPERATIONAL EFFECTS FEDERATION (JOEF)	6450	7880	2938
RDT&E Articles (Quantity)	0	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
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		FY 2008	FY 2009	FY 2010
JOEF - FY08/09/10 - Provide Program Management Support, including Systems Engineering, Warfighter, Test and Evaluation, and Integrated Logistics Support Integrated Project Teams (Increment 1).		1090	2690	1802
JOEF - FY08/09 - 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).		1512	2500	0
JOEF - FY08/09 - Develop mobile force capability to meet Service requirements (Increment 1).		742	1200	0
JOEF - FY08/09/10 - Develop and test interoperability of JOEF software with required systems (Increment 1).		687	520	100
JOEF - FY08/09/10 - Plan and conduct Developmental and Operational Testing (DT/OT).		726	50	436
JOEF - FY08/09/10 - Plan and provide Integrated Logistics Support, including training, to the JOEF system (Increment 1).		183	320	400
JOEF - FY08/09/10 - Plan and conduct software validation and verification (Increment 1).		177	300	200
Project IS5/Line No: 111 Page 104 of 175 Pages Exhibit R-2a (PE 0604384BP)				

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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
JOEF - FY08/09 - Continue the integration with JEM, JWARN and database management systems (Increment 1).	333	300	0
JOEF - FY08 - Integrate existing COTS/GOTS incident management tools into the JPM IS web services framework to provide the JPEO Enterprise with a functional, requirements driven, incident response and management prototype and common operational picture.	1000	0	0
Total	6450	7880	2938

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT WARNING & REPORTING NETWORK (JWARN)	23571	16191	7351
RDT&E Articles (Quantity)	150	80	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JWARN - FY08 - Conducted Increment 1 Multi-Service Operational Test & Evaluation (MOT&E) event planning.	850	0	0
JWARN - FY08 - Conducted Increment 1 Developmental Test (DT).	2100	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
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Accomplishments/Planned Program (Cont):				
JWARN - FY08 - Generated Increment 1 comprehensive DT test results reports.		375	0	0
JWARN - FY08/09/10 - Continue JWARN program management and oversight.		2051	2073	2100
JWARN - FY08/09 - Design, develop, integrate, and update software and hardware for a Functional Operational Test (FOT) Simulator demonstration system.		175	160	0
JWARN - FY08/09/10 - Complete Increment 1 development (FY08) and conduct Increment 2 planning and development (FY08/09/10).		7388	4500	3000
JWARN - FY08/09/10 - Conduct demonstrations and exercises.		50	70	50
JWARN - FY08/09/10 - Develop Network Centric Enterprise Services (NCES)/Net Ready (NR)/Key Performance Parameters (KPP) enhancements.		1400	1000	838
JWARN - FY08/09 - Develop the wireless JWARN Component Interface Device (JCID) as required by the Services' Urgent Needs Statement (UNS). Produce 70 Engineering Development Models of the JCID.		1030	2553	0
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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):		FY 2008	FY 2009	FY 2010
JWARN - FY08 - Conducted JCID First Article Test (FAT).		220	0	0
JWARN - FY08 - Conducted Increment 1 Milestone C reviews.		700	0	0
JWARN - FY08 - Coordinated JCID Low Rate Initial Production (LRIP). Produced 140 JCIDs.		660	0	0
JWARN - FY08 - Conducted Increment 1 Operational Assessment (OA) 1 & 2.		1400	0	0
JWARN - FY08 - Generated comprehensive Increment 1 OA 1 & 2 reports.		500	0	0
JWARN - FY08/09 - Conduct Increment 1 MOT&E.		4147	1094	0
JWARN - FY08/09 - Generate Increment 1 MOT&E test results and reports.		525	470	0
JWARN - FY09/10 - Conduct Increment 2 Functional Qualification Tests (FQT).		0	2893	613
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT	IS5
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
JWARN - FY09 - Generate FQT test results and reports.	0	525	0
JWARN - FY09/10 - Coordinate JCID Full Rate Production.	0	853	750
Total	23571	16191	7351

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SOFTWARE SUPPORT ACTIVITY (SSA)	5478	3208	3350
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SSA - FY08/09/10 - Provide Policies, Standards & Guidelines for IT Systems Development (FISMA compliance and J6 Interoperability Certification).	419	205	233
SSA - FY08/09/10 - Develop and maintain a program Integrated Architecture for JPEO-CBD (Warfighter Enterprise Architecture).	875	371	422

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Accomplishments/Planned Program (Cont):				
SSA - FY08/09/10 - Provide support processes and services for Architectures, Data, Information Assurance, Help Desk, Modeling and Simulation, Science and Technology, and Standards and Policy.		812	291	332
SSA - FY08/09/10 - Provide CBRN Data Model development for CBRN Community of Interest.		533	298	339
SSA - FY08/09 - Developed and maintained Enterprise IT Support Plan.		236	182	0
SSA - FY08/09/10 - Establish and provide Information Assurance certification and acceptance services for developing JPEO-CBD programs.		840	360	408
SSA - FY08/09/10 - Establish and maintain a repository for applicable Enterprise policies, standards, and guidelines.		708	297	340
SSA - FY08/09/10 - Establish and provide Technology Transition support services (common components and services).		316	152	172
SSA - FY08/09/10 - Establish and maintain Enterprise VV&A guidelines and processes, including M&S strategic support and Accreditation support.		739	267	303
<p>Project IS5/Line No: 111</p> <p align="center">Page 109 of 175 Pages</p> <p align="right">Exhibit R-2a (PE 0604384BP)</p>				

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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
SSA - FY09/10 - Provide Net-Centric Assessment for programs.	0	351	399
SSA - FY09/10 - Develop and maintain Common CBRN Interface standards, including Common CBRN Sensor Interface (CCSI).	0	434	402
Total	5478	3208	3350

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	493	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	493	0
Total	0	493	0

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IS5
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C. Other Program Funding Summary:

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
G47101 JOINT WARNING & REPORTING NETWORK (JWARN)	6702	4375	6571		
JC0208 JOINT EFFECTS MODEL (JEM)	3512	5546	3493		
JC0209 JOINT OPERATIONAL EFFECTS FEDERATION (JOEF)	3589	0	0		

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 is now being 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.

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<p>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.</p> <p>Increment 3 will extend consequence management capabilities to include hot/allied nation military operations and civilian facilities.</p> <p>JWARN The Joint Warning and Reporting Network (JWARN) revised Acquisition Strategy (AS) is based on the contract awarded on 15 July, 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 II 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.</p> <p>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.</p>		
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<p>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] .</p> <p>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].</p> <p>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].</p>		
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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IS5
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JEM													
DTE SB - Hazard Prediction Model Development Test	MIPR	Various	U	4988	947	1Q FY09	2073	2Q FY10					
OTE S - Hazard Prediction Model Developmental Test	MIPR	Various	U	4076	1480	2Q FY09	2219	2Q FY10					
OTHT SB - Hazard Prediction Model - IV&V	MIPR	Various	U	2303	979	2Q FY09	1616	2Q FY10					
JOEF													
DTE S - Developmental Test Planning	MIPR	Various	U	3552	200	2Q FY09	68	2Q FY10					
OTHT S - JOEF Independent Verification and Validation	MIPR	Various	U	607	300	2Q FY09	200	2Q FY10					
OTE S - Operational Test Planning	MIPR	Various	U	303	50	1Q FY09	468	2Q FY10					
JWARN													
OTHT SB - JWARN Block II Development Test	MIPR	Various	U	25133	5127	2Q FY09	663	2Q FY10					
SSA													
Test and Evaluation	MIPR	SPAWAR Systems Center, San Diego, CA	U	2204	651	1Q FY09	485	1Q FY10					
Subtotal III. Test and Evaluation:					9734		7792						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IS5
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date				
JEM												
PM/MS S - Program Office - Planning and Programming	MIPR	SPAWAR Systems Command, San Diego, CA	U	4600	1912	1Q FY09	1945	1Q FY10				
JOEF												
PM/MS S - Program Office - Planning and Programming	MIPR	Various	U	7109	1150	1Q FY09	1102	1Q FY10				
JWARN												
PM/MS S - JWARN Management Support	MIPR	Various	U	18740	2926	2Q FY09	2850	2Q FY10				
SSA												
Management Services	MIPR	SPAWAR Systems Center, San Diego, CA	U	2155	567	1Q FY09	344	1Q FY10				
ZSBIR												
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	493	NONE	0	NONE				
Subtotal IV. Management Services:					7048		6241					

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RD&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IS5
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TOTAL PROJECT COST:		42325		32453						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
JEM												
Increment 1 - Developmental Test (DT) (Contr and Government)	1Q											
Increment 1 - Software Maintenance	>>		—————	3Q								
Increment 1 - Pre-planned Product Improvement (P3I)			3Q	—————	—————	—————	—————	—————	—————	—————	—————	>>
Increment 1 - Multi-Service Operational Test and Evaluation (MOTE) I	1Q											
Increment 1 - Limited Deployment Phase	>>	2Q										
Increment 1 - Initial Operational Capability (IOC)		2Q	—————	—————	1Q							
Increment 1 - Full Rate Production			3Q	—————	—————	—————	—————	—————	—————	2Q		
Increment 1 - Multi-Service Operational Test and Evaluation (MOTE) II				4Q								
Increment 1 - Follow-on Test and Evaluation							3Q	—————	1Q			

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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT IS5
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
JEM (Cont)												
Increment 2 - Technology Development			3Q	_____	_____	_____	_____	_____	_____	2Q		
Increment 2 - Milestone B							4Q		_____	3Q		
Increment 2 - Engineering and Manufacturing Development									1Q	_____	>>	
Increment 2 - DT (Cont)					2Q	_____	_____	_____	_____	_____	_____	>>
Increment 2 - DT Government							3Q	_____	_____	_____	_____	>>
JOEF												
Increment 1 - Tech Reviews	>>	_____	_____	_____	_____	2Q						
Increment 1 - DT Build 2					2Q							
Increment 1 - Operational Assessment									1Q			
Increment 1 - Multi-Service Operational Test & Evaluation (MOTE)												4Q
Increment 1 - Milestone C (Limited Deployment)												4Q
JWARN												

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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	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 - Limited Objective Experiment (LOE)/User Assessment (UA)		2Q	3Q									
JWARN Inc 1 - Milestone C		2Q	3Q									
JWARN Inc 1 - JCID Low Rate Initial Production (LRIP) Contract Award			3Q	4Q								
JWARN Inc 1 - First Article Test				4Q	1Q							
JWARN Inc 1 - Multi-Service Operational Test & Evaluation (Software)				4Q	————	2Q						
JWARN Inc 1 - Initial Operational Test and Evaluation (Hardware)								4Q				
JWARN Inc 1 - Initial Operational Capability (Software)						2Q	————	4Q				
JWARN Inc 1 - Initial Operational Capability (Hardware)								4Q	————	2Q		

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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
JWARN (Cont)												
JWARN Inc 1 - Full Rate Production Milestone Decision						2Q						
JWARN Inc 1 - Full Rate Production								4Q	_____ >>			
JWARN Inc 1 - Full Operational Capability										2Q		
SSA												
Establish CM Services for the Enterprise CBRND Products	>>		_____ 3Q									
Provide Data Model Implementation Guidance	1Q	_____ >>										
Demonstrate Technology Transition Capabilities	1Q	_____ >>										
Provide CM Services for Common User Products and Services	1Q	_____ >>										
Establish Common Services Management Guidance	1Q		_____ 3Q									

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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
SSA (Cont)												
Develop and provide CBRN Data Model implementation guidance, including reference implementations	1Q	_____ >>										
Architecture advisory services to support Warfighter Enterprise and Program Integrated Architectures	1Q	_____ >>										
Demonstrate, Verify, Test Technology Transition capabilities esp. for Common Components and Services	1Q	_____ >>										
Provide Information Assurance Certification/Acceptance products/services, including compliance testing	1Q	_____ >>										
Provide Modeling, Simulation, VV&A, Integration/Test support and interoperability demonstrations.	1Q	_____ >>										

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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
SSA (Cont)												
Provide FISMA and J6 Interoperability certification support	1Q	_____ >>										
Provide CBRN Interface Standards, incl. reference implementations, e.g. Common CBRN Sensor Interface	1Q	_____ >>										
Sustain CBRN Data Model	1Q	_____ >>										
Sustain CCSI, including investigation, as an industry standard	1Q	_____ >>										

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
MB5 MEDICAL BIOLOGICAL DEFENSE (SDD)	69231	89424	64478		

A. Mission Description and Budget Item Justification:

Project MB5 MEDICAL BIOLOGICAL DEFENSE (SDD): This project (MB5) contains System Development and Demonstration efforts (post Milestone B), which provide a rapid response capability from identification of pathogens to the delivery of medical countermeasures. Specifically, this project includes: the Critical Reagents Program (CRP), the Joint Biological Agent Identification and Diagnostics System (JBAIDS), vaccines for Botulinum Toxin and Plague, and The Transformational Medical Technology Initiative (TMTI) program. The Transformational Medical Technologies Initiative (TMTI) was launched in FY 2006 as a key Quadrennial Defense Review initiative to respond to the threat of emerging or intentionally bioengineered biological threats. TMTI's mission is to protect the Warfighter from genetically engineered biological threats by providing a rapid response capability from identification of pathogens to the delivery of medical countermeasures. This mission is accomplished by developing broad spectrum (multi-agent) therapeutics against biological warfare (BW) agents (e.g, one drug that treats multiple agents). The development of broad spectrum therapeutics involves developing a capability to treat exposure to hemorrhagic fever viruses (HFV's) (e.g. Ebola virus) and intracellular bacterial pathogens (ICB's) (e.g. Tularemia). Efforts are further classified as host-directed therapeutics (e.g, drugs that target common pathways within a human to prevent or treat a variety of diseases) or pathogen-directed therapeutics (e.g., drugs that attack a common pathway found in multiple threat agents). Attrition is high throughout the drug development process. Less than 10% of all preclinical compounds become a licensed drug. Causes for attrition include scientific failures, Food and Drug Administration (FDA) rejection at major milestone reviews, and loss through down-selection at DoD Milestone Decision points. Simply put, the development of medical countermeasures is an arduous process that requires extensive interaction with the FDA, from pre-clinical research to safety tests in human subjects (Phase I clinical studies), efficacy tests in humans/animals (Phase II clinical studies or pivotal animal efficacy studies), and expanded safety or efficacy studies (Phase III clinical studies), which culminate with a request to the FDA to license, market, and produce a drug. This interaction between the Department of Defense (DoD) and the FDA results in a coordinated, unified, and safe effort.

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
CRITICAL REAGENTS PROGRAM (CRP)	10041	7435	4430
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
CRP - FY08/09/10 - Continue expansion of select biological threat agent reference materials.	1598	2217	1233
CRP - FY08/09/10 - Continue development of immunoassays and polymerase chain reaction (PCR) genomic assays.	2545	1127	679
CRP - FY08/09/10 - Implemented and continue improvement of a formal Quality Assurance/Quality Control (QA/QC) non-medical, systems engineering, validation, Developmental Testing (DT), and Operational Testing (OT) program to encompass the transition and fielding of biological detection assays.	5441	3568	2206
CRP - FY08/09/10 - Implemented, continue and achieve International Organization for Standardization (ISO) guidelines into select biological threat agent reference materials.	457	523	312
Total	10041	7435	4430

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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT BIO AGENT IDENT AND DIAG SYSTEM (JBAIDS)	3162	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JBAIDS #2 - Congressional Interest Item - FY08 - Rapid Identification of Biological Warfare Agents.	1581	0	0
JBAIDS #3 - Congressional Interest Item - FY08 - Joint Biological Agent Identification and Diagnostic System.	1581	0	0
Total	3162	0	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
BOTULINUM VACCINE (VAC BOT)	15600	23364	31174
RDT&E Articles (Quantity)	0	0	0

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Accomplishments/Planned Program				
JVAP - Recombinant Botulinum Vaccine - FY08 - Provided strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contacting, scheduling, acquisition oversight and technical support.	3857	0	0	
JVAP - Recombinant Botulinum Vaccine - FY08 - Conducted Milestone B review and entered into Systems Development and Demonstration acquisition phase.	100	0	0	
JVAP - Recombinant Botulinum Vaccine - FY08/09 - Continued and complete execution of Phase 1b clinical trial.	2075	1050	0	
JVAP - Recombinant Botulinum Vaccine - FY08/09/10 - Continue and complete manufacturing process validation and validation of formulation, fill and finish process for serotypes A and B.	5298	10964	19442	
JVAP - Recombinant Botulinum Vaccine - FY08/09/10 - Continue non-clinical testing.	1900	3401	4982	
JVAP - Recombinant Botulinum Vaccine - FY08/09/10 - Initiated, continue, and complete Phase 2 clinical trial.	2370	7949	6750	
Total	15600	23364	31174	

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
PLAGUE VACCINE (VAC PLG)	38452	57577	28874
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JVAP - Plague Vaccine - FY08 - Conducted resource allocation decision to single candidate.	508	0	0
JVAP - Plague Vaccine - FY08/09 - Continued and complete large scale manufacturing process development.	8153	7243	0
JVAP - Plague Vaccine - FY08/09/10 - Continue non-clinical studies, to include additional FDA required passive transfer studies.	7150	12061	4245
JVAP - Plague Vaccine - FY08/09/10 - Continue and complete Phase 2 clinical trial.	8100	9631	6385
JVAP - Plague Vaccine - FY08/09/10 - Continue and complete large scale manufacturing process validation.	14541	24535	15175
JVAP - Plague Vaccine - FY09/10 - Provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contacting, scheduling, acquisition oversight and technical support.	0	4107	3069
Total	38452	57577	28874

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
BIOLOGICAL VACCINES (VACCINES)	1976	0	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
TT Bio - Congressional Interest Item - FY08 - ParalellaVax Rapid Vaccine Testing Technology.	1976	0	0
Total	1976	0	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	1048	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	1048	0
Total	0	1048	0

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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C. Other Program Funding Summary:

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
JM0001 JOINT BIO AGENT IDENT AND DIAG SYSTEM (JBAIDS)	4902	479	0		
JX0005 DOD BIOLOGICAL VACCINE PROCUREMENT	48298	38109	12740		
JX0210 CRITICAL REAGENTS PROGRAM (CRP)	2413	0	0		

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 through FDA licensure of a recombinant bivalent (A and B) botulinum vaccine. Other serotypes will be developed through an evolutionary approach, as funding becomes available.

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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The management lead for the program shifted to JVAP at Milestone A. The Advanced Component Development and Prototypes (ACD&P) phase 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 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 also is 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 and consistency lots have been produced. 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) was mitigating technical program risk in the Plague Vaccine program by temporarily supporting development of both a US vaccine candidate and a United Kingdom vaccine candidate. During the 2008 Resource Allocation Decision, the US Plague Vaccine candidate was selected for development through licensure under JVAP's Prime Systems Contract. A Project Arrangement is currently under negotiation with the United Kingdom and Canada.

The management lead for the program shifted to JVAP at Milestone A. The Advanced Component Development and Prototypes (ACD&P) phase 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).

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
<p>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 and consistency lots have been produced. At the Milestone C, approval is granted to produce the Initial Operational Capability (IOC) of vaccine material. A Biologics License 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.</p> <p>VACCINES Biological vaccines such as Anthrax Vaccine Absorbed (AVA) and Smallpox Vaccine are currently procured through an Interagency Agreement (IAA) with the Centers for Disease Control (CDC).</p>		
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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date				
CRP												
CRP - Scale-up of Select Biological Threat Agent Reference Materials	MIPR	USAMRIID, Fort Detrick, MD & Dugway Proving Ground, DPG, UT	U	6834	1267	2Q FY09	586	2Q FY10				
CRP - Development of Select Biological Threat Agent Reference Materials and Assays	MIPR	RDECOM, Edgewood, MD, NMRC, Silver Spring, MD	U	1088	450	2Q FY09	151	2Q FY10				
VAC BOT												
Manufacturing, Validation and Consistency Lot Production	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	3842	9140	2Q FY09	12745	2Q FY10				
VAC PLG												
Manufacturing, Validation, and Consistency Lot Production	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	43079	22668	2Q FY09	10330	2Q FY10				
Subtotal I. Product Development:					33525		23812					

Remarks: CRP - DTIC - Defense Technical Information Center
 NMRC - Naval Medical Research Center
 RDECOM - Research, Development & Engineering Command
 USAMRIID - US Army Medical Research Institute of Infectious Diseases

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date				
CRP												
CRP - Select Biological Threat Agent Reference Material Regulatory Support	MIPR	DTIC, Edgewood, MD	U	406	150	2Q FY09	90	2Q FY10				
CRP - Select Biological Threat Agent Reference Material Development	MIPR	USAMRIID, Fort Detrick, MD; RDECOM, Edgewood, MD	U	1802	488	2Q FY09	294	2Q FY10				
CRP - Select Biological Threat Agent Reference Material Regulatory/Quality Assurance (QA) Support	MIPR	Dugway Proving Ground, Dugway, UT	U	953	218	2Q FY09	131	2Q FY10				
VAC BOT												
Regulatory Integration (Environmental and FDA Documentation) and Delivery System	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	854	1185	2Q FY09	1593	2Q FY10				
VAC PLG												
Regulatory Integration (Environmental and FDA Documentation) and Delivery System	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	9773	2921	2Q FY09	1476	2Q FY10				
Subtotal II. Support Costs:					4962		3584					

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II. Support Costs - Cont.

Remarks: CRP - DTIC - Defense Technical Information Center
 NMRC - Naval Medical Research Center
 RDECOM - Research, Development & Engineering Command
 USAMRIID - US Army Medical Research Institute of Infectious Diseases

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
CRP													
CRP - Conformance Testing of Select Biological Threat Agent Reference Materials and Assays	MIPR	Naval Medical Research Center, Silver Spring, MD	U	2042	291	2Q FY09	162	2Q FY10					
CRP - Test & Evaluation of Select Biological Threat Agent Reference Materials and Assays	MIPR	USAMRIID, Frederick, MD	U	2744	399	2Q FY09	222	2Q FY10					
CRP - Validation Program	C/CPFF	TBD	C	3989	1442	3Q FY09	597	3Q FY10					
VAC BOT													
Testing, Evaluation, and Clinical Trials	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	3842	9364	2Q FY09	11068	2Q FY10					

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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III. Test and Evaluation - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
VAC PLG													
Testing, Evaluation, and Clinical Trials	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	41279	19602	2Q FY09	9100	2Q FY10					
Subtotal III. Test and Evaluation:					31098		21149						

Remarks: CRP - DTIC - Defense Technical Information Center
 NMRC - Naval Medical Research Center
 RDECOM - Research, Development & Engineering Command
 USAMRIID - US Army Medical Research Institute of Infectious Diseases

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
CRP													
Product Management Support	Allot	CBMS, Frederick, MD	U	330	302	1Q FY09	302	1Q FY10					
Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	1489	1590	2Q FY09	1493	2Q FY10					
Chem Bio Medical Systems Office	Allot	CBMS, Frederick, MD	U	1829	456	4Q FY09	171	4Q FY10					
Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	327	377	4Q FY09	226	4Q FY10					
IT and Security Support	MIPR	RDECOM, Edgewood, MD	U	104	5	2Q FY09	5	2Q FY10					
VAC BOT													
PM/MS S - Joint Vaccine Acquisition Program Management	Allot	CBMS, Frederick, MD	U	273	273	4Q FY09	900	4Q FY10					
PM/MS S - Contractor Systems Engineering/Program Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	1930	1053	3Q FY09	1805	3Q FY10					
PM/MS S - Award Fee (Maximum 10.5%)	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	1002	2349	2Q FY09	3063	2Q FY10					
VAC PLG													
PM/MS S - Program Management Support	Allot	JPEO, Falls Church, VA	U	1741	4107	4Q FY09	3069	4Q FY10					
PM/MS S - Contractor Systems Engineering/Program Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	5064	2880	3Q FY09	2370	3Q FY10					

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
PM/MS S - Award Fee (Maximum 10.5%)	C/CPAF	DynPort Vaccine Company, Frederick, MD	C	8713	5399	2Q FY09	2529	2Q FY10					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	1048	NONE	0	NONE					
Subtotal IV. Management Services:					19839		15933						

Remarks:

TOTAL PROJECT COST:		89424		64478									
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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MB5
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
CRP												
CRP - Implementation of ISO Guidelines into Select Biological Threat Agent Reference Materials	>>	—————							4Q			
VAC BOT												
rBV A/B - Process Validation - Large Scale	>>	—————							4Q			
rBV A/B - Phase 1 Clinical Trial (A/B)	>>	—————			1Q							
rBV A/B - Milestone B			3Q									
rBV A/B - Phase 2 Clinical Trial (A/B)				4Q	————— >>							
VAC PLG												
PLG - Process Development - Large Scale	>>	—————							4Q			
PLG - Resource Allocation Decision to Single Candidate			2Q									

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MC5
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
MC5 MEDICAL CHEMICAL DEFENSE (SDD)	14149	22068	14086		

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; (3) Dry Powder Inhaler Atropine (DPIA), which will be used to treat continuing nerve agent- induced effects after the patient has been evacuated to a medical treatment facility; (4) 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; and (5) Pharmaceutical Post Approval and Development Support (PPADS) - Skin Exposure Reduction Paste Against Warfare Agents (SERPACWA) used as a topical skin protectant, and Soman Nerve Agent Pyridostigmine Pretreatment (SNAPP) used as a pretreatment against nerve agent poisoning.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
ADVANCED ANTICONVULSANT SYSTEM (AAS)	13483	10507	3447
RDT&E Articles (Quantity)	0	0	0

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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		FY 2008	FY 2009	FY 2010
AAS - FY08/09/10- Continue and complete Phase 2 clinical safety studies.		4749	2855	176
AAS - FY08/09/10 - Continue process development and current Good Manufacturing Practices (cGMP) requirements.		4498	2550	675
AAS - FY08/09/10 - Continue and complete Good Laboratory Practices (GLP) animal efficacy studies.		852	3161	352
AAS - FY08/09 - Continued and complete formulation and toxicology studies.		611	774	0
AAS - FY08/09/10 - Initiated, continue and complete Developmental Testing/Operational Testing (DT/OT) of packaging.		267	273	281
AAS - FY09/10 - Initiate, continue and complete New Drug Application (NDA).		0	894	1963
AAS - FY08 - Provided strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.		2506	0	0
Total		13483	10507	3447
<p>Project MC5/Line No: 111</p> <p align="center">Page 142 of 175 Pages</p> <p align="right">Exhibit R-2a (PE 0604384BP)</p>				

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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
BIOSCAVENGER (BSCAV)	0	4790	7017
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
BSCAV Increment 2 - FY09/10 - Continue large scale manufacturing, process qualification, and validation.	0	2650	4680
BSCAV Increment 2 - FY09/10 - Initiate, continue and complete Good Laboratory Practices (GLP) animal efficacy studies.	0	790	1037
BSCAV Increment 2 - FY09/10 - Initiate and continue Phase 2 clinical safety studies.	0	1350	1300
Total	0	4790	7017

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
IMPROVED NERVE AGENT TREATMENT SYSTEM (INATS)	0	6514	2872
RDT&E Articles (Quantity)	0	0	0

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MC5
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
INATS - FY09/10 - Initiate and complete Current Good Manufacturing Practice (cGMP) manufacturing requirements and stability in autoinjector.	0	3065	1880
INATS - FY09/10 - Initiate, continue, and complete formulation compatabilty/stabilty studies with autoinjectors.	0	1275	582
INATS - FY09 - Provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology, assessment, contracting, scheduling, acquisition oversight and technology support.	0	2174	0
INATS - FY10 - Initiate Phase 2 clinical safety and Good Laboratory Practices (GLP) animal efficacy studies.	0	0	410
Total	0	6514	2872

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
PHARMACEUTICAL POST APPROVAL & DEVELOPMENT SUPPORT	666	0	750
RDT&E Articles (Quantity)	0	0	0

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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
PPADS - FY08 - Completed FDA required post-marketing studies (including stability testing) for Skin Exposure Reduction Paste Against Chemical Warfare Agents (SERPACWA).	604	0	0
PPADS - FY08 - Completed FDA required regulatory studies for SERPACWA and Soman Nerve Agent Pyridostigmine Pretreatment (SNAPP).	62	0	0
PPADS - FY10 - Develop a Time Temperature Indicator (TTI) capability for Soman Nerve Agent Pre-Treatment Pyridostigmine to provide visual warning of product reliability.	0	0	750
Total	666	0	750

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	257	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	257	0
Total	0	257	0

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C. Other Program Funding Summary: N/A

D. Acquisition Strategy:

AAS The Advanced Anticonvulsant System (AAS) will consist of the drug midazolam in an autoinjector. Midazolam, injected intramuscularly, will treat against seizures and prevent subsequent neurological damage caused by exposure to nerve agents. Midazolam is more water-soluble than diazepam (the currently fielded medication to control nerve agent-induced seizures) and terminates nerve agent-induced seizures more quickly than diazepam. AAS will not eliminate the need for other protective and therapeutic systems. AAS will be a replacement for the currently-fielded Convulsant Antidote, Nerve Agent (CANA) autoinjector, which uses diazepam.

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

<h2 style="margin: 0;">CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)</h2>		DATE <p align="center" style="font-weight: bold;">May 2009</p>			
BUDGET ACTIVITY <p style="font-weight: bold;">RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)</p>	PE NUMBER AND TITLE <p style="font-weight: bold;">0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)</p>				
<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; vertical-align: top; border: none;"> <p>INATS</p> </td> <td style="border: none;"> <p>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.</p> <p>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.</p> <p>Unlike Bioscavenger Increment 1 and 2 technology, where the bioscavenger is ineffective after binding with nerve agents, Increment 3 will include products that continuously degrade nerve agents while retaining their effectiveness (catalytic Bioscavenger).</p> <p>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.</p> </td> </tr> </table>			<p>INATS</p>	<p>Increment 1 is butyrylcholinesterase purified from human plasma (i.e., plasma-derived Bioscavenger or pBioscavenger). 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Project MC5/Line No: 111	Page 147 of 175 Pages	Exhibit R-2a (PE 0604384BP)			

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)										DATE May 2009				
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)					PROJECT MC5				
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
AAS													
AAS - cGMP Manufacturing Requirements	C/CPIF	Meridian Medical Technologies, Columbia, MD	C	5991	4111	2Q FY09	1409	2Q FY10					
BSCAV													
BSCAV Inc 2 - cGMP Manufacturing	C/CPIF	TBD	C	0	2650	3Q FY09	2714	2Q FY10					
INATS													
INATS - cGMP Manufacturing	C/CPIF	TBD	C	0	2644	3Q FY09	1646	2Q FY10					
Subtotal I. Product Development:					9405		5769						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MC5
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
AAS													
AAS - GLP Animal Efficacy Studies	C/CPFF	Battelle Memorial Institute, Columbus, OH	C	1646	1066	2Q FY09	980	2Q FY10					
AAS - Phase 2 Clinical Safety Study	C/CPIF	Meridian Medical Technologies, Columbia, MD	C	2954	1066	2Q FY09	0	NONE					
AAS - Formulation and Toxicology Studies	C/CPIF	Meridian Medical Technologies, Columbia, MD	C	783	1066	2Q FY09	0	NONE					
BSCAV													
BSCAV Inc 2 - Phase 2 Clinical Safety and GLP Animal Efficacy Studies	C/CPIF	TBD	C	0	2140	3Q FY09	2153	2Q FY10					
INATS													
INATS - GLP Animal Efficacy & Phase 2 Clinical Safety Studies	C/CPIF	TBD	C	0	1696	3Q FY09	410	4Q FY10					
PPADS													
PPADS - Time Temperature Indicator (TTI) Capability	C/CPIF	TBD	C	0	0	NONE	750	2Q FY10					
Subtotal III. Test and Evaluation:					7034		4293						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MC5
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
AAS													
AAS - Product Management Support	MIPR	USAMMDA, Fort Detrick, MD	U	535	159	2Q FY09	165	2Q FY10					
AAS - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	851	827	2Q FY09	162	2Q FY10					
AAS - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	4171	533	2Q FY09	176	2Q FY10					
AAS - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	987	80	3Q FY09	26	3Q FY10					
BSCAV													
BSCAV Inc 2 - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	0	0	NONE	502	2Q FY10					
BSCAV Inc 2 - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	0	0	NONE	54	2Q FY10					
BSCAV Inc 2 - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	0	NONE	358	2Q FY10					
USAMMDA, Fort Detrick, MD	Allot	Fort Detrick, MD	U	0	0	NONE	161	2Q FY10					
INATS													
INATS - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	2174	3Q FY09	273	2Q FY10					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	257	NONE	0	NONE					

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MC5
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IV. Management Services - Cont.	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
Subtotal IV. Management Services:					4030		1877						

Remarks:

TOTAL PROJECT COST:					22068		14086						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MC5
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
AAS												
AAS - Formulation and Toxicology Studies	>>	_____						2Q				
AAS - GLP Animal Efficacy Studies	>>	_____										2Q
AAS - Phase 2 Clinical Safety Studies	>>	_____										2Q
AAS - DT/OT for Packaging				4Q		_____			1Q			
AAS - New Drug Application (NDA) Preparation and Submittal							3Q	_____				>>
BSCAV												
BSCAV Inc. 2 - Large Scale Manufacturing, Process Development & Assay Validation	1Q	_____										>>
BSCAV Inc. 2 - Conduct GLP Animal Efficacy Studies								4Q	_____			>>
BSCAV Inc. 2 - Conduct Phase 2 Clinical Safety Studies								4Q	_____			>>
INATS												

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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MC5
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
INATS (Cont)												
INATS - Process Development and cGMP Manufacturing Requirements	>>	—————										2Q
INATS - Phase 1 Clinical Safety Studies	>>	—————										3Q
INATS - Formulation, Compatibility, & Stability Studies with Autoinjector	1Q	—————										3Q
INATS - Milestone B						2Q	3Q					
INATS - Phase 2 Clinical Safety Studies												4Q
INATS - GLP Animal Efficacy Studies												4Q
PPADS												
SNAPP - FDA Required Regulatory reports	>>	—————										4Q
SERPACWA - FDA Required Post-Marketing Studies	>>	—————										4Q

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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MC5
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
PPADS (Cont)												
PPADS - Develop Time Temperature Indicator (TTI) Capability										2Q	—————	4Q

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MR5
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
MR5 MEDICAL RADIOLOGICAL DEFENSE	0	2936	8311		

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
MEDICAL RADIOLOGICAL COUNTERMEASURES (MRADC)	0	2902	8311
RDT&E Articles (Quantity)	0	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MR5
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
MRADC - FY10 - Initiate process development and current Good Manufacturing Practices (cGMP) manufacturing requirements.	0	0	3583
MRADC - FY09/10 - Initiate, continue and complete product formulation, storage, and delivery system.	0	1335	1294
MRADC - FY09/10 - Initiate, continue and complete GLP definitive animal efficacy studies.	0	1567	2223
MRADC - FY10 - Initiate and complete BLA application efforts.	0	0	1211
Total	0	2902	8311

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	34	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	34	0
Total	0	34	0

Project MR5/Line No: 111 Page 158 of 175 Pages Exhibit R-2a (PE 0604384BP)

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MR5
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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. DHHS will be responsible for developing a MRADC that will treat hematological syndrome of acute radiation syndrome (ARS) and the DoD will be responsible for the development of a MRADC for the treatment of the gastrointestinal syndrome of ARS.

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MR5
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
MRADC													
MRADC - Product Formulation, Storage and Delivery System	C/CPIF	TBD	C	0	1177	4Q FY09	4733	2Q FY10					
Subtotal I. Product Development:					1177		4733						

Remarks:

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
MRADC													
MRADC - Regulatory Integration and NDA Support Efforts	C/CPIF	TBD	C	0	443	3Q FY09	895	2Q FY10					
Subtotal II. Support Costs:					443		895						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MR5
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
MRADC													
MRADC - Product Management Support	SS/FFP	Goldbelt Raven, LLC, Frederick, MD	C	0	140	2Q FY09	300	2Q FY10					
MRADC - Chem Bio Medical Systems	Allot	CBMS, Frederick, MD	U	0	114	3Q FY09	200	3Q FY10					
MRADC - Joint Program Executive Office	Allot	JPEO, Falls Church, VA	U	0	0	NONE	243	3Q FY10					
MRADC - Product Management Services	MIPR	USAMMDA, Ft Detrick, MD	U	0	145	2Q FY09	152	1Q FY10					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	34	NONE	0	NONE					
Subtotal IV. Management Services:					433		895						

Remarks:

TOTAL PROJECT COST:					2936		8311						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT MR5
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
MRADC												
MRADC - Milestone B							3Q	4Q				
MRADC - Product Formulation, Storage, and Delivery System.								4Q	————— >>			
MRADC - GLP Definitive Animal Efficacy Studies								4Q	————— >>			
MRADC - BLA Submission												4Q

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT TE5
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
TE5 TEST & EVALUATION (SDD)	48238	42020	41466		

A. Mission Description and Budget Item Justification:

Project TE5 TEST & EVALUATION (SDD): This funding supports the Joint Project Manager Nuclear, Biological, Chemical 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 upgrade of a chemical standoff test fixture. The NTA Facility provides a new capability at the Edgewood Chemical Biological Center (ECBC) to conduct highly toxic materials testing using new, emerging threat agents. 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 a chemical standoff detection test fixture located at Dugway Proving Ground (DPG). 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 (JECPP); Joint Collective Protection Equipment (JCPE); Joint Service Transportable Decontamination System (JSTDS); Joint Warning and Reporting Network (JWARN) hardware components; the Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD); the Joint Protective Aircrew Ensemble (JPACE); the Joint Service Aircrew Mask (JSAM); the Joint Service Chemical Environment Survivability Mask (JSCESM); and the Joint Chemical Ensemble (JCE).

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT TE5
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(2) Sense Laboratory (Biological): Products for this area include a Whole System Live Agent Test (WSLAT) "Strung Out" Chamber, WSLAT "Full System" Chamber and upgrade of a bio-level 3 facility located at Dugway Proving Ground (DPG). The WSLAT "Strung Out" Chamber supports Joint Biological Point Detection component testing in biological live agent environments. The WSLAT "Full System" Chamber supports testing of all biological detection systems in production configuration in biological live agent environments. The Baker Laboratory Upgrade will provide a bio-level 3 fabricated infrastructure to host the WSLAT "Full System" Chamber. The upgrade will include bio-level 3 support laboratories and analytical instrumentation. Major CDBP 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) Block II.

(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 the Joint Expeditionary Collective Protection (JECp) System.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT TE5
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(4) Individual Protection, Collective Protection and Decontamination (Shield and Sustain): Products for this area include a Small Item Decontamination Chamber, Individual Protection Ensemble (IPE) 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 Small Item Decontamination Chamber provides an enhanced ability to conduct decontamination and residual agent off-gassing testing. The IPE 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. The Individual Protection Equipment (IPE) Grid provides test procedures to establish commonality measurements for system level 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 (JECF); Joint Collective Protection Equipment (JCPE); Joint Service Lightweight Integrated Suit Technology (JSLIST); Joint Protective Aircrew Ensemble (JPACE); Joint Service General Purpose Mask (JSGPM); Joint Service Aircrew Mask (JSAM); Joint Service Chemical Environment Survivability Mask (JCESM); 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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
TEST EQUIPMENT, STRATEGY & SUPPORT (PD TESS)	48238	41524	41466
RDT&E Articles (Quantity)	0	0	0

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
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		FY 2008	FY 2009	FY 2010
PD TESS - Individual Protection Ensemble (IPE) Mannequin - FY10 - Fabricate, install and validate mannequin system.		0	0	19000
PD TESS - IPE Man-in-Simulant Test (MIST) Upgrade - FY10 - Procure, verify and validate real-time MIST sensors.		0	0	659
PD TESS - Chem Bio Agent Resistance Test (CBART) - FY09 - Design, fabricate, install and verify CBART prototype system.		0	2175	0
PD TESS - ColPro Facility Upgrade - FY08 - Completed upgrades to the Advanced Air Purification Test Fixture. Completed Dynamic Entry and Exit Test Chamber build.		1171	0	0
PD TESS - Decon Facility Upgrade - FY08 - Completed design, build and validation of small item decontamination test system. FY09 - Install fixtures and equipment.		425	134	0
PD TESS - Test Grid Instrumentation Network & Design - FY08 - Completed Test Grid power distribution design. Procured referee and dissemination instrumentation for characterization and qualification testing. FY09 - Continue instrumentation procurement. Develop data fusion software. Initiate installation of network and C4ISR system. FY10 - Complete instrumentation procurement. Install/integrate referee and dissemination instrumentation.		14631	22436	21347
<p>Project TE5/Line No: 111</p> <p align="center">Page 168 of 175 Pages</p> <p align="right">Exhibit R-2a (PE 0604384BP)</p>				

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
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):		FY 2008	FY 2009	FY 2010
PD TESS - Joint Ambient Breeze Tunnel/Active Standoff Chamber (JABT/ASC) Upgrade - FY08 - Conducted ASC simulant characterization and validation tests.		458	0	0
PD TESS - Whole System Live Agent Test (WSLAT) - FY08 - Completed WSLAT strung out record tests. Completed WSLAT full system chamber design. FY09 - Fabricate and install WSLAT full system chamber. FY10 - Conduct validation testing.		2942	9946	460
PD TESS - Baker Laboratory Upgrade - FY08 - Completed final design of Baker Laboratory upgrade. Initiated upgrade of areas to support WSLAT Chamber. FY09 - Complete Baker Laboratory upgrade. Procure laboratory instrumentation.		9280	2682	0
PD TESS - Dynamic Test Chamber (DTC) - FY08 - Completed DTC design. Initiated fabrication and installation. FY09 - Complete installation and conduct validation testing.		7962	985	0
PD TESS - Backgrounds and Interferents - FY08 - Performed background/interferent signature collections and integrated into signature database. Developed virtual scene generation capability for standoff detection systems. Developed initial models to simulate background environments.		5357	0	0
Project TE5/Line No: 111 Page 169 of 175 Pages Exhibit R-2a (PE 0604384BP)				

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT TE5
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
PD TESS - Bio Standoff Facility - FY08 - Conducted an analysis of alternatives to evaluate currently available technologies for measuring biological agent cross sections in support of biological standoff detection system testing.	500	0	0
PD TESS - FY08 - Provided systems engineering support to integrate and execute T&E capability development efforts. FY09- Continue system engineering support.	5512	3166	0
Total	48238	41524	41466

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	496	0
RDT&E Articles (Quantity)	0	0	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	496	0
Total	0	496	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT TE5
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C. <u>Other Program Funding Summary:</u>					
	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>		
TE7 TEST & EVALUATION (OP SYS DEV)	6887	7119	4891		

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, 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.

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT TE5
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date				
PD TESS												
HW S - IPE Mannequin System Fabricate/Install	C/FFP	Midwest Research Institute, Kansas City, MO	C	0	0	NONE	19000	2Q FY10				
HW S - IPE MIST Sensors/Installation	C/FFP	TBD	C	500	0	NONE	459	2Q FY10				
HW S - CBART System Design/Fabricate/Install	C/FFP	TBD	C	0	1060	4Q FY09	0	NONE				
HW S - Decon Facility Upgrades Small Item Decon	MIPR	Various	U	397	134	1Q FY09	0	NONE				
HW S - WSLAT Chamber Fabrication/Installation	C/FFP	TBD	C	0	9946	2Q FY09	0	NONE				
HW S - Baker Lab Design/Upgrade	C/FFP	Nakaya Construction, LLC, Bountiful, UT	C	9280	2682	1Q FY09	0	NONE				
HW S - Test Grid Referee Instrumentation, Data Network and C4ISR	C/FFP	Lockheed Martin Integrated Systems, Wall, NJ	C	17784	22436	2Q FY09	21347	2Q FY10				
HW S - Dynamic Test Chamber Fabrication/Installation	Reqn	NAVSEA (JHU-APL), Washington, DC	U	5182	500	2Q FY09	0	NONE				
Subtotal I. Product Development:					36758		40806					

Remarks:

Project TE5/Line No: 111

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT TE5
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II. Support Costs: Not applicable

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date				
PD TESS												
OTHT S - Dynamic Test Chamber Validation	MIPR	Various	U	0	485	2Q FY09	0	NONE				
OTHT S - IPE MIST Validation	MIPR	Various	U	0	0	NONE	200	4Q FY10				
OTHT S - CBART Configuration Management / Validation	MIPR	Various	U	0	1115	1Q FY09	0	NONE				
OTHT S - WSLAT Chamber Validation	MIPR	Various	U	0	0	NONE	460	2Q FY10				
Subtotal III. Test and Evaluation:					1600		660					

Remarks: PD TESS - Test efforts are for the validation of capabilities.

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT TE5
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
PD TESS													
PM/MS S - Program Management/Systems Engineering Support	MIPR	JPM NBCCA, APG, MD	U	8907	3166	1Q FY09	0	NONE					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	496	NONE	0	NONE					
Subtotal IV. Management Services:					3662		0						

Remarks:

TOTAL PROJECT COST:				42020			41466						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA5 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604384BP CHEMICAL/BIOLOGICAL DEFENSE (SDD)	PROJECT TE5
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
PD TESS												
Upgrade ColPro Facilities	>>	_____			_____ 2Q							
Upgrade Decon Facility	>>	_____			_____ 4Q							
Dynamic Test Chamber Design/Fabrication/Installation/Validation	>>	_____			_____ 4Q							
JABT/ASC Upgrade	>>	_____			_____ 2Q							
Baker Laboratory Upgrade	1Q	_____			_____ 4Q							
Background/Interferent Signature Collection	>>	_____			_____ 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 May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
Total Budget Activity (BA) Cost	109777	99811	106477		
0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT)	97207	99811	106477		
0605502BP SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)	12570	0	0		

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); sustains the core DOD S&T laboratory infrastructure (Project LS6), provides for program management and financial management support (Project MS6), and supports the Joint Concept Development and Experimentation (JCDE) program (Project O49).

The Joint Training and Doctrine Support (DT6) project funds development of Joint Doctrine and Tactics, Techniques, and Procedures for developing CB defense systems. This project also funds CB modeling and simulation to support the Warfighter.

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. The DW6 project provides funding for CB defense testing of DoD materiel, equipment, and systems from concept through 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.

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE May 2009
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BUDGET ACTIVITY
**RDT&E DEFENSE-WIDE/
 BA6 - RDT&E Mgt Support**

The Laboratory Support (LS6) project 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 (MS6) project, 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)), through 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 project 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.

The Joint Concept Development and Experimentation (O49) project funds 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.

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 May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT)
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
Total Program Element (PE) Cost	97207	99811	106477		
DT6 JOINT DOCTRINE AND TRAINING SUPPORT (RDT&E MGT SUPPORT)	5278	5437	6438		
DW6 MAJOR RANGE AND TEST FACILITY BASE (MRTFB)	52991	54337	54689		
LS6 LABORATORY SUPPORT	5399	5442	10339		
MS6 RDT&E MGT SUPPORT	27899	30181	29404		
O49 JOINT CONCEPT DEVELOPMENT AND EXPERIMENTATION PROGRAM	5640	4414	5607		

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 Program Element supports joint doctrine and training (Project DT6), sustains the technical test capability at Dugway Proving Ground (DPG) (Project DW6); sustains the core DOD S&T laboratory infrastructure (Project LS6), provides for program management and financial management support (Project MS6), and supports the Joint Concept Development and Experimentation (JCDE) program (Project O49).

The Joint Training and Doctrine Support (DT6) project funds development of Joint Doctrine and Tactics, Techniques, and Procedures for developing CB defense systems. This project also funds CB modeling and simulation to support the warfighter.

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE May 2009
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT)	
<p>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. The DW6 project provides funding 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.</p> <p>The Laboratory Support (LS6) project 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.</p> <p>The management support (MS6) project 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.</p> <p>The management support project 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.</p>		
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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT)
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The Joint Concept Development and Experimentation (O49) project funds 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.

B. Program Change Summary:	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Previous President's Budget (FY 2009 PB)	98423	100082	113153
Current Biennial Budget (FY 2010 PB)	97207	99811	106477
Total Adjustments	-1216	-271	-6676
a. Congressional Program Reductions	0	-271	0
b. Congressional Increases	0	0	0
c. Reprogrammings	0	0	0
d. SBIR/STTR Transfer	-1216	0	0
e. Other Adjustments	0	0	-6676

Change Summary Explanation:

Funding: N/A - Adjustments less than 10% of total program.

Schedule: N/A

Technical: N/A

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) DT6
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
DT6 JOINT DOCTRINE AND TRAINING SUPPORT (RDT&E MGT SUPPORT)	5278	5437	6438		

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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT REQUIREMENTS OFFICE DOCTRINE AND TRAINING (JRO DT)	5278	5374	6438

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E DT6 MGT SUPPORT)
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
FY08/09/10 - 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. Provide assistance and support for 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. FY08/09/10 - Support additional joint participation in the JSLC. FY08/09/10 - Support the revision and development of CBRN defense medical and physical sciences MTTPs. Support the integration of CBRN defense considerations during the revision and development of selected Joint doctrine and JTTPs.	5278	5374	6438
Total	5278	5374	6438

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	63	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	63	0
Total	0	63	0

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E DW6 MGT SUPPORT)
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
DW6 MAJOR RANGE AND TEST FACILITY BASE (MRTFB)	52991	54337	54689		

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.

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E DW6 MGT SUPPORT)
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Projects programmed for testing at DPG include: Joint Service Lightweight Integrated Suit Technology (JSLIST) Additional Sources Qualification 2 (JASQ 2); JSLIST Block II Glove Upgrade - Flame Resistant; JSLIST Performance Enhancement (JPE); JSLIST Combat Vehicle Crewman Coverage (JC3); Joint Protective Aircrew Ensemble (JPACE); Whole System Live Agent Test (WSLAT); Joint Biological Point Detection System (JBPDS); Joint Biological Stand-off Detection System (JBSDS); Joint Biological Agent Identification and Detection System (JBAIDS); Joint Biological Tactical Detection System (JBTDS); Joint Nuclear, Biological, and Chemical Reconnaissance System (JNBCRS); Joint Chemical Agent Detector (JCAD); Monitoring and Survey Sets, Kits, and Outfits (MSSKO); Joint Contaminated Surface Detector (JCSD); Joint Chemical, Biological, and Radiological Agent Water Monitor (JCBRAWM); Nuclear, Biological, and Chemical Environment Personal Hydration System (NEPHS); Analytical Lab System (ALS); Joint Expeditionary Collective Protection (JECF); Chemical Biological Protective Shelter (CBPS); Joint Service Aircrew Mask (JSAM); Joint Service Family of Decontamination Systems (JSFDS); Joint Multipurpose Decontamination System (JMDS); Human Remains Decontamination System (HRDS); Joint Warning and Reporting Network (JWARN); Joint Effects Model (JEM); and Joint Operations Effects Federation (JOEF).

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
DUGWAY PROVING GROUND (DPG)	52991	53710	54689

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
DPG, MRTFB - FY08/09/10 - 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.	38245	38630	38830

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E DW6 MGT SUPPORT)
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
DPG, MRTFB - FY08/09/10 - 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.	6060	6100	6500
DPG, MRTFB - FY08/09/10 - 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.	1806	1840	1914
DPG, MRTFB - FY08/09/10 - 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.	6880	7140	7445
Total	52991	53710	54689

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	627	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E DW6 MGT SUPPORT)
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	627	0
Total	0	627	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E LS6 MGT SUPPORT)
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
LS6 LABORATORY SUPPORT	5399	5442	10339		

A. Mission Description and Budget Item Justification:

Project LS6 LABORATORY SUPPORT: This project (LS6) 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 chemical and biological (CB) defense equipment and countermeasures to the Warfighter. This laboratory infrastructure project upgrades key systems to the current state-of-the-art capabilities. Key systems include: gas filters, controls, emergency, mechanical/electrical, and structural systems. This project will ensure that the necessary surety operations can be conducted effectively and safely in support of Chemical and Biological Defense Program (CBDP) RDTE programs. As a force multiplier, this project will provide more robust capabilities to the CBDP and ensure continuity of operations and environmental compliance.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
LABORATORY INFRASTRUCTURE (LABINF)	5399	5380	10339

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support		PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) LS6		
Accomplishments/Planned Program		FY 2008	FY 2009	FY 2010
Gas Filters - FY08/09/10 - Modernize existing gas filters to include developing new filter designs with the capability of protecting against emerging threat agents.		1229	1200	1245
Control Systems - FY08/09/10 - Modernize mechanical and pneumatic control systems to full digital controls.		980	991	995
Emergency Systems - FY08/09/10 - Modernize emergency systems to increase reliability and safety.		980	992	900
Mechanical/Electrical Systems - FY08/09/10 - Provide upgrades to key systems to ensure worker safety, environmental compliance, and continuity of operations. Upgrades include low-flow hood alarms, redundant exhaust fans and HVAC controllers.		1230	1205	1279
Structural Systems (Waste Collection and Decon/Neutralization) - FY08/09/10 - Modernize 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.		980	992	900
Initial Outfitting, Transition, and Equipment - FY10 - Provides key chemical and biological defense effort upgrades, initial outfitting, and equipment for the United States Army Medical Research Institute of Infectious Diseases (USAMRIID) and United States Army Medical Research Institute of Chemical Defense (USAMRICD) infrastructure.		0	0	5020
Total		5399	5380	10339

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E LS6 MGT SUPPORT)
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	62	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	62	0
Total	0	62	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) MS6
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
MS6 RDT&E MGT SUPPORT	27899	30181	29404		

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 through 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 the planning, balancing, and oversight of test infrastructure and test 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 May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) MS6
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The CBDP T&E Executive directly supports OSD T&E oversight acquisition programs and provides the mechanism for early T&E involvement in the acquisition process. The CBDP T&E Executive provides the T&E infrastructure investment strategy and coordinates investment planning and T&E capabilities validation among the Joint Service Community to ensure that program needs are met.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT REQUIREMENTS OFFICE (JRO) MANAGEMENT (JRO MGT)	6332	8008	9299

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JRO MGT - FY08/09/10 - 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.	6332	8008	9299
Total	6332	8008	9299

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT TEST INFRASTRUCTURE WORKING GROUP (JTIWG)	4908	4905	4701

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) MS6
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
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 support JRO, Program Analysis and Integration Office (PAIO), and SA(CBD & CDP) in development and defense of POM and Budget submissions.	4908	4905	4701
Total	4908	4905	4701

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
OFFICE SECRETARY OF DEFENSE MGMT (OSD MGT)	11703	11874	10204

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MGT SUPPORT) MS6
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
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.	11703	11874	10204
Total	11703	11874	10204

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
PROGRAM ANALYSIS AND INTEGRATION OFFICE (PA&IO MGT)	4956	5045	5200

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
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.	4956	5045	5200
Total	4956	5045	5200

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	349	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E MS6 MGT SUPPORT)
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	349	0
Total	0	349	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E O49 MGT SUPPORT)
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
O49 JOINT CONCEPT DEVELOPMENT AND EXPERIMENTATION PROGRAM	5640	4414	5607		

A. Mission Description and Budget Item Justification:

Project O49 JOINT CONCEPT DEVELOPMENT AND EXPERIMENTATION PROGRAM: 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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT CONCEPT DEV AND EXP PROGRAM (JCDE)	5640	4362	5607

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JCDE - 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.	5640	4362	5607
Total	5640	4362	5607

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605384BP CHEMICAL/BIOLOGICAL DEFENSE (RDT&E O49 MGT SUPPORT)
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	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	52	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	52	0
Total	0	52	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	0605502BP SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
Total Program Element (PE) Cost	12570	0	0		
SB6 SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)	12570	0	0		

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 May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	0605502BP SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)
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B. <u>Program Change Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	
Previous President's Budget (FY 2009 PB)	0	0	0	
Current Biennial Budget (FY 2010 PB)	12570	0	0	
Total Adjustments	12570	0	0	
a. Congressional Program Reductions	0	0	0	
b. Congressional Increases	0	0	0	
c. Reprogrammings	0	0	0	
d. SBIR/STTR Transfer	12570	0	0	
e. Other Adjustments	0	0	0	

Change Summary Explanation:

Funding: FY09 - Funding transferred and applied to SBIR program (+\$12,570K).

Schedule: N/A

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605502BP SMALL BUSINESS INNOVATIVE RESEARCH SB6 (SBIR)
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
SB6 SMALL BUSINESS INNOVATIVE RESEARCH (SBIR)	12570	0	0		

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 through 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 May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605502BP SMALL BUSINESS INNOVATIVE RESEARCH SB6 (SBIR)
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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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	12570	0	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA6 - RDT&E Mgt Support	PROJECT 0605502BP SMALL BUSINESS INNOVATIVE RESEARCH SB6 (SBIR)
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	12570	0	0
Total	12570	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 May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)
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	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
COST (In Thousands)					
Total Program Element (PE) Cost	7572	12640	6198		
IP7 INDIVIDUAL PROTECTION OPERATIONAL SYS DEV	0	4614	0		
IS7 INFORMATION SYSTEMS (OP SYS DEV)	685	907	1307		
TE7 TEST & EVALUATION (OP SYS DEV)	6887	7119	4891		

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 May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)
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B. <u>Program Change Summary:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Previous President's Budget (FY 2009 PB)	7667	10274	12592
Current Biennial Budget (FY 2010 PB)	7572	12640	6198
Total Adjustments	-95	2366	-6394
a. Congressional Program Reductions	0	-34	0
b. Congressional Increases	0	2400	0
c. Reprogrammings	0	0	0
d. SBIR/STTR Transfer	-95	0	0
e. Other Adjustments	0	0	-6394

Change Summary Explanation:

Funding: FY09 - Congressional increases to enhance project efforts (+\$2,400K IP7). Congressional general reductions (-\$8K IP7; -\$3K IS7; -\$23K TE7).
 FY10 - Realignment of T&E program efforts (-\$1,860K TE7); Baseline program realignments (- \$4,396K IP7); Changes for inflation guidance (-\$29K IS7; -\$109K TE7).

Schedule: N/A

Technical: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IP7
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
IP7 INDIVIDUAL PROTECTION OPERATIONAL SYS DEV	0	4614	0		

A. Mission Description and Budget Item Justification:

Project IP7 INDIVIDUAL PROTECTION OPERATIONAL SYS DEV: This project provides developmental efforts to upgrade fielded Individual Protection (IP) systems to include battle dress uniform, gloves, footwear and masks for protection against Non-Traditional Agents.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
JOINT CHEMICAL ENSEMBLE III	0	2371	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JSGPM Filtration - FY09 - Initiate IPT to explore integration concepts, develop new performance specification with increase TIC requirements, start filter qualification.	0	2371	0
Total	0	2371	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
LIGHTWEIGHT CB ENSEMBLE (LCBE)	0	2189	0

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IP7
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
JSGPM Filtration - FY09 - Initiate IPT to explore integration concepts.	0	1639	0
ESLI - FY09 - Conduct critical design review for End-of-Service Life Indicator (ESLI), and fabricate final prototype. Start Test and Evaluation.	0	550	0
Total	0	2189	0

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	54	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	54	0
Total	0	54	0

C. Other Program Funding Summary: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDTE&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV) PROJECT IP7
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D. Acquisition Strategy:

JCEIII	JSGPM: All possible candidates will be identified through the Request For Information (RFI) published by the Filter Additional Source Qualification (FASQ) team in 2005. The candidates will be screened against CWAs and TICs at the sorbent level. Candidates that show an indication that it may provide a performance enhancement may be transitioned into filter qualification testing. The qualification of a new filtration media for JSGPM will be based on the current JSGPM filter specification.
LCBE	The LCBE program strategy employs an evolutionary approach to provide a lightweight system that protects against emerging chemical, biological agents, across all mission areas and profiles. The LCBE acquisition strategy will use full and open competition.

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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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	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
JCEIII													
HW C - JSGPM Filtration Development	C/FFP	JPMO IP, Stafford, VA	C	0	2371	2Q FY09	0	NONE					
LCBE													
Fabricate ESLI Prototype	C/FFP	Avon Protective Systems, Cadillac, MI	C	0	270	2Q FY09	0	NONE					
Subtotal I. Product Development:					2641		0						

Remarks:

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
LCBE													
ES SB - Filtration Eng Spt	MIPR	ECBC, APG, MD	U	0	350	2Q FY09	0	NONE					
Subtotal II. Support Costs:					350		0						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IP7
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
LCBE													
OTE C - ESLI	MIPR	Various	U	0	280	2Q FY09	0	NONE					
DTE C - Filtration DT	MIPR	ECBC, APG, MD	U	0	1023	2Q FY09	0	NONE					
Subtotal III. Test and Evaluation:					1303		0						

Remarks:

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
LCBE													
PM/MS SB - Program support for Oper Sys Dev	MIPR	Various	U	0	266	2Q FY09	0	NONE					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	54	NONE	0	NONE					
Subtotal IV. Management Services:					320		0						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RD&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV) PROJECT IP7
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TOTAL PROJECT COST:		4614		0						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IP7
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
LCBE												
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 May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IS7
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
IS7 INFORMATION SYSTEMS (OP SYS DEV)	685	907	1307		

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 enterprise-wide, user developmental support and Service organization focusing on development assistance and 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

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SOFTWARE SUPPORT ACTIVITY (SSA)	685	897	1307

Accomplishments/Planned Program	FY 2008	FY 2009		FY 2010
SSA - FY08/09/10 - Provide and update program of record integrated architectures.	131	117		162

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IS7		
Accomplishments/Planned Program (Cont):		FY 2008	FY 2009	FY 2010
SSA - FY08/09/10 - Analyze requirements and assist programs with implementation of the CBRN data model.		51	108	174
SSA - FY09/10 - Provide CBRN Data Model Reference implementations.		0	83	162
SSA - FY08/09/10 - Support CBRN Data Model updates.		47	51	100
SSA - FY08/09/10 - Provide Information Assurance compliance testing for JPEO-CBD programs.		56	58	123
SSA - FY08/09/10 - Provide Modeling and Simulation IPT and Accreditation Steering Group support.		151	121	153
SSA - FY08/09/10 - Provide Information Support Plan (ISP) Development support for JPEO-CBD programs.		58	116	179
SSA - FY08/09 - Provided developmental Help Desk support for JPEO-CBD programs and users until they transitioned to sustainment funding.		191	75	0
SSA - FY09/10 - Provide Net-Centric Policy implementation assistance.		0	66	87
<p>Project IS7/Line No: 174 Page 12 of 28 Pages Exhibit R-2a (PE 0607384BP)</p>				

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IS7
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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
SSA - FY09/10 - Provide Common CBRN Sensor Interface (CCSI) Reference implementation guidance.	0	64	84
SSA - FY09/10 - Support CCSI updates.	0	38	83
Total	685	897	1307

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	10	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	10	0
Total	0	10	0

C. Other Program Funding Summary: N/A

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDTE&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV) PROJECT IS7
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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].

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IS7
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I. Product Development	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
SSA													
Development Services	MIPR	SPAWAR System Center, San Diego, CA	U	243	359	1Q FY09	414	1Q FY10					
Subtotal I. Product Development:					359		414						

Remarks:

II. Support Costs	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
SSA													
Develop Support Activities	MIPR	SPAWAR Systems Center, San Diego, CA	U	236	319	1Q FY09	408	1Q FY10					
Subtotal II. Support Costs:					319		408						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IS7
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
SSA													
Integration Verification and Valuation (IV&V)	MIPR	SPAWAR Systems Center, San Diego, CA	U	206	219	1Q FY09	485	1Q FY10					
Subtotal III. Test and Evaluation:					219		485						

Remarks:

IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	10	NONE	0	NONE					
Subtotal IV. Management Services:					10		0						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDTE&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV) PROJECT IS7
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TOTAL PROJECT COST:		907		1307						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IS7
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
SSA												
Establish CM Services for the Enterprise CBRND Products	>>	_____ 3Q										
Provide Data Model Implementation Guidance	1Q	_____ >>										
Demonstrate Technology Transition Capabilities	1Q	_____ >>										
Provide CM Services for Common User Products and Services	1Q	_____ >>										
Establish Common Services Management Guidance	1Q	_____ 3Q										
Develop and provide CBRN Data Model implementation guidance, including reference implementations	1Q	_____ >>										
Architecture advisory services to support Warfighter Enterprise and Program Integrated Architectures	1Q	_____ >>										

Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IS7
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
SSA (Cont)												
Demonstrate, Verify, Test Technology Transition capabilities esp. for Common Components and Services	1Q	_____ >>										
Provide Information Assurance Certification/Acceptance products/services, including compliance testing	1Q	_____ >>										
Provide Modeling, Simulation, VV&A, Integration/Test support and interoperability demonstrations.	1Q	_____ >>										
Provide FISMA and J6 Interoperability certification support	1Q	_____ >>										
Provide CBRN Interface Standards, incl. reference implementations, e.g. Common CBRN Sensor Interface	1Q	_____ >>										

Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT IS7
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D. <u>Schedule Profile (cont):</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
SSA (Cont)												
Sustain CBRN Data Model	1Q	_____			_____				_____ >>			
Sustain CCSI, including investigation, as an industry standard	1Q	_____			_____				_____ >>			

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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT TE7
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COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate		
TE7 TEST & EVALUATION (OP SYS DEV)	6887	7119	4891		

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.

B. Accomplishments/Planned Program

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
T&E RANGE INSTRUMENT/TECH UPGRADE (T&E UPGRADE)	6887	7037	4891

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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV) PROJECT TE7
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Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
<p>DPG, MRTFB -</p> <p>FY08/09/10 - 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 Bio-Safety Level 3 (BSL-3) agents. Upgrades and technology enhancements include:</p> <ul style="list-style-type: none"> - 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. - 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 Bio-Safety Level 3 laboratories. 	1770	1790	919

<p>Project TE7/Line No: 174</p> <p align="center">Page 22 of 28 Pages</p> <p align="right">Exhibit R-2a (PE 0607384BP)</p>
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CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)		DATE May 2009		
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):		FY 2008	FY 2009	FY 2010
<p>DPG, MRTFB -</p> <p>FY08/09/10 - 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 of instrumentation in the chambers include:</p> <ul style="list-style-type: none"> - Continued development of a chemical aerosol generation and sampling capability. - Characterization of improved and/or articulated testing fixtures. 		1960	1980	1037
<p>DPG, MRTFB -</p> <p>FY08/09/10 - 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. Modernization efforts include:</p> <ul style="list-style-type: none"> - 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. 		1215	1227	1076
Project TE7/Line No: 174		Page 23 of 28 Pages		Exhibit R-2a (PE 0607384BP)

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Accomplishments/Planned Program (Cont):	FY 2008	FY 2009	FY 2010
DPG, MRTFB - FY08/09/10 - 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 to include: - Characterization of new and upgraded test fixtures. - Upgraded control systems for small chambers. - Initial deployment of a laboratory information-management system.	1942	2040	1859
Total	6887	7037	4891

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
SBIR/STTR	0	82	0

Accomplishments/Planned Program	FY 2008	FY 2009	FY 2010
SBIR - FY09 - Small Business Innovative Research.	0	82	0
Total	0	82	0

C. Other Program Funding Summary: N/A

<p align="center">CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2a Exhibit)</p>	<p>DATE May 2009</p>
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<p>BUDGET ACTIVITY RDTE&E DEFENSE-WIDE/ BA7 - Operational Systems Development</p>	<p>PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</p> <p align="right">PROJECT TE7</p>
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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 Chemical and Biological training and testing DoD Chemical and Biological (CB) materiel, weapons, and weapons systems from concept through production.

CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT TE7
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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	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
T&E UPGRAD													
Technology Upgrades - DPG, UT	C/FP	Dugway Proving Grounds, DPG, UT	C	6887	7037	2Q FY09	4891	2Q FY10					
Subtotal III. Test and Evaluation:					7037		4891						

Remarks:

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT TE7
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IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date					
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA		0	82	NONE	0	NONE					
Subtotal IV. Management Services:					82		0						

Remarks:

TOTAL PROJECT COST:					7119		4891						
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Exhibit R-4a, Schedule Profile	DATE May 2009
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BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development	PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	PROJECT TE7
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D. <u>Schedule Profile:</u>	FY 2008				FY 2009				FY 2010			
	1	2	3	4	1	2	3	4	1	2	3	4
T&E UPGRAD												
LSTF Instrumentation & Equip Upgrades, DPG		2Q	_____ >>									
Modernization of Major Test Chambers, DPG		2Q	_____ >>									
Enhance Instrumentation & Equip at Target S, Downwind, & Tower CB Test Grids, DPG		2Q	_____ >>									
Revitalize & Upgrade Instrumentation & Equip at Combined Chemical Test Facility, DPG		2Q	_____ >>									

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