

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
FEBRUARY 2000

BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl)								
COST (In Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost		61409	68502	83800	69494	74465	72511	53289	Continuing	Continuing
BJ4	BIOLOGICAL DEFENSE (DEMVAl)	1832	16160	6612	10562	15440	20383	11627	Continuing	Continuing
CA4	CONTAMINATION AVOIDANCE (DEMVAl)	0	4058	6891	8680	9120	0	0	0	28749
CP4	COUNTERPROLIFERATION SUPPORT (DEMVAl)	41461	14614	14147	13539	18180	18103	13187	Continuing	Continuing
DE4	DECONTAMINATION SYSTEMS (DEMVAl)	4257	5960	7025	3146	0	7317	7112	Continuing	Continuing
IP4	INDIVIDUAL PROTECTION (DEMVAl)	3534	6595	17270	0	0	0	0	0	27399
MB4	MEDICAL BIOLOGICAL DEFENSE (DEMVAl)	8464	18398	29694	31691	29873	24860	19465	Continuing	Continuing
MC4	MEDICAL CHEMICAL DEFENSE (DEMVAl)	1861	2717	2161	1876	1852	1848	1898	Continuing	Continuing

A. Mission Description and Budget Item Justification: Operational forces have an immediate need to safely operate, survive, 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 Program Definition and Risk Reduction (PDRR) of CB defensive equipment, both medical and non-medical, and addresses various shortcomings identified in CONDUCT OF THE PERSIAN GULF WAR: Final Report to Congress, April 1992. 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. This program is enhanced using Counterproliferation Support Program funding. PDRR is conducted for: an array of chemical/biological/toxin detection and warning systems to include the Joint Service Warning and Identification Light Detection And Ranging (LIDAR) Detector (JSWILD); decontamination capabilities to include the sorbent technology, the Joint Service Fixed Site Decontamination (JSFXD) and the Joint Service Sensitive Equipment Decontamination (JSSED) programs; and transition of biological detection components (major thrusts include: (1) early warning; (2) collector concentrators; (3) generic detection; and (4) improved reagents) for the future Joint Biological Point Detection System (JBPDS) Block II and legacy system upgrades. In the medical CB defense area, PDRR 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, topical skin protectants, anticonvulsants, biological agent diagnostics, and vaccines to protect against various Biological Warfare (BW) agents. This Program Element focuses on efforts associated with advanced technology development used to demonstrate general military utility to include program definition and risk reduction in the area of chemical/biological defense equipment and is correctly placed in Budget Activity 4.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

4 - Demonstration and Validation**0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL)****B. Program Change Summary:**

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Previous President's Budget (FY 2000/FY 2001)	60227	62033	89510
Appropriated Value	60227	69033	
Adjustment to Appropriated Value			
a. Congressional General Reductions			
b. SBIR/STTR	-1002		
c. Omnibus or Other Above Threshold Reductions	-488	-138	
d. Below Threshold Reprogramming	2672	-20	
e. Rescissions		-373	
Adjustments to Budget Years Since FY 2000/2001 PRES BUD			-5710
Current Budget Submit (FY2001/PRES BUD)	61409	68502	83800

Change Summary Explanation:

Funding: FY00 - Congressional Adjustments - BJ4 (1500) for biological adhesion program; CA4 (4000) for NBC Recon System training suite; DE4 (1500) for electrostatic decontamination technologies.

Schedule:

Technical:

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2000
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL)	PROJECT BJ4
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COST (In Thousands)	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to	Total Cost
	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	
BJ4 BIOLOGICAL DEFENSE (DEMVAL)	1832	16160	6612	10562	15440	20383	11627	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project BJ4 BIOLOGICAL DEFENSE (DEMVAL): Collection, detection and identification of biological warfare (BW) agents is one of the highest Commander in Chief/Joint Requirements Operational Capabilities (CINC/JROC) Counterproliferation priorities. The Department of Defense (DoD) Biological Defense mission area requires the detection and identification of biological threat agents to provide early warning capabilities at high value mobile and fixed site locations. Next generation biological detection systems will provide detection, identification, warning, and sample collection for verification of large area and/or point source biological attacks. This project supports the Technology Transfer of Biological Detectors (TT Bio) from the Chemical Biological (CB) Defense Program technical base and from Defense Advanced Research Project Agency (DARPA) research efforts. This program supports the program definition and risk reduction of biological detection components, (major thrusts include: (1) early warning; (2) collector concentrators; (3) generic detection; and (4) improved reagents) for the future Joint Biological Point Detection System (JBPDS) Block II and legacy system upgrades. This program also supports the Critical Reagent Program (CRP) for the development of advanced reagents for legacy (i.e. Biological Integrated Detection System (BIDS), Air Base/Port Biological Detection (Portal Shield)) and future detection systems that meet the established Office of the Joint Chiefs of Staff (OJCS) threat list. JBPDS Block II FY00 and FY01 BJ4 funding has been consolidated in the TT Bio Program. BJ4 FY00 funding presently includes the Bio Adhesion Program.

FY 1999 Accomplishments:

- 977 TT Bio (JBPDS Blk II) - Conducted concept development and design of candidate biological-suite components.
- 537 TT Bio (JBPDS Blk II) - Conducted chamber/field tests of candidate components.
- 318 TT Bio (JBPDS Blk II) - Conducted abbreviated analysis of potential biological detector components.

Total 1832

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)****BJ4****FY 2000 Planned Program:**

- 1746 CRP - Begin development of advanced reagents to support the Joint Biological Point Detection System (JBPDS) Block II, and legacy system (i.e. BIDS, Air Base/Port Biological Detection (Portal Shield)) upgrades. These developments will focus on International Task Force (ITF-6B) list threats and improvements to the ITF-6A list inventory.
- 4400 JBPDS - Complete Biological Agent Warning Sensor (BAWS) design and integration.
- 2650 JBPDS - Complete design study and analysis of JBPDS components.
- 2950 JBPDS - Complete component integration and ruggedization.
- 2000 JBPDS - Complete Engineering Design Test.
- 890 TT Bio - Conduct hardware/software development, ruggedization, test and evaluation of biological detection components. Focus will be on JBPDS Block II candidate components and legacy system upgrades, which will improve detection time and reduce operating consumables (e.g. Time of Flight Mass Spec/Mass Spec (TOF MS/MS), Ultraviolet (UV) Triggers).
- 1464 Biological Adhesion - Exploitation of emerging biological adhesion technology across the range of required medical applications (diagnostics, preventive measures and therapeutics).
- 60 SBIR/STTR.

Total 16160

FY 2001 Planned Program:

- 3000 TT Bio - Continue hardware/software development, ruggedization, test and evaluation of biological detection components. Focus will be on JBPDS Block II candidate components and legacy system upgrades, which will improve detection time and reduce operating consumables (e.g. Time of Flight Mass Spec/Mass Spec (TOF MS/MS), Ultraviolet (UV) Triggers).
- 1653 TT Bio - Initiate development of additional selected detection components. Focus will be on lightweight early warning components for the Joint Biological Early Warning System (JBREWS) and the Joint Services Biological Standoff Detection System (JSBSDS).
- 500 TT Bio - Continue development of reagents against ITF-6B priority targets.
- 1459 TT Bio - Conduct Joint Field Trials at Dugway Proving Ground to evaluate potential biological detection technology transition candidates.

Total 6612

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2000
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL)	PROJECT BJ4
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<u>B Other Program Funding Summary:</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
CP4 COUNTERPROLIFERATION SUPPORT (DEMVAL)	41461	14614	14147	13539	18180	18103	13187	0	133231
BJ5 BIOLOGICAL DEFENSE (EMD)	32924	14912	6005	46734	60265	15657	1504	36276	Cont
CP5 COUNTERPROLIFERATION SUPPORT (EMD)	0	5589	0	0	0	0	0	0	5589
JP0100 JOINT BIO POINT DETECTION SYSTEM (JBPDS)	0	22614	53596	61689	91533	59415	46167	0	335014
JPO210 CRITICAL REAGENTS PROGRAM (CRP)	1735	2412	1911	1914	2007	1849	1903	2257	Cont

C. Acquisition Strategy:

TT Bio This program will ensure design maturity of the most promising advanced biological detection components (major thrusts include: (1) early warning; (2) collector concentrators; (3) generic detection; and (4) improved reagents) for technology insertion and transition into the Joint Biological Point Detection System (JBPDS) Block II; the Joint Biological Remote Early Warning System (JBREWS), the Joint Services Biological Standoff Detection System (JSBSDS) Engineering Manufacturing Development (EMD), and other fielded legacy systems. This program will utilize a combination of government agencies: (1) Soldier Biological Chemical Command (SBCCOM); (2) U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID); (3) Naval Medical Research Center (NMRC); and (4) contractors to develop new reagents (immuno assay/nucleic acid) for the detection of high threat BW agents.

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

PROJECT
BJ4

D <u>Schedule Profile:</u>	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
CRP																												
ITF-6A List Complete					X																							
Antibodies Against 20 BW Agents									X																			
ITF-6B List Complete																			X									
JBPDS																												
Perform EDT			X	X	X	X																						
Perform PPQT						X																						
Perform IOT&E									X																			
Block I Milestone III											X																	
JBPDSBLK2																												
Concept Development/Hardware Exploration	X	X	X	X																								
TT Bio																												
Joint Field Trials (JFT 7)									X																			
Transition Block II Components									X																			
Joint Field Trials (JFT 8)													X															
Trans Early Warning JBREWS/JSB SDS EMD													X															
Joint Field Trials (JFT 9)																	X											
Joint Field Trials (JFT 10)																					X							
Joint Field Trials (JFT 11)																												X

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)****BJ4****E. Project Cost Breakdown:****FY 1999****FY 2000****FY 2001**

Contractor Engineering Support	211	4589	800
Contractor Hardware Development	1000	8150	2200
Development Test and Evaluation	0	2450	1959
Government Engineering Support	281	0	500
Government Hardware Development	19	411	600
Government Software Development	0	160	0
Program Management/Management Support	121	150	253
SBIR/STTR	0	60	0
Technical data/documentation	200	190	300
Total	1832	16160	6612

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2000
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL)	PROJECT CA4
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COST (In Thousands)	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate		
CA4 CONTAMINATION AVOIDANCE (DEMVAL)	0	4058	6891	8680	9120	0	0	0	28749

A. Mission Description and Budget Item Justification:

Project CA4 CONTAMINATION AVOIDANCE (DEMVAL): This project conducts Program Definition and Risk Reduction (PDRR) of reconnaissance, detection, and identification equipment. Items of equipment in this project are: (1) the Nuclear, Biological and Chemical Reconnaissance System (NBCRS) Training System and (2) the Joint Service Warning and Identification Light Detection And Ranging (LIDAR) Detector (JSWILD). The NBCRS Training System will operate on virtual terrain and simulate Nuclear, Biological and Chemical threat to allow integrated training of NBCRS (Fox) crews. JSWILD will be a real time, modular, standoff detection system employing a mix of active and passive detection technologies for chemical detection at ranges on the order of 20 kilometers (km). An eye safe LIDAR technology will be employed for the active component and passive imaging or spectroscopic detection will be used for the passive component.

FY 1999 Accomplishments: None

FY 2000 Planned Program:

- 300 NBCRS BLK I (Training System) - Develop interface with Fort Hood Simulation.
- 3599 NBCRS BLK I (Training System) - Fabricate two NBCRS Fox training systems.
- 100 NBCRS BLK I (Training System) - Test NBCRS Fox training systems.
- 59 SBIR/STTR.

Total 4058

FY 2001 Planned Program:

- 1033 JSWILD - Perform program planning and execution of project management functions. Prepare for and develop MS I program documentation and coordinate program with Joint Service Integrated Product Team (IPT) representatives.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)

PROJECT
CA4

FY 2001 Planned Program (Cont):

- 2858 JSWILD - Conduct studies to validate technology alternatives. Contract preparation and Request For Proposal (RFP) release for prototype development contract award in FY02.
- 1000 JSWILD - Develop technical data, task planning, logistic documentation and deploy a document library and information network for all data, research, and other program information.
- 2000 JSWILD - Analyze and translate Operational Requirements Document; Complete Analysis of Alternatives; Develop draft performance specification; Finalize Milestone I documentation; Obtain Milestone I approval.

Total 6891

B Other Program Funding Summary:

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
CA5 CONTAMINATION AVOIDANCE (EMD)	43893	58733	54289	25798	9771	21365	21097	29619	Cont
G47101 JOINT WARNING & REPORTING NETWORK (JWARN)	10107	8939	9035	11660	10602	12200	12260	16000	Cont
JF0100 JOINT CHEM AGENT DETECTOR (JCAD)	0	0	0	27186	27941	25850	25977	26000	Cont
M98801 AUTO CHEMICAL AGENT ALARM (ACADA), M22	29437	36923	49356	496	99	0	0	0	116311
MA0601 RECON SYSTEM, FOX NBC (NBCRS) MODS	25873	24716	31552	6316	5526	34283	35406	35000	Cont
MC0100 JT SVC LTWT NBC RECON SYS (JSLNBCRS)	0	0	60702	97614	66953	60520	69609	71835	Cont
N00041 SHIPBOARD DETECTOR MODIFICATIONS	8078	11421	7406	9195	8592	5741	1512	0	51945
S10801 JS LTWT STANDOFF CW AGT DETECTOR (JSLSCAD)	0	0	0	3134	9000	19147	28858	40000	Cont

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)

PROJECT
CA4

C. Acquisition Strategy:

NBCRS BLK I (Training System) Task order to ITT Industries to develop and deliver two NBCRS (Fox) Trainers to Fort Hood. Trainers operate on virtual terrain and simulate Nuclear, Biological and Chemical threat to allow integrated training of NBCRS (Fox) crews.

JSWILD Conduct Analysis of Alternatives, develop performance specification. Award competitive contract to develop and manufacture prototypes for developmental and operational testing leading to Milestone III approval with a competitive production contract award in FY07.

D Schedule Profile:

	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JSWILD																												
Concept Exploration					X	X	X	X	X	X	X																	
Conduct Analysis of Alternatives									X	X	X																	
Milestone I											X																	
Award DEMVAL contract (prototype)													X	X	X	X	X	X	X	X								
Milestone II																				X								
Award EMD Option																				X	X	X	X	X	X	X	X	
NBCRSBLK1																												
FY00 Fox Trainer Development Task Order									X	X	X																	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)****CA4****E. Project Cost Breakdown:****FY 1999****FY 2000****FY 2001**

Contractor Engineering Support	0	0	1900
Contractor Hardware Development	0	2586	0
Contractor Software Development	0	963	0
Government Engineering Support	0	0	2000
Government Hardware Development	0	50	958
Operational Test and Evaluation	0	100	0
Program Management/Management Support	0	300	1033
SBIR/STTR	0	59	0
Technical data/documentation	0	0	1000
Total	0	4058	6891

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

4 - Demonstration and Validation

PE NUMBER AND TITLE

**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)**

PROJECT

CP4

COST (In Thousands)	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to	Total Cost
	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	
CP4 COUNTERPROLIFERATION SUPPORT (DEMVAL)	41461	14614	14147	13539	18180	18103	13187	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project CP4 COUNTERPROLIFERATION SUPPORT (DEMVAL): Providing full dimensional protection to deployed forces and critical fixed sites, to include Aerial Ports of Debarkation (APODs) and Sea Ports of Debarkation (SPODS), under threat of chemical or biological attack is one of the highest Commanders-in-Chief (CINC) priorities. Joint Vision 2010 states that power projection from the U.S. - achieved through rapid strategic mobility and enabled by overseas presence - will likely remain the fundamental concept of our future force. Fixed installations (seaports, aerial ports, logistics nodes, etc.) are critical to this mode of operation and are especially vulnerable to attack with Chemical and Biological (CB) weapons. Future adversaries will likely use CB weapons to deny U.S. and Allied use of these facilities. U.S. forces, both mobile and at fixed sites, must be able to survive CB attacks and quickly recover to continue operations. This project supports the accelerated fielding of operational capabilities (technology, Concept of Operations (CONOPS), and automation tools) to CINC's through the Advanced Concept Technology Demonstration (ACTD) process. This project also funds the development of the Long Range Biological Standoff Detector System (LR-BSDS).

The Joint Biological Remote Early Warning System (JBREWS) ACTD addresses the need for an early warning, detection and identification of Biological Warfare (BW) agents at fixed sites. The objectives of this ACTD are to 1) Evaluate military utility of Remote Early Warning for BW agent attacks; 2) Provide the sponsoring CINC an interim residual capability to detect, identify and warn forces who may be exposed to BW agents; and 3) Develop CONOPS and refine tactics techniques and procedures. The JBREWS technology residual will be a system of distributed BW agent sensors with a remote capability and will be compatible with legacy BW detection systems.

The Restoration of Operations (RestOps) ACTD investigates the impact of technology and CONOPS on restoring operating tempo at a port or airfield following a CB attack. RestOps are those pre/during/post attack actions necessary to protect against and then immediately react to the consequences of a CB attack on a port or airfield so that the facility can resume functioning with a minimum of down time. This ACTD will provide technology, software support, and techniques and procedures so that a base commander can minimize the impact of a CB attack on military operations. The ACTD objectives are: 1) Integrate and demonstrate mature technologies and tools used for the restoration of operations at an airfield that has been attacked with either chemical or biological weapons; 2) Develop, improve, and integrate the CONOPS for executing RestOps contingencies; 3) Develop automated planning tools that allow a CINC's staff to plan and prepare for, and react to, CB attacks at critical fixed sites; and 4) Identify shortfalls and suggest improvements to current U.S. Policy for CONUS and OCONUS RestOps contingencies.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)****CP4****FY 1999 Accomplishments:**

- 4935 JBREWS ACTD - Completed system design and conducted critical design review.
- 2950 JBREWS ACTD - Continued algorithm and software development.
- 1960 JBREWS ACTD - Started chamber tests of JBREWS ACTD components and subsystems.
- 3000 JBREWS ACTD - Started preparations to conduct demonstration.
- 13700 JBREWS ACTD - Started fabrication of system leave-behinds for the European Command (EUCOM) area of operations. Leave behinds include: 32 wet samplers (Sample Identification Units); an open communication architecture consisting of 132 radios and related items; 18 sensor network command posts; and 1 standoff biological detector/discriminator.
- 1111 JBREWS ACTD - Continued development and prove-outs of CONOPS/Doctrine.
- 2950 JBREWS ACTD - Continued coding and simulation system development.
- 2632 LR-BSDS - Completed fabrication of first two systems.
- 2700 LR-BSDS - Conducted developmental testing.
- 1480 LR-BSDS - Conducted customer demonstration.
- 1683 LR-BSDS - Completed retrofit/refurbishment.
- 2360 LR-BSDS - Continued fabrication of Initial Operational Test and Evaluation (IOT&E) systems.

Total 41461

FY 2000 Planned Program:

- 4280 JBREWS ACTD - Complete Hardware/Software development and Live Agent Chamber Test.
- 200 JBREWS ACTD - Complete fabrication of ACTD residuals.
- 900 RestOps ACTD - Complete development of site baseline exercise scenario.
- 2800 RestOps ACTD - Conduct Joint Chemical Field Trials.
- 1200 RestOps ACTD - Complete development of site chemical and biological exercise scenario.
- 1564 RestOps ACTD - Conduct CONOPS Development and Validation.
- 3458 RestOps ACTD - Develop RestOps methodologies for technology selection analysis, chemical field test assessment, and operational capability assessment for use during RestOps and other fixed site programs.
- 212 SBIR/STTR.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)****CP4****FY 2000 Planned Program (Cont):**

Total 14614

FY 2001 Planned Program:

- 4417 JBREWS ACTD - Start Government and Contractor Logistics Support (management, maintenance and parts) for JBREWS ACTD leave-behinds in EUCOM.
- 300 RestOps ACTD - Complete Joint Chemical Field Trials and technology assessments.
- 500 RestOps ACTD - Conduct Operational/Functional Testing.
- 350 RestOps ACTD - Conduct CONOPS validation.
- 5240 RestOps ACTD - Procure selected decontamination, detection, plume mapping, protection, medical countermeasures, and sensor integration equipment/systems for the RestOps demonstration.
- 1400 RestOps ACTD - Develop and Conduct Preliminary Demonstration.
- 1940 RestOps ACTD - Refine the methodology for operational capability assessment, initiate planning for RestOps technology transition, develop sensor integration software, and conduct In Process Reviews for the ACTD.

Total 14147

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

4 - Demonstration and Validation

PE NUMBER AND TITLE

**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)**

PROJECT

CP4**B Other Program Funding Summary:**

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
CP3 COUNTERPROLIFERATION SUPPORT (Adv Tech Dev)	7098	10434	10213	11416	7321	7663	13345	29183	Cont
BJ4 BIOLOGICAL DEFENSE (DEMVAL)	1832	16160	6612	10562	15440	20383	11627	2353	Cont
BJ5 BIOLOGICAL DEFENSE (EMD)	32924	14912	6005	46734	60265	15657	1504	36276	Cont
CP5 COUNTERPROLIFERATION SUPPORT (EMD)	0	5589	0	0	0	0	0	0	5589
JPO200 JT BIO REM EARLY WARNING SYS (JBREWS)	0	0	0	0	0	34251	36023	25000	Cont
JPO210 CRITICAL REAGENTS PROGRAM (CRP)	1735	2412	1911	1914	2007	1849	1903	2257	Cont
JPO220 LONG RANGE BIO STANDOFF DET SYS (LRBSDS)	0	1907	11733	11799	0	0	0	0	25439
JPO230 PORTAL SHIELD EQUIPMENT	14564	3877	24746	3868	0	0	0	0	47055

C. Acquisition Strategy:

ACTDs Utilize non-traditional acquisition Advanced Concept Technology Demonstration (ACTD) to rapidly provide the CINC with operational capabilities to counter battlefield effects of chemical and biological attacks, to include the development of concepts of operation and doctrine associated with biological remote early warning and restoration of operations at fixed sites.

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

PROJECT
CP4

D Schedule Profile:

	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JBREWS																												
Conduct Critical Design Review			X																									
Fabricate Functional Prototypes				X																								
Standoff - Detection Discrimination Test				X																								
Conduct JBREWS ACTD Demonstration							X																					
JBREWS ACTD - Fielding Support (CLS)									X	X	X	X	X	X	X	X												
Conduct Milestone II											X																	
LRBSDS																												
LR-BSDS Fabrication	X	X	X	X																								
CP Engineering Development Tests				X																								
Conducted Customer Demonstration				X																								
RESTOPS																												
Scenario/Exercise Development						X	X	X	X	X	X	X	X	X														
Joint Chemical Field Trials							X	X																				
Functional Test							X	X	X	X	X	X	X	X														
Baseline Exercise									X																			
CONOPS Development									X	X																		
Preliminary Demonstration												X																
CONOPS Validation													X	X														
JWE/Final Demonstration																X												
Fielding Support (CLS)																	X	X	X	X	X	X	X	X				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)****CP4****E. Project Cost Breakdown:**

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Contractor Engineering Support	3121	669	953
Contractor Hardware Development	12977	0	0
Contractor ILS Support	146	689	1951
Contractor Software Development	2000	0	0
Development Test and Evaluation	7975	3803	230
Government Engineering Support	5021	1522	582
Government Hardware Development	3118	200	5376
Government ILS Support	372	72	126
Government Software Development	4503	253	76
Operational Test and Evaluation	0	3663	2200
Program Management/Management Support	259	2559	2200
SBIR/STTR	0	212	0
Technical data/documentation	1969	972	453
Total	41461	14614	14147

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY 4 - Demonstration and Validation		PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl)						PROJECT DE4		
COST (In Thousands)		FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
DE4	DECONTAMINATION SYSTEMS (DEMVAl)	4257	5960	7025	3146	0	7317	7112	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project DE4 DECONTAMINATION SYSTEMS (DEMVAl): This project funds Program Definition and Risk Reduction (PDRR) of decontamination systems utilizing solutions that will remove and 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 with reduced operational impact, reduced logistics burden, reduced cost, increased safety, and minimized environmental effect over currently fielded decontaminants. Funding supports the Sorbent Program, the Joint Service Fixed Site Decontamination (JSFXD), and the Joint Service Sensitive Equipment Decontamination (JSSED).

Sorbent Program provides a reactive sorbent powder technology and a family of applicators for immediate decontamination. Sorbent will replace the XE555 resin in the M295 Decontamination Kit for wipedown procedures. The sorbent and a dispenser system will replace the M11, M13 and associated Decontaminating Solution 2 (DS2) in operator spraydown procedures. The Sorbent Program will be more reactive towards Chemical Warfare (CW) agents than the M295 Kit, therefore, reducing the hazard associated with the spent decontaminant. The sorbent will be more compatible with Mission Oriented Protective Posture (MOPP) and other materials than the currently fielded DS2.

The JSSED system will fill an immediate need to decontaminate chemical and biological warfare agents from sensitive equipment, vehicle/aircraft interiors, and associated cargo, as defined in the draft Joint Service Operational Requirements Document for the JSSED. The JSSED will be a dual technology development program; one technology to decontaminate sensitive items/equipment and a second technology to decontaminate vehicle/aircraft interiors.

The JSFXD program consists of a family of decontaminants and family of applicators that provide each service with the capability to decontaminant fixed site to restored mission operations. The program is divided into three blocks. Block I will field decontaminants that will be used with integral or existing applicators. Block II will field any additional applicators required to provide the full fixed site decontamination capability (excluding Block III). Block III will provide applicators for skin/casualties with open wounds. These items will be used to decontaminant equipment, personnel and vital areas to sustain critical cargo flow and operation tempo at ports, airfields, logistic nodes and key command and control centers.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

4 - Demonstration and Validation

PE NUMBER AND TITLE

**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)**

PROJECT

DE4**FY 1999 Accomplishments:**

- 1040 Sorbent - Built Engineering, Design and Test (EDT), Production Qualification Test (PQT), and Initial Operational Test (IOT) hardware for operator's wipe down.
- 1033 Sorbent - Fabricated candidate applicators for operator's wipe down.
- 433 Sorbent - Executed engineering change proposal for adoption of the sorbent into the M295 Personnel Equipment Decontamination Kit.
- 200 Sorbent - Conducted in-process review for adoption of the sorbent as a standard military decontaminant.
- 200 Sorbent - Completed EDT for M295 personnel equipment decontamination kit.
- 1351 Sorbent - Conducted MS II/III for personnel equipment wipe down and operator's spray down.

Total 4257

FY 2000 Planned Program:

- 348 JSFXD - Conduct technology definition and assessment of Commercial-Off-The-Shelf (COTS)/Non-Developmental Items (NDI's) Decontamination equipment and decontaminants for Block III.
- 182 JSFXD - Prepare MS I documentation for selected candidate equipment for Block II.
- 972 JSFXD (TT DECON) - Conduct technology definition and assessment on a wide range of development technology to include electrostatic decontamination technologies to neutralize chemical and biological warfare agent threats to personnel, equipment, buildings and agricultural produce; technologies to neutralize drifting chemical and biological aerosols; technologies that are environmental friendly and technology methodology mitigate chemical and biological contamination resulting from window blast and flying shards of glass.
- 1309 Sorbent - To develop and support Milestone (MS) III documentation for operator spray down systems.
- 800 Sorbent - Develop Technical Data Package (TDP) for operator spray down systems.
- 800 Sorbent - Build EDT hardware for operator spray down systems.
- 770 Sorbent - Initiate Integrated Logistic Support (ILS) program for operator spray down systems.
- 663 Sorbent - Conduct producibility studies for operator spray down systems.
- 116 SBIR/STTR.

Total 5960

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl)	PROJECT DE4
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FY 2001 Planned Program:

- 1047 JSFXD - Procure and test prototype decontaminants to meet the casualty decontamination requirements.
- 563 JSFXD - Complete technical documentation (Specifications, Test Reports and Test Plans).
- 187 JSFXD - Prepare MS II documentation.
- 969 JSFXD - Begin testing of casualty decontaminants to support FDA approval.
- 150 JSFXD - Prepare documentation for MS I/II for Block I and Block III.
- 250 JSSED - Block I Milestone I preparation and coordination with JSIG and JSMG.
- 1934 JSSED - Block I Competitive Prototype Contract and Contracting Support.
- 434 JSSED - Initial evaluation of competitive prototypes.
- 250 Sorbent - Develop end item design using carbon cloth technology to facilitate absorption of the contaminant from the skin.
- 50 Sorbent - Produce prototype hardware of the M291skin decontamination kits with sorbent.
- 150 Sorbent - Conduct toxicity testing of sorbent for skin decontamination.
- 791 Sorbent - Conduct EDT/IOT for skin decontamination system.
- 250 Sorbent - Develop engineering change proposal to incorporate sorbent into the M291 skin decontamination kit.

Total 7025

B Other Program Funding Summary:

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
DE5 DECONTAMINATION SYSTEMS (EMD)	1355	3764	3611	7279	15393	11825	11475	8000	Cont
G47001 MODULAR DECON SYSTEM	5950	7562	9430	9771	9532	95	0	0	42340
JN0010 JOINT SERVICE FIXED SITE DECON (JSFXD)	0	0	0	1516	1998	7505	6615	0	17634
JN0016 JOINT SERVICE SENSITIVE EQUIPMENT DECON	0	0	0	0	0	3110	4822	6090	Cont
JN0018 SORBENT DECON	0	1493	2765	4779	4799	0	0	0	13836

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl)	PROJECT DE4
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C. Acquisition Strategy:

Sorbent In-house/contractor development and testing. Competitive Contractor manufacture of production units.

JSSed In-house/contractor design and prototype development and fabrication for in-house and contractor testing. Contractor manufacture of production units.

JSFXD This project Program Definition and Risk Reduction (PDRR) of decontamination equipment for Joint Service Fixed Site Decontamination (JSFXD) Program. The program objective consists of a family of decontaminants and family of applicators that provide each service with the capability to decontaminate fixed site to restored mission operations. The program is divided into three blocks. Block I will field decontaminants that will be used with integral or existing applicators. Block II will field any additional applicators required to provide the full fixed site decontamination capability (excluding Block III). Block III will provide applicators for skin/casualties with open wounds. These items will be used to decontaminate equipment, personnel and vital areas to sustain critical cargo flow and operation tempo at ports, airfields, logistic nodes and key command and control centers.

D Schedule Profile:

	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JSFXD																												
Block I MS I/II							X																					
Block II MS I							X																					
Block II Prototype Testing								X	X	X																		
Block II MS II									X																			
Block II MS III																		X										
Block III MS I/II											X																	
Block III Milestone III																						X						
JSSed																												
Phase I Milestone I										X																		
Evaluate Candidate Phase I Prototypes										X	X	X																
Down-select Phase I Prototype													X															
SORBDECON																												
ECP for M295			X																									

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)

PROJECT
DE4

D Schedule Profile:

	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SORBDECON (Cont)																												
Select Applicator for Spraydown		X																										
Milestone III for XM24 SDS							X																					
Develop Carbon Cloth System									X	X	X	X																
Production Contract Award										X																		
FUE/IOC									X	X	X		X	X	X	X												
Milestone III for Carbon Cloth															X													

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)****DE4****E. Project Cost Breakdown:****FY 1999****FY 2000****FY 2001**

Contractor Engineering Support	125	400	1190
Contractor Hardware Development	1351	0	1984
Contractor ILS Support	0	270	50
Development Test and Evaluation	200	2968	2144
Government Engineering Support	525	489	100
Government ILS Support	248	500	50
Operational Test and Evaluation	950	0	125
Program Management/Management Support	425	802	450
SBIR/STTR	0	116	0
Technical data/documentation	433	415	932
Total	4257	5960	7025

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2000
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL)	PROJECT IP4
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COST (In Thousands)	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to	Total Cost
	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	
IP4 INDIVIDUAL PROTECTION (DEMVAL)	3534	6595	17270	0	0	0	0	0	27399

A. Mission Description and Budget Item Justification:

Project IP4 INDIVIDUAL PROTECTION (DEMVAL): This project funds Program Definition and Risk Reduction (PDRR) of individual protection equipment aimed at improving current protection levels while reducing physiological and logistical burdens. The goal is to provide equipment which allows the individual soldier, sailor, airman, or marine to operate in a contaminated Chemical and Biological (CB) environment with no or minimal degradation to his/her performance. This project includes the Joint Service General Purpose Mask (JSGPM) and the Joint Service Aviation Mask (JSAM). The JSGPM will reduce weight, bulk and breathing resistance by as much as 50 percent. The JSGPM will also improve vision coupling, communication effectiveness, and comfort/wearability. The mask will significantly reduce total ownership cost/life cycle cost. The JSGPM will be low maintenance and cost to be classified as disposable/replaceable after decontamination. JSAM will provide rotary and fixed wing aircrew members with above-the-shoulder CB protection and simultaneous acceleration protection in high performance aircraft. JSAM will integrate with existing aircrew life support systems equipment and support equipment.

FY 1999 Accomplishments:

- 1100 JSGPM - Finalized Performance Specification, Request For Proposal and established comprehensive equipment interface.
- 999 JSGPM - Prepared and evaluated solicitation for Baseline Program Definition and Risk Reduction Contract and options.
- 935 JSGPM - Prepared program documentation to include Test and Evaluation Master Plan and Simulation Support Plan.
- 500 JSGPM - Established Developmental Test and Evaluation baseline testing program to include investigation of test methodologies and techniques and comparison with current foreign military masks.

Total 3534

FY 2000 Planned Program:

- 1260 JSGPM - Conduct Joint Program/Project Management.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)****IP4****FY 2000 Planned Program (Cont):**

- 3888 JSGPM - Award Program Definition and Risk Reduction contract for mask design and 250 prototypes.
- 611 JSGPM - Continue preparation of Program/Project Documentation.
- 500 JSGPM - Continue Developmental Test and Evaluation.
- 240 JSGPM - Conduct sustainment study to investigate prime vendor/direct vendor delivery/Contractor Logistics Support.
- 96 SBIR/STTR.

Total 6595

FY 2001 Planned Program:

- 989 JSAM - Test planning working group activities including responsible test organization support and preparation for prototype evaluation.
- 1253 JSAM - Perform program planning and execution of project management functions. Prepare for and develop program documentation and coordinate program with Joint Service Integrated Product Team (IPT) representatives.
- 4205 JSAM - Continue two contractor prototype development, data delivery, and contractor development test. Begin prototype fabrication of approximately 20 masks.
- 1623 JSAM - Contractor Program Management/Systems Engineering and development of engineering change orders.
- 1100 JSGPM - Continue Joint Program/Project Management.
- 1066 JSGPM - Continue preparation of Program/Project Documentation.
- 5534 JSGPM - Continue development contract for mask design and fabrication of prototypes and award Engineering Manufacturing & Development option.
- 1100 JSGPM - Continue Developmental Test and Evaluation.
- 400 JSGPM - Continue sustainment study for logistics support.

Total 17270

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
FEBRUARY 2000

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

PROJECT
IP4

B Other Program Funding Summary:

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
IP5 INDIVIDUAL PROTECTION (EMD)	7485	10053	3819	20009	19902	21785	0	0	83053
JA0002 JT SVC AVIATION MASK (JSAM)	0	0	0	0	0	7154	14833	11000	Cont
JA0003 JOINT SERVICE GENERAL PURPOSE MASK (JSGPM)	0	0	0	0	0	0	15822	18953	Cont
JN0011 AERP AIRCRAFT MODS	4059	1880	887	1254	948	0	0	0	9028
MA0400 PROTECTIVE CLOTHING	80345	95055	96475	89493	86844	87319	87967	0	623498

C. Acquisition Strategy:

JSGPM The Acquisition Strategy outlines the strategy for a combined full scale development (Program Definition and Risk Reduction and Engineering and Manufacturing Development) and production. The contract for development/production is based on a joint service performance specification with special emphasis on the lowest total ownership cost.

JSAM The Acquisition Strategy outlines the strategy for a combined full scale development (Program Definition and Risk Reduction and Engineering and Manufacturing Development). The contract for development is based on a joint service systems requirement document with special emphasis on meeting an average unit production price. The strategy also provides for contractor commitment to a production price commitment curve for production. Note: In FY00 the JSAM program is currently funded in engineering and manufacturing development (budget activity 5).

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)

PROJECT
IP4

D <u>Schedule Profile:</u>	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JPACE																												
Manufacture Prototypes for OT										X	X		X															
JSAM																												
RFP Development					X	X																						
Source Selection							X	X																				
PDRR Phase								X	X	X	X	X	X	X	X													
Milestone II															X													
EMD Phase															X	X	X	X	X	X	X	X	X	X	X	X		
Milestone III																												X
JSGPM																												
Milestone I IPR	X																											
Pre-Solicitation Conference	X																											
Second Draft RFP		X																										
AP Approved		X																										
RFP (FINAL)			X																									
Source Selection Plan			X																									
Proposals Received				X																								
Development Contract Award					X																							
Milestone II IPR											X																	
Award EMD Option													X															
Milestone III/TC IPR																										X		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2000
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL)	PROJECT IP4
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D <u>Schedule Profile:</u>	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
JSGPM (Cont)																																
Production Contract Award																													X			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE

FEBRUARY 2000

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Demonstration and Validation**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)****IP4****E. Project Cost Breakdown:****FY 1999****FY 2000****FY 2001**

Contractor Engineering Support	0	2060	6554
Contractor Hardware Development	0	1589	2329
Contractor ILS Support	0	240	400
Development Test and Evaluation	500	500	2489
Government Engineering Support	1000	1000	2253
Government Hardware Development	634	0	34
Government ILS Support	300	300	300
Operational Test and Evaluation	0	0	500
Program Management/Management Support	500	500	2162
SBIR/STTR	0	96	0
Technical data/documentation	600	310	249
Total	3534	6595	17270

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2000
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL)	PROJECT MB4
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COST (In Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
MB4 MEDICAL BIOLOGICAL DEFENSE (DEMVAL)	8464	18398	29694	31691	29873	24860	19465	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project MB4 MEDICAL BIOLOGICAL DEFENSE (DEMVAL): This project funds the Program Definition and Risk Reductions (PDRR) phase, (acquisition phase I) for vaccines, drugs, and diagnostic medical devices which are directed against validated biological warfare (BW) agents to include bacteria, viruses, and toxins of biological origin. Phase I efforts for medical biological defense product development include establishing standards and reference material for manufacturing and preliminary safety studies in animals. These data (manufacturing process development, pilot lot manufacturing and non-clinical safety/toxicology studies) are submitted in support of an Investigational New Drug (IND) application with the FDA so that human studies to evaluate product safety and immunogenicity can be conducted. Phase I efforts are expected to be accomplished in two to four plus years. At the end of phase I, the product will transition to the engineering and manufacturing development phase. Products to be developed under this program include: recombinant botulinum, next generation anthrax, plague, Q fever, ricin, smallpox, tularemia, and Venezuelan Eastern Encephalitis (VEE), combined VEE/Eastern Equine Encephalitis/Western Equine Encephalitis (VEE/EEE/WEE) vaccines.

FY 1999 Accomplishments:

- 3453 Continued phase I effort for Smallpox vaccine.
- 1547 Began phase I effort for Botulinum Pentavalent Recombinant and Venezuelan Equine Encephalitis (VEE) vaccines.
- 3464 Completed clinical product trials for Botulinum Antitoxin Heptavalent Equine. Transition to the Center for Disease Control (CDC) pending approval.

Total 8464

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAL)**

PROJECT
MB4

FY 2000 Planned Program:

- 13752 Continue phase I effort for Tularemia (redirect from phase II), Botulinum, Smallpox and Venezuelan Equine Encephalitis (VEE) vaccines.
- 4235 Initiate phase I effort for Plague and Ricin vaccines.
- 411 SBIR/STTR.

Total 18398

FY 2001 Planned Program:

- 28418 Continue phase I effort for Tularemia, Smallpox, Botulinum, Venezuelan Equine Encephalitis, Plague, and Ricin vaccines.
- 876 Initiate phase I effort for combined VEE/EEE/WEE vaccine.
- 400 Initiate phase I effort for next generation Anthrax vaccine.

Total 29694

B Other Program Funding Summary:

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
MB5 MEDICAL BIOLOGICAL DEFENSE (EMD)	14635	18927	24198	57206	68991	42357	33619	39901	Cont
JX0005 DOD BIOLOGICAL VACCINE PROCUREMENT	14818	48634	49795	40430	45649	60834	64031	58266	Cont

C. Acquisition Strategy: Prime systems contract for advanced development, licensure, production, and storage of biological defense vaccines.

D Schedule Profile:

	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
VACCINES																												
JVAP prime contract	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
 (DEMVAL)**

PROJECT
MB4

E. Project Cost Breakdown:

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Contractor Engineering Support	821	1772	2960
Development Test and Evaluation	5748	12405	20536
Pilot Lot Production (vaccines)	821	1772	2960
Program Management/Management Support	253	266	279
SBIR/STTR	0	411	0
Technical data/documentation	821	1772	2959
Total	8464	18398	29694

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FEBRUARY 2000
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BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAL)	PROJECT MC4
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COST (In Thousands)	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to	Total Cost
	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	
MC4 MEDICAL CHEMICAL DEFENSE (DEMVAL)	1861	2717	2161	1876	1852	1848	1898	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project MC4 MEDICAL CHEMICAL DEFENSE (DEMVAL): This project funds Program Definition and Risk Reduction (PDRR) of countermeasures for chemical agents including life support equipment, diagnostic equipment, pretreatment 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 and medical treatment of chemical casualties. Fielding of pretreatment 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.

FY 1999 Accomplishments:

- 835 Completed validation and testing of methemoglobin monitor to support Milestone I in FY00.
- 570 Initiated animal toxicology studies in non-human primates with cyanide pretreatments.
- 231 Completed initial performance evaluation of cyanide pretreatment in non-human primates.
- 225 Completed initial formulation evaluation of cyanide pretreatment.

Total 1861

FY 2000 Planned Program:

- 50 Conduct Milestone I in-process review on the methemoglobin monitor.
- 849 Conduct safety review and additional animal testing for cyanide pretreatment.
- 256 Initiate validation of animal efficacy model of cyanide pretreatment to support human effectiveness.
- 1423 Initiate manufacturing scale-up and process validation of cyanide pretreatment.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY 4 - Demonstration and Validation	PE NUMBER AND TITLE 0603884BP CHEMICAL/BIOLOGICAL DEFENSE (DEMVAl)	PROJECT MC4
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FY 2000 Planned Program (Cont):

- 50 Conduct Milestone I in-process review on advanced anticonvulsant.
- 50 Prepare and submit Investigational New Drug (IND) application for advanced anticonvulsant.
- 39 SBIR/STTR.

Total 2717

FY 2001 Planned Program:

- 250 Conduct human performance testing for cyanide pretreatment.
- 200 Initiate Phase I safety study with the advanced anticonvulsant.
- 100 Initiate a human validation study with the methemoglobin monitor.
- 811 Complete manufacturing scale-up and process validation of cyanide pretreatment.
- 400 Initiate toxicology studies with the advanced anticonvulsant.
- 400 Initiate validation of animal efficacy model of advanced anticonvulsant.

Total 2161

B Other Program Funding Summary:

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
MC5 MEDICAL CHEMICAL DEFENSE (EMD)	1677	746	1091	1463	1549	1565	1612	1728	Cont

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
(DEMVAl)**

PROJECT
MC4

D Schedule Profile:

	FY 1999				FY 2000				FY 2001				FY 2002				FY 2003				FY 2004				FY 2005			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MEDCHEM																												
Advanced Anticonvulsant - MS I						X																						
Advanced Anticonvulsant - MS II/III																								X				
Cyanide Pretreatment - MS II													X															
Cyanide Pretreatment - MS III																								X				
Methemoglobin Monitor - MS I						X																						
Methemoglobin Monitor - MS II/III														X														
Reactive TSP - MS I																				X								
Nerve Agent Scavenger - MS I																				X								

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-3 Exhibit)

DATE **FEBRUARY 2000**

BUDGET ACTIVITY
4 - Demonstration and Validation

PE NUMBER AND TITLE
**0603884BP CHEMICAL/BIOLOGICAL DEFENSE
 (DEMVAL)**

PROJECT
MC4

E. Project Cost Breakdown:

	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>
Operational Test and Evaluation	1497	845	696
Program Management/Management Support	227	1806	1443
SBIR/STTR	0	39	0
Technical data/documentation	137	27	22
Total	1861	2717	2161