

UNCLASSIFIED

CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2006		
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development				PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)					
COST (In Thousands)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	2070	9949	7035	9928	19059	16120	20903	Continuing	Continuing
CA7 CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV	2070	9949	7035	7016	7207	7206	6978	Continuing	Continuing
IP7 INDIVIDUAL PROTECTION OPERATIONAL SYS DEV	0	0	0	2912	11852	8914	13925	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element provides development efforts to upgrade systems in the Department of Defense (DoD) Chemical Biological Defense Program that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Efforts in this program element support the upgrade of fielded detectors against emerging chemical threat agents and toxic industrial chemicals.

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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)**B. Program Change Summary:**

		<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Previous President's Budget (FY 2006 PB)		2131	10093	8137
Current Biennial Budget Estimate (FY 2007)		2070	9949	7035
Total Adjustments		-61	-144	-1102
a. Congressional General Reductions		-2	-144	0
b. Congressional Increases		0	0	0
c. Reprogrammings		-43	0	0
d. SBIR/STTR Transfer		-17	0	0
e. Other Adjustments		1	0	-1102

Change Summary Explanation:

Funding: FY07 - Defense-wide directed offsets (-\$200K). Inflation adjustment (+\$98K). Offset to support the enhanced Medical Biological research efforts in the Transformational Medical Technology Initiative (-\$1,000K)

Schedule: N/A

Technical: N/A

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COST (In Thousands)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
CA7 CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV	2070	9949	7035	7016	7207	7206	6978	Continuing	Continuing

A. Mission Description and Budget Item Justification:

Project CA7 CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV: This project 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 project support the upgrade of fielded detectors against emerging and changing chemical threat agents

B. Accomplishments/Planned Program

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
DETECTOR MODS	2070	1925	0

FY 2005 Accomplishments:

- 1445 DETECTMOD - (ACADA Enhancement) Initiated upgrades to enhance TIC and other detection capabilities of the ACADA. Initiated development efforts to test and implement enhancements.
- 625 DETECTMOD - (ICAM High Temperature Storage) Initiated effort to reduce effects of prolonged, extremely high temperature on ICAM. Primary areas are seating materials evaluation and acetone source design.

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RD&E DEFENSE-WIDE/**BA7 - Operational Systems Development**

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**0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS
DEV)**

PROJECT

CA7**FY 2005 Accomplishments (Cont):****Total** 2070**FY 2006 Planned Program:**

- 1015 DETECTMOD - (ACADA Enhancement) Continue design and testing of enhanced ACADA configurations, including upgrades to platform data interfaces.
- 910 DETECTMOD - (ICAM High Temperature Storage) Continue design efforts and prove-out for switchable acetone source and any new materials recommended.

Total 1925

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
T&E RANGE INSTRUMENTATION/TECHNOLOGY UPGRADE	0	7927	7035

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<p>FY 2006 Planned Program:</p> <ul style="list-style-type: none"> 2300 DPG, MRTFB - 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. Included are the first set of software upgrades for 100 Miniature Chemical Agent Monitors (MINICAMS) to comply with lower level of Airborne Exposure Limits adopted by the US Army in June 2004. Other modernization projects will develop an improved nano-particle simulant dissemination and sampling system for testing protective fabrics, a dynamic dissemination method for chemical vapors varying concentration over time for the testing of detectors, and developing a versatile, multi-configurable test chamber for the testing of single small items. Technology upgrades include: portable mass-spectrometer point detector to support operational testing an articulated headform allowing testing of the protective masks and components, and second generation glove fixture incorporating operational movements. 		
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<p>FY 2006 Planned Program (Cont):</p> <ul style="list-style-type: none"> 2300 DPG, MRTFB - 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 (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 IPE in a chemical environment is conducted. Modernization in the chambers includes the development of a chemical aerosol generation and sampling capability, and real-time sampling system under protective suits in the MIST chamber, as well as upgraded supervisory control and data acquisition systems for controlling testing conditions in chemical test fixtures and chambers. 		
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<p>FY 2006 Planned Program (Cont):</p> <ul style="list-style-type: none"> 2107 DPG, MRTFB - Provides for upgrade of the Life Sciences Test Facility instrumentation and equipment at DPG, in support of their CB test mission. This is the only U.S. facility equipped to test with aerosolized Biosafety Level 3 (BSL-3) agents. Upgrades include replacement of old Scanning Electron Microscopes, light microscopes, and old Aerodynamic Particle Sizers with newer Fluorescent Aerodynamic Particle Sizers. These items will be replaced using a phased approach over several years. Modernization projects include developing 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, developing a deployable Polymerase Chain Reaction sampling system for use in the field testing of biological detection systems, upgrade of the Containment Aerosol Chamber (CAC) with capability to create environmental conditions with varying combinations of air temperature and relative humidity, and microbiological laboratory equipment needed to utilize new BioSafety Level 3 laboratories constructed in FY05. 		
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<p>FY 2006 Planned Program (Cont):</p> <ul style="list-style-type: none"> 1220 DPG, MRTFB - 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 CB defense program Developmental Test/Operational Test. Modernization includes the development of a realistic CB threat generation system where challenges for detectors will be done with explosives and dissemination devices that will be faced in battlefield situations, a Portable Chemical Simulant Cloud Generator that will produce a large reproducible cloud of vapor, and continued modernization of the Aerosol Simulant Exposure Chamber for new simulants. Additional technology upgrades include low-range and high-range vertical wind profilers, hognn resolution video-recording capability for test grids, LIDAR referee systems for real-time stimulant cloud characterization, and distributed-test capabilities. <p>Total 7927</p>		
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<p>FY 2007 Planned Program:</p> <ul style="list-style-type: none"> 1997 DPG, MRTFB - Continues to provide 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. Included are the second set of software upgrades for 100 Miniature Chemical Agent Monitors (MINICAMS) to comply with lower level of Airborne Exposure Limits adopted by the US Army in June 2004. Other modernization projects will continue to develop an improved nano-particle simulant dissemination and sampling system for testing protective fabrics, a dynamic dissemination method for chemical vapors varying concentration over time for the testing of detectors, developing a versatile, multi-configurable test chamber for the testing of single small items, characterization of new and upgraded test fixtures, upgraded control systems for small chambers and development of a laboratory information-management system. 1997 DPG, MRTFB - Continues to provide for modernization of existing instrumentation and equipment in the major test chambers at DPG, in support of the CB test mission. These consist of (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) Building 3445, which houses two large chambers where testing of large panel decontaminants, filter systems, and IPE in a chemical environment is conducted. Modernization in the chambers includes the continued development of a chemical aerosol generation and sampling capability, and real-time sampling system under protective suits in the MIST chamber. Characterization of articulated testing fixtures constructed during FY06 will commence. 		
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<p>FY 2007 Planned Program (Cont):</p> <ul style="list-style-type: none"> 1804 DPG, MRTFB - Continues to provide for upgrade of the Life Sciences Test Facility instrumentation and equipment at DPG, in support of their CB test mission. This is the only U.S. facility equipped to test with aerosolized Biosafety Level 3 (BSL-3) agents. Upgrades include replacement of old Scanning Electron Microscopes, light microscopes, and old Aerodynamic Particle Sizers with newer Fluorescent Aerodynamic Particle Sizers. These items will be replaced using a phased approach over several years. Modernization projects include the continued 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, developing a deployable Polymerase Chain Reaction sampling system for use in the field testing of biological detection systems, genetic-sequencer/analyzer characterization, capability for rapid antibody production to support biosensor testing, and instrumentation for new BSL-3 laboratory space. 1237 DPG, MRTFB - 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 CB defense program Developmental Test/Operational Test. Modernization includes the continued development of a realistic CB threat generation system where challenges for detectors will be done with explosives and dissemination devices that will be faced in battlefield situations, a Portable Chemical Simulant Cloud Generator that will produce a large reproducible cloud of vapor, and continued modernization of the Aerosol Simulant Exposure Chamber for new simulants. Real-time data fusion systems for field testing will be implemented and integrated with new weather-characterization and wind-profiling capabilities, and telemetric data-transfer capabilities will be instituted to support field tests. <p>Total 7035</p>		
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PROJECT

CA7

	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
SBIR/STTR	0	97	0

FY 2006 Planned Program:

- 97 SBIR

Total 97**C. Other Program Funding Summary: N/A****D. Acquisition Strategy:**

DETECTMOD

Continuously evaluate fielded and developmental detectors for enhancement of capabilities.

ACADA 24/7 Model-D and TIC detection capability development using FPIF contracts to the ACADA vendor. The ACADA vendor was previously competitively selected as the sole source to meet the joint service ACADA performance specification requirements. Technical testing of detectors to be performed in-house at the Edgewood Chemical Biological Center (ECBC) agent laboratories (primary source), or on task contracts to commercial laboratories (secondary source). Development of NBC Reconnaissance interface software for TIC detection capability to be performed on a competitive task order contract.

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)

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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	FY2005 Cost	FY2005 Award Date	FY2006 Cost	FY2006 Award Date	FY2007 Cost	FY2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
DETECTMOD													
OTHT SB - DETECTMOD - (ACADA) Govt OT&E	MIPR	Various	U	0	1065	3Q FY05	735	2Q FY06	0	NONE	0	1800	0
OTHT SB - DETECTMOD - (ICAM) Govt OT&E	MIPR	Various	U	0	460	3Q FY05	625	2Q FY06	0	NONE	0	1085	0
T&E UPGRAD													
Dugway Proving Ground, UT	C/FP	TBS	U	0	0	NONE	7927	2Q FY06	7035	2Q FY07	0	14962	0
Subtotal III. Test and Evaluation:				0	1525		9287		7035		0	17847	

Remarks:

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Exhibit R-3 (PE 0607384BP)

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CBDP PROJECT COST ANALYSIS (R-3 Exhibit)										DATE February 2006				
BUDGET ACTIVITY RDT&E DEFENSE-WIDE/ BA7 - Operational Systems Development					PE NUMBER AND TITLE 0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)									PROJECT CA7
IV. Management Services	Contract Method & Type	Performing Activity & Location	US NF CC	Total PYs Cost	FY2005 Cost	FY2005 Award Date	FY2006 Cost	FY2006 Award Date	FY2007 Cost	FY2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
DETECTMOD														
PM/MS SB - DETECTMOD - (ACADA) JPM NBCCA, RDECOM Spt	MIPR	Various, APG, MD	U	0	380	3Q FY05	282	2Q FY06	0	NONE	0	662	0	
PM/MS SB - DETECTMOD - (ICAM) JPM NBC CA, RDECOM Spt	MIPR	Various, APG, MD	U	0	165	3Q FY05	283	2Q FY06	0	NONE	0	448	0	
ZSBIR														
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC, Alexandria, VA	U	0	0	NONE	97	NONE	0	NONE	0	97	0	
Subtotal IV. Management Services:				0	545		662		0		0	1207		
Remarks:														
TOTAL PROJECT COST:				0	2070		9949		7035		0	19054		

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Exhibit R-3 (PE 0607384BP)

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Exhibit R-4a, Schedule Profile

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CA7**D. Schedule Profile:**

D. <u>Schedule Profile:</u>	FY 2004				FY 2005				FY 2006				FY 2007				FY 2008				FY 2009				FY 2010				FY 2011			
	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				
DETECTMOD																																
Eval Tech Upgrds of Flded Detectors							3Q									4Q																
ACADA 24/7 Model-D Upgrade Development									1Q			4Q																				
ACADA 24/7 Model-D Technical Tests											4Q		2Q																			
ACADA 24/7 TIC Technical Tests									2Q	3Q																						
M22 ACADA TIC Detection HW/SW Development									1Q				2Q																			
M22 ACADA TIC Detection Tests													3Q	4Q																		
ICAM Prototype Manufacture & Test									1Q		3Q																					
ICAM Changes to Tech Data Package											4Q																					