

**UNCLASSIFIED**

<b>CBDP BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>	DATE <b>February 2005</b>
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BUDGET ACTIVITY <b>RDT&amp;E DEFENSE-WIDE/          BA7 - Operational Systems Development</b>	PE NUMBER AND TITLE <b>0607384BP CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</b>
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COST (In Thousands)	FY 2004 Actual	FY 2005 Estimate	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	0	2131	10093	8137	11084	19884	16986	22388	Continuing	Continuing
CA7 CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV	0	2131	10093	8137	8134	8143	8148	8164	Continuing	Continuing
IP7 INDIVIDUAL PROTECTION OPERATIONAL SYS DEV	0	0	0	0	2950	11741	8838	14224	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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<b>B. Program Change Summary:</b>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Previous President's Budget (FY 2005 PB)	0	2178	1944	0
Current Biennial Budget Estimates (FY 2006)	0	2131	10093	8137
Total Adjustments	0	-47	8149	8137
a. Congressional General Reductions	0	-47	0	0
b. Congressional Increases	0	0	0	0
c. Reprogrammings	0	0	0	0
d. SBIR/STTR Transfer	0	0	0	0
e. Other Adjustments	0	0	8149	8137

**Change Summary Explanation:**

**Funding:** FY06 - Enhancements to provide for the modernization and upgrade of instrumentation and equipment in support of the CB test mission in the MRTFB (+\$8,000K CA7). Inflation adjustment +\$149K CA7).

FY07 - Enhancements to provide for the modernization and upgrade of instrumentation and equipment in support of the CB test mission in the MRTFB (+\$8,000K CA7). Inflation adjustment +\$137K CA7).

**Schedule:** N/A

**Technical:** N/A

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COST (In Thousands)	FY 2004 Actual	FY 2005 Estimate	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	0	2131	10093	8137	8134	8143	8148	8164	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.

Beginning in FY06, this project includes funding for Dugway Proving Ground (DPG), a Major Range and Test Facility Base (MRTFB). Efforts provide for revitalization/upgrade of their facilities/infrastructure instrumentation to support their chemical/biological (CB) test mission.

**B. Accomplishments/Planned Program**

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
DETECTOR MODS	0	2114	1973	0

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**FY 2005 Planned Program:**

- 2114 DETECTMOD - Initiate evaluations of existing and fielded NBC detectors to detect emerging and changing threats.

**Total** 2114

**FY 2006 Planned Program:**

- 1973 DETECTMOD - Continue evaluations of existing and fielded NBC detectors to detect emerging and changing threats.

**Total** 1973

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
T&E RANGE INSTRUMENTATION/TECHNOLOGY UPGRADE	0	0	8120	8137

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<p><b>FY 2006 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> </ul>		
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**FY 2006 Planned Program (Cont):**

- 2300 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, and developing a deployable Polymerase Chain Reaction sampling system for use in the field testing of biological detection systems.
  
- 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.

**Total**    8120

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**FY 2007 Planned Program:**

- 2300 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, and developing a versatile, multi-configurable test chamber for the testing of single small items.
  
- 2300 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.

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**FY 2007 Planned Program (Cont):**

- 2300 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, and developing a deployable Polymerase Chain Reaction sampling system for use in the field testing of biological detection systems.
  
- 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.

**Total** 8137

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
SBIR/STTR	0	17	0	0



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**FY 2005 Planned Program:**

- 17 SBIR

**Total** 17

**C. Other Program Funding Summary: N/A**

**D. Acquisition Strategy:**

DETECTMOD      Efforts in the Detector Mods program support the upgrade of fielded detectors against emerging and changing chemical threat agents and Toxic Industrial Materials (TIMs). This will be a joint effort between the Research Development and Engineering Command (RDECOM) and the Joint Project Manager for Nuclear Biological Chemical Contamination Avoidance (JPM NBC CA).



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<b>CBDP PROJECT COST ANALYSIS (R-3 Exhibit)</b>	DATE <b>February 2005</b>
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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 S - DETECTMOD - JPM NBC CA, RDECOM Support	MIPR	Various, APG, MD	U	0	589	2Q FY05	613	1Q FY06	0	NONE	0	1202	0
ZSBIR													
SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	HQ, AMC Alexandria, VA	U	0	17	NONE	0	NONE	0	NONE	0	17	0
Subtotal IV. Management Services:				0	606		613		0		0	1219	

Remarks:

TOTAL PROJECT COST:	0	2131		10093		8137		0	20361
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<b>Exhibit R-4a, Schedule Profile</b>	DATE <b>February 2005</b>
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<b>D. <u>Schedule Profile:</u></b>	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	1	2	3	4
DETECTMOD																																
Evaluation / Technology Upgrades of Fielded Detectors																																

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