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Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	64.930	80.337	73.728	-	73.728	48.553	44.802	47.454	38.270	Continuing	Continuing
033: <i>ADV CREW SVC WPN</i>	9.094	-	-	-	-	-	-	-	-	0.000	9.094
S58: <i>SOLDIER ENHANCEMENT PROGRAM</i>	4.517	4.850	3.275	-	3.275	3.243	4.161	4.100	4.189	Continuing	Continuing
S60: <i>CLOTHING & EQUIPMENT</i>	10.942	9.711	6.322	-	6.322	5.604	1.915	1.967	2.057	Continuing	Continuing
S61: <i>ACIS ENGINEERING DEVELOPMENT</i>	12.181	10.295	18.946	-	18.946	17.186	19.253	22.280	12.760	Continuing	Continuing
S62: <i>Counter-Defilade Target Engagement - SDD</i>	7.276	34.416	19.968	-	19.968	0.603	-	-	-	0.000	62.263
S63: <i>SMALL ARMS IMPROVEMENT</i>	9.653	19.805	18.168	-	18.168	14.361	14.364	14.207	14.374	Continuing	Continuing
S64: <i>COMMON REMOTELY OPERATED WPN SYS (CROWS)</i>	10.000	-	-	-	-	-	-	-	-	0.000	10.000
S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>	1.267	1.260	3.063	-	3.063	3.568	1.142	1.116	1.128	Continuing	Continuing
VS5: <i>SOLDIER PROTECTIVE EQUIPMENT</i>	-	-	3.986	-	3.986	3.988	3.967	3.784	3.762	Continuing	Continuing

Note
Change Summary Explanation:

Fiscal Year 2010: Program Decrease - \$18.248 million realigned to higher priority requirements.
Fiscal Year 2012: Program Increase - \$14.141 million for development efforts associated with Aircrew Integrated System, Counter-Defilade Target Engagement - Individual Airburst Weapon System, Personnel Recovery Support System and Soldier Protective Equipment.

A. Mission Description and Budget Item Justification
FY 2012 budget request funds Infantry Support Weapons. This program element (PE) Engineering and Manufacturing Development (EMD) manages the Soldier as a system, with the goal of increasing Soldiers' combat effectiveness, increasing survivability, and improving the Soldiers' quality of life. It develops and tests prototypes of weapons, clothing, equipment, and other items useful to support the Soldier.

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<p>Project 033 (Advanced Crew Served Weapon) develops the Lightweight .50 Caliber Machine Gun which enables the Soldier to effectively suppress and incapacitate exposed personnel targets out to 2,000 meters as well as providing a capability to defeat light armored vehicles out to 1,500 meters. The new .50 Caliber weapon will reduce weight and recoil, and eliminate manual adjustment of headspace and timing.</p> <p>Project S58 (Soldier Enhancement Program) supports accelerated integration, modernization, and enhancement efforts of lighter, more lethal weapons, and improved Soldier items including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigational aids.</p> <p>Project S59 (Soldier Support Equipment) supports system development and prototyping of critical Soldier support systems and other combat service support equipment that will improve unit sustainability and combat effectiveness.</p> <p>Project S60 (Clothing and Equipment) supports pre-production development of state-of-the-art individual clothing and equipment to improve the survivability, mobility and sustainment affecting the quality of life of the individual Soldier.</p> <p>Project S61 (Aircrew Integrated Systems) provides System Development programs with improved aviator safety, survivability, and human performance that amplify the warfighting effectiveness and facilitates full-spectrum dominance of the Army aircraft including the AH-64 Apache/Longbow, CH-47 Chinook, UH/HH-60 Blackhawk, Light Utility Helicopter, and Armed Reconnaissance Helicopter.</p> <p>Project S62 (Counter-Defilade Target Engagement) the XM25, Individual Airburst Weapon System (IAWS) delivers a 25mm programmable high explosive airburst (HEAB) round to defeat defilade and point areas targets out to approximately 600 meters. Accurate and lethal engagement of defilade targets at the squad level is the number one capability gap identified by the United States Army Infantry Center (USAIC).</p> <p>Project S63 (Small Arms Improvements) demonstrates engineering development models or integrated commercial items designed to enhance lethality, target acquisition, fire control, training effectiveness, and reliability for small arms weapon systems and ammunition. FY2011 new programs include Improved Weapons Coatings, Personal Defense Weapon, 30 Round 5.56mm Magazine, Modular Handgun and Precision Sniper Rifle.</p> <p>Project S64 (CROWS) funds will be applied to continue enhancing CROWS capability and reliability, and to increase its application across combat and tactical platforms. This capability will enhance the Soldier's survivability, lethality and situational awareness.</p> <p>Project S70 (Personnel Recovery Support System) provides system research, development and testing of the Personal Recovery Support System/Personnel Recovery Support Equipment supporting operations to report and locate isolated, missing, detained or captured Soldiers.</p> <p>Project VS5 (Soldier Protective Equipment) supports engineering and manufacturing development of Individual Soldier Ballistic Protection equipment. It will leverage advancements in technology to continue incremental improvements to body armor (to include improved outer tactical vests, plate carriers, and helmets) and other personal protective equipment.</p>		

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B. Program Change Summary (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	83.178	80.337	59.587	-	59.587
Current President's Budget	64.930	80.337	73.728	-	73.728
Total Adjustments	-18.248	-	14.141	-	14.141
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-18.248	-	14.141	-	14.141

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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
033: <i>ADV CREW SVC WPN</i>	9.094	-	-	-	-	-	-	-	-	0.000	9.094
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project develops the Lightweight .50 Caliber Machine Gun which will meet the U.S. Army/SOCOM requirements for a Lightweight Enhanced .50 Caliber Machine Gun. The project will result in the development of a lightweight .50 Caliber machine gun system enabling the Soldier to effectively suppress and incapacitate exposed personnel targets out to 2,000 meters, as well as providing a capability to defeat lightly armored vehicles out to 1,500 meters. Successful development of the Lightweight .50 Caliber Machine Gun will increase the warfighter's lethality while significantly reducing tactical load and supportability costs. The new .50 Caliber weapon will reduce weight and recoil, and eliminate manual adjustment of headspace and timing.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: Integrated Logistics Support (ILS)</p> <p align="right">Articles:</p> <p>Description: Description: Provide ILS for the Lightweight .50 Caliber Machine Gun.</p> <p>FY 2010 Accomplishments: Funding provided for ILS for the Lightweight .50 Caliber Machine Gun. FY2010 Accomplishments: Completed ILS technical documentation and conducted provisioning conferences and logistics demonstrations.</p>	0.200 0	-	-	-	-
<p>Title: Weapon System Design Test</p> <p align="right">Articles:</p> <p>Description: Description: Conduct weapon systems design test.</p> <p>FY 2010 Accomplishments: Funding provided to conduct weapon systems design test. FY 2010 Accomplishments: Conducted contractor testing to validate weapon design parameters and reliability.</p>	8.827 0	-	-	-	-
<p>Title: Small Business Innovative Research/Small Business Technology Transfer Program</p> <p align="right">Articles:</p> <p>Description: Small Business Innovative Research/Small Business Technology Transfer Program</p>	0.067 0	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2010 Accomplishments:</i> Army allocation to SBIR.					
Accomplishments/Planned Programs Subtotals	9.094	-	-	-	-

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• WTCV, G12800: <i>Lightweight .50 Caliber Machine Gun</i>	0.974	18.941	28.796	5.427	34.223		33.207	31.540	32.069	0.000	169.920

D. Acquisition Strategy

In support of the US Army Infantry Center (USAIC) Capability Production Document (CPD) for Enhanced .50 Caliber Machine Gun (M2A1), the Lightweight .50 Caliber Machine Gun will be developed. Milestone C is scheduled second quarter FY2012. The development contractor is General Dynamics Armament and Technical Products (GDATP) of Burlington, Vermont. The Acquisition Strategy (Sole Source), Acquisition Plan, and Milestone B were approved by the Milestone Decision Authority (MDA) - PEO Soldier.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S58: <i>SOLDIER ENHANCEMENT PROGRAM</i>	4.517	4.850	3.275	-	3.275	3.243	4.161	4.100	4.189	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This program supports accelerated integration, modernization, and capability enhancement efforts of lighter, more lethal weapons, including improved optics, sights, and fire controls; and improved soldier items including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigational aids. Soldiers are managed in three categories: Dismounted Soldiers, mounted Soldiers (air and ground vehicle), and other Soldiers. Projects are generally completed in three years or less.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: The Soldier Enhancement Program (SEP) reviews candidate capability products through market surveys and product evaluations.</p> <p align="right">Articles:</p> <p>Description: Same as above</p> <p>FY 2010 Accomplishments: Evaluated and procured prototypes and/or tested the following Soldier Equipment: Mountain Boots; Army Combat Shirt; Tactical Head Lamp; Illumination System; Tactical Duostocks; Blask Absorbing Helmet Liners; Tripod; Rynoskin protection to clothing; Green Laser Technology; Flash Eliminator; Flash Suppressor; Trauma Medical Bag; Resistance Training Kit; Fire Resistance Socks; Improved Chin Straps and Integrated Fire Control Device.</p> <p>FY 2011 Plans: Evaluate and procure prototypes and/or test the following Soldier equipment and weapons items: M26 MASS; 12 ga Non-Lethal; Grenade Laser Range Finder; Sniper Tripod; Compact M110 SASS; Sniper Weapons Collimator; Sniper Quick Fire Sight; and Parachute Oxygen Mask.</p> <p>FY 2012 Base Plans: Evaluate and procure prototypes and/or test Soldier equipment and weapons items. Up to 125+ proposals from Soldiers, Units, Industry and Academia. Will be submitted and reviewed by TRADOC and material developer</p>	2.567 0	3.407 0	2.050	-	2.050

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
(PEO). SEP criteria will be applied and then submitted to a CoC Executive Council to see if new capability initiatives will be approved for test and evaluation.					
<p>Title: In house engineering support and integration services, conduct technical evaluations and program reviews.</p> <p align="right">Articles:</p> <p>Description: Same as above</p> <p>FY 2010 Accomplishments: In house engineering support and integration services, conduct technical evaluations and program reviews for the following systems: Flotation Collar, 7-day Bandage; Frigid Towel; Wide Area Monitor; MRAP Gunner Helmet; Glo-Shade.</p> <p>FY 2011 Plans: In house engineering support and integration services, conduct technical evaluations and program reviews for the following systems: 12 ga Non-Lethal; Medical Bag; Chin Straps; 3D Camo; Field Tarp Modifications, Wireless Intercom; Body Heat Battery Charger; and Airborne Goggle.</p> <p>FY 2012 Base Plans: In house engineering support and integration services, conduct technical evaluations and program reviews. Engineering capability will be maintained for new initiatives coming from submitted Soldier capability proposals.</p>	0.997 0	0.835 0	0.610	-	0.610
<p>Title: Conduct market surveys and/or evaluations on new items to commence development and demonstration. New items initiated will continue evaluation/procurement of new prototypes.</p> <p align="right">Articles:</p> <p>Description: Same as above</p> <p>FY 2010 Accomplishments: Market surveys and evaluations were conducted on the following items: Multi-Tool; Dual Current Power; Facial Protective System; Energy Stix; Mag Flare Launcher; Tactical Rescue Stretcher; Waterless Tooth Brush; and Sand Bagger.</p> <p>FY 2011 Plans:</p>	0.953 0	0.608 0	0.615	-	0.615

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Market surveys and/or evaluations to be conducted on 3D Camo; Flotation Collar, 7 Day Bandage; Airborne Goggles and Weapons case.					
<i>FY 2012 Base Plans:</i> Market survey capability will be applied to new proposals for Soldier capabilities.					
Accomplishments/Planned Programs Subtotals	4.517	4.850	3.275	-	3.275

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPA3, MA6800: <i>Soldier Enhancement, OPA3 MA6800</i>	4.558	5.416	9.591		9.591		6.498	1.698	0.324	Continuing	Continuing
• OPA2, BA5300: <i>Soldier Enhancement, OPA2 BA5300</i>	4.632	5.125	1.843		1.843		1.703	1.775	1.833	Continuing	Continuing
• WTCV, GC0076: <i>Small Arms (SEP), WTCV GC0076</i>	4.997	4.042	2.453		2.453		2.452	2.412	2.495	Continuing	Continuing

D. Acquisition Strategy

The Soldier Enhancement Program (SEP) focuses on COTS initiatives, Soldier capability enhancements and integration efforts that lend themselves to accelerated acquisition and fielding in the near term (three years or less). New SEP candidates are reviewed and approved semi-annually. SEP items are procured from multiple appropriations, i.e., OPA and WTCV.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army **DATE:** February 2011

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Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	RO	PEO Soldier:Ft. Belvoir, VA	9.450	2.139		0.405		-		0.405	Continuing	Continuing	Continuing
Subtotal			9.450	2.139		0.405		-		0.405			

Remarks
Costs vary annually depending on number and type of items being evaluated.

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	C/FP	PEO Soldier:Ft. Belvoir, VA	31.850	0.367		2.092		-		2.092	Continuing	Continuing	Continuing
Subtotal			31.850	0.367		2.092		-		2.092			

Remarks
Candidates for the Soldier Enhancement Program are received, reviewed, and approved semi-annually. Contractual efforts are focused on procuring prototypes for testing.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	RO	PEO Soldier:Ft. Belvoir, VA	5.319	0.900		0.567		-		0.567	Continuing	Continuing	Continuing
Subtotal			5.319	0.900		0.567		-		0.567			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army **DATE:** February 2011

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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Various	RO	PEO Soldier:Ft. Belvoir, VA	9.450	1.444		0.211		-		0.211	Continuing	Continuing	Continuing	
Subtotal			9.450	1.444		0.211		-		0.211				

Remarks
Testing costs vary annually depending on number and type of items being evaluated.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	56.069	4.850		3.275		-		3.275			

Remarks

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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S60: <i>CLOTHING & EQUIPMENT</i>	10.942	9.711	6.322	-	6.322	5.604	1.915	1.967	2.057	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This funding supports engineering and manufacturing development tasks related to individual clothing, equipment and personnel parachutes with the goal of enhancing the lethality, survivability, mobility and quality of life of the individual Soldier. It funds system integration and formal DT/OT of preproduction and production representative systems leveraging advancements in materials, nanotechnology, fabrication techniques, moisture management, flame resistance, antimicrobial treatments, insect protection, extreme environmental protection and advancements in chemical/biological protection to increase the capabilities and durability of tactical and non-tactical clothing and individual equipment.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: Individual Soldier Ballistic Protection Moves to Program Element PE 0604601 VS5 in FY12</p> <p align="right">Articles:</p> <p>Description: Increase the Warfighter lethality and mobility, by optimizing Soldier protection while effectively managing all life cycle aspects of Personal Protective Equipment (PPE).</p> <p>FY 2010 Accomplishments: Successfully tested new Smart Sensor prototypes (Smart Sensor allows Soldiers to test their plates for cracks or damage at any location) to 100% accuracy. Awarded contract to generate government Computer Aided Design (CAD) and screw-free engineering design for the Advanced Combat Helmet (ACH) and the Enhanced Combat Helmet (ECH). The screw-free design will improve the ballistic performance and also reduce the weight of the ACH and ECH.</p> <p>FY 2011 Plans: Continue incremental improvements (sizing, functionality, heat management, and reduce weight/cube of Interceptor Body Armor System and transition new technologies as they mature. Leverage emerging blast testing data analysis to establish performance baseline of next generation PPE. Continue with Non Destructive Test Equipment (NDTE) software improvements. Make NDTE and ECH production and fielding decisions. Continue to improve ballistic and advanced laser protection on combat eyewear. Improve lens coatings to improve scratch and fog resistance.</p>	6.739 0	4.799 0	-	-	-
<p>Title: Soldier Uniforms and Clothing</p> <p align="right">Articles:</p>	2.175 0	2.107 0	3.337	-	3.337

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
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<p>Description: Develop and provide superior and sustainable integrated clothing for the Soldier in a rapidly changing global environment.</p> <p>FY 2010 Accomplishments: Revised Technical Data Packages to transition Operation Enduring Freedom Camouflage Pattern (OCP) to production for 19 items. Conducted Fit Test for Women's Combat Uniform (WACU) and awarded contract for production of prototype WACUs to be used in FY11 User Evaluation (Wear Test). Initiated development of Flame Resistant (FR) capability in the Extended Cold Weather Clothing System (ECWCS) Generation III (Gen III). Conducted thermal testing of Flame Resistant Environmental Ensemble (FREE) and prepared user evaluation questionnaire for evaluation which started in Nov 10. Conducted electro-static discharge testing of FR Fuel Handler's Coverall and the Army Aircrew Uniform (A2CU). Updated hook & loop on A2CU. Developed Army Service Uniform (ASU) (tropical) white, short sleeve shirt with lighter weight fabric and convertible collar. Developed hot weather variant of FR clothing uniforms (iCVC/A2CU).</p> <p>FY 2011 Plans: Apply appropriate FR materials to hot weather vehicle crewmen uniforms and FR Fuel Handlers coveralls. Conduct product improvements for clothing bag items. Conduct user evaluations of clothing bag items. Publish an updated Combat Glove Approved Products List (APL). System Engineering Change Proposals (ECPs) and technology insertions to update components and synergy of Generation (GEN) III Extended Cold Weather Clothing System (ECWCS) to provide FR protection in cold weather clothing. Evaluate Improved Physical Fitness Uniform (IPFU) trunks and t-shirts. Improve fit of Army Combat Uniforms for women.</p> <p>FY 2012 Base Plans: Conduct Phase IV of the Army's effort to evaluate alternative camouflage patterns to the current universal camouflage pattern (UCP). Conduct user evaluation for ECWCS GEN III product improvement to incorporate FR capabilities. Conduct evaluation of clothing bag Improved Physical Fitness Uniform (IPFU) moisture wicking t-shirt and trunk product improvement. Clarify updated Key Performance Parameters (KPPs) and conduct user evaluation of FREE program of record material solution with transition to production in FY13. Update Army Combat Shirt (ACS) to increase area of coverage to accommodate the plate carrier body armor system. Conduct user evaluation on Modular Boot System with transition to production in FY 13. Down select the program of record material solution for the Mountain Combat Boot with MS-C and transition to sustainment</p>					
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
in FY13. Conduct materiel change efforts to improve the durability and comfort of tactical and environmental gloves.						
Title: Individual Equipment		2.028	2.405	2.985	-	2.985
		Articles: 0	0			
Description: Develop and provide superior and sustainable integrated individual equipment, for the Soldier, in a rapidly changing global environment.						
FY 2010 Accomplishments: Continued to refine design and incorporate new material/technology that pertains to form, fit, and function of the load bearing equipment. Continued to serve the Airborne community by developing equipment that is tailorable to Airborne operations. Completed development and evaluation of Medium Rucksack and airdrop intergration testing of Medium Rucksack and Tactical Assault Panel (TAP).						
FY 2011 Plans: Continue to refine design and incorporate new material/technology that pertains to form, fit, and function of the load bearing equipment. Continue to serve the Airborne community by developing equipment that is tailorable to Airborne operations. Purchase Advanced Ram Air Parachute test items and conduct developmental testing and operational testing. Continue to certify lights for the Approved Family of Flashlight List (AFFL) Certification program.						
FY 2012 Base Plans: Conduct limited user evaluation of the Improved Water Treatment Device (IWTD) increment 1 (water purification) with transition to production in FY 13. Complete operational testing of Advanced Ram Air Parachute System (ARAPS). Conduct limited user evaluations of Modular Lightweight Load-carrying Equipment (MOLLE) components to include hydration carrier, improved medic set, and various pouches with transition to sustainment in FY 13. Conduct limited user evaluation on Team Stove and Mountaineering Kits with MS-C and transition to production in FY 13. Conduct operational test and user evaluation of the Multi-Purpose Hydration System (MPHS) with MS-C and transition to production in FY 14.						
Title: Soldier Cooling		-	0.400	-	-	-
			Articles: 0			
Description: Soldier Cooling						

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S60: <i>CLOTHING & EQUIPMENT</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<i>FY 2011 Plans:</i> Continue to enhance Soldier Cooling system performance and reliability. Continue to design for improved comfort, decreased weight/cube and improved power management.					
Accomplishments/Planned Programs Subtotals	10.942	9.711	6.322	-	6.322

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDTE: <i>RDTE, 0603827.S53, Clothing and Equipment</i>	6.794	7.106	6.985		6.985		6.573	6.657	5.376	Continuing	Continuing
• OMA: <i>OMA, 121017, Central Funding and Fielding</i>	70.305	71.664	74.940		74.940		78.177	80.240	80.240	Continuing	Continuing
• OPA: <i>OPA, MA7801, Advanced Tactial Parachute System</i>	39.066	41.591	52.185		52.185		45.922	44.234	29.729	Continuing	Continuing

D. Acquisition Strategy
Acquisition strategies will vary in methods: (1) Quick fixes in 12-24 months or less from concept to Type Classification (TC); (2) modernization improvements which require limited RDT&E and will be completed in more than 24-48 months from inception to Type Classification; and (3) fully integrated development that will require substantial RDT&E funding and will be completed in four years or more.

E. Performance Metrics
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				PE 0604601A: Infantry Support Weapons				S60: CLOTHING & EQUIPMENT					
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
In-House Support	Various	PM SPIE:Various	4.925	0.900		0.750		-		0.750	Continuing	Continuing	Continuing
Subtotal			4.925	0.900		0.750		-		0.750			
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	Various	NSRDEC:Natick, MA	9.708	1.391		1.075		-		1.075	Continuing	Continuing	Continuing
Development Contracts	C/IDIQ	Various:Natick MA	26.647	3.500		2.098		-		2.098	Continuing	Continuing	Continuing
Subtotal			36.355	4.891		3.173		-		3.173			
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Misc Support Costs	Various	Various:Various	9.874	2.050		0.979		-		0.979	Continuing	Continuing	Continuing
Subtotal			9.874	2.050		0.979		-		0.979			
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Testing	Various	Various:Various	9.708	1.870		1.420		-		1.420	Continuing	Continuing	Continuing
Subtotal			9.708	1.870		1.420		-		1.420			
Project Cost Totals			60.862	9.711		6.322		-		6.322			

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S60: <i>CLOTHING & EQUIPMENT</i>
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	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	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
Recertify Combat Eyewear Protection (APEL)					█	█	█	█																				
Integrate/Test Spiral I Material Enhancements and Transition to Production									█	█	█	█																
NDTE transition to production									█	█	█	█																
Transition 7.62 Helmet to Production									█	█	█	█																
Evaluate/test Improved Non-Ballistic Impact Protection													█	█	█	█												
Transition Moisture Wicking FR T-Shirt to Production																	█	█	█	█								
FR FHC Material Evaluation													█	█	█	█												
Alternate Camo Pattern OT (Phase IV)																					█	█	█	█				
GEN III ECWCS Product Improvement																									█	█	█	█
Transition GEN III ECWCS Product Improvement to Sustainment																												
Moisture wicking IPFU T Shirt / Trunk Product Improvement																												
Conduct FREE User Eval																												
Transition FREE to Production																												
Modular Boot User Eval																												
Modular Boot transition to Production																												
Mountain Boot transition to sustainment																												
ATPS P3I																												
Navigational Aid DV/DT																												
ARAPS MS-C																												
IWTD Increment I DT/OT																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S60: <i>CLOTHING & EQUIPMENT</i>

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	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
IWTD Increment I trans to production																												
MPHS Refill in a Field Environment user eval/testing																												
MPHS trans to production																												
FR Glove APL Certification																												
Cold Weather Stove User Eval																												
Cold Weather Stove MS-C																												
Mountaineering Kit User Eval																												
Mountaineering Kit MS-C																												
Improved Medic Bag Product Improvement																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S60: <i>CLOTHING & EQUIPMENT</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Recertify Combat Eyewear Protection (APEL)	1	2011	3	2011
Integrate/Test Spiral I Material Enhancements and Transition to Production	2	2011	3	2011
NDTE transition to production	1	2011	2	2011
Transition 7.62 Helmet to Production	1	2011	1	2011
Evaluate/test Improved Non-Ballistic Impact Protection	3	2010	3	2011
Transition Moisture Wicking FR T-Shirt to Production	1	2011	1	2011
FR FHC Material Evaluation	2	2010	3	2010
Alternate Camo Pattern OT (Phase IV)	4	2011	1	2013
GEN III ECWCS Product Improvement	4	2010	2	2013
Transition GEN III ECWCS Product Improvement to Sustainment	3	2013	3	2013
Moisture wicking IPFU T Shirt / Trunk Product Improvement	4	2011	3	2013
Conduct FREE User Eval	4	2011	1	2013
Transition FREE to Production	2	2013	2	2013
Modular Boot User Eval	4	2011	3	2012
Modular Boot transition to Production	4	2012	4	2012
Mountain Boot transition to sustainment	1	2013	2	2013
ATPS P3I	4	2014	3	2015
Navigational Aid DV/DT	3	2010	3	2011
ARAPS MS-C	4	2012	4	2012
IWTD Increment I DT/OT	4	2011	1	2013
IWTD Increment I trans to production	2	2013	2	2013
MPHS Refill in a Field Environment user eval/testing	2	2011	3	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S60: <i>CLOTHING & EQUIPMENT</i>

Events	Start		End	
	Quarter	Year	Quarter	Year
MPHS trans to production	4	2013	4	2013
FR Glove APL Certification	4	2010	3	2011
Cold Weather Stove User Eval	4	2011	1	2013
Cold Weather Stove MS-C	2	2013	2	2013
Mountaineering Kit User Eval	4	2011	1	2013
Mountaineering Kit MS-C	2	2013	2	2013
Improved Medic Bag Product Improvement	4	2010	3	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>				PROJECT S61: <i>ACIS ENGINEERING DEVELOPMENT</i>			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S61: <i>ACIS ENGINEERING DEVELOPMENT</i>	12.181	10.295	18.946	-	18.946	17.186	19.253	22.280	12.760	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project conducts Engineering and Manufacturing Development for Army aircrew safety, survivability, and human performance. These funds complete the Engineering and Manufacturing Development of the Air Warrior Encrypted Aircraft Wireless Intercom System and initiates Air Soldier System (Air SS) development and integration. The Air SS addresses Air Warrior capability gaps identified during combat operations in Iraq and Afghanistan including the effects of weight and bulk, lack of situational awareness, and lack of functionally integrated aircrew member life support equipment. Currently Army aircrews must trade off Air Warrior life support capabilities to ensure compatibility with the confined space of rotary wing crew stations. The Air SS will address these and other gaps defined in the Air SS Increment I CDD using a Soldier as a System approach to provide improved situational awareness; provide terrain, weather, threat, and obstacle avoidance information that can prevent aircraft mishaps and fatalities; resolve the lack of a common aircrew helmet with modern Head-Up display technologies; increase the Soldier's ability to operate safely in degraded visual environments and extreme environmental conditions; and deliver the capability to perform missions in excess of 5.3 (up to current goal of 11.0) hours in hot/humid environments under Chemical/Biological threat conditions. The first delivery of Air SS capability is identified as sub-increment 1a and will provide optimized survival equipment and integrated lightweight body armor directly contributing reduced bulk and increased mobility and crew member performance; a replacement flight helmet that transitions to a Modular Aircrew Common Helmet with improved crash energy attenuation; increased laser eye protection to align with current laser threats; and a Wearable Environmental Control System with integrated portable power that increases crew member mobility and reduces airframe space, weight and power requirements. The second delivery of capability is sub-increment 1b, which builds upon the initial sub-increment and further reduces bulk through a layered clothing ensemble with active thermal regulation, chemical/biological protection, and waste collection fully integrated into the duty uniform; an integrated Soldier-worn electronics suite that combines the functionality of bulky and separate situational/spatial awareness and life support systems and their separate batteries. These funds also initiate development and integration efforts for the eventual delivery of sub-increment 1c, the final and full Air SS capability delivery that completely replaces the legacy Air Warrior system. This is the full integration of Air Soldier capabilities necessary to meet the Air SS KPP threshold requirement for a 25% weight and bulk reduction over the legacy Air Warrior Aviation Life Support Equipment system. Sub-increment 1c provides improved safety and soldier survivability, increased situational awareness, and reduced pilot/crew member workload through an integrated protective ensemble that optimizes the Air SS capabilities delivered under sub-increments 1a and 1b. This final delivery of capability also enhances the previous Air SS integrated electronics suite by adding a wireless aircraft and survival and evasion communications capability; a Modular Aircrew Common Helmet and Display System with fully integrated chem/bio eye and respiratory protection; a digital day/night Heads Up Display common to all aircraft platforms; and optimized laser eye protection. This program does not duplicate any aircraft platform program efforts.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Aircrew Integrated Systems (ACIS) Engineering Development	12.181	10.295	18.946	-	18.946
Articles:	0	0			

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S61: <i>ACIS ENGINEERING DEVELOPMENT</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Description: Continued integration of preplanned Air Warrior Increment III (including AWIS encryption certification and EDM Software development) and Air Soldier System improvements development.</p> <p>FY 2010 Accomplishments: Continued integration of preplanned Air Warrior Increment III (including AWIS encryption certification and EDM Software development).</p> <p>FY 2011 Plans: Transitions Air Soldier System sub-Increment 1a advanced development improvements into engineering manufacturing development to develop improved helmet protection, improved fixed laser eye protection, and wearable cooling and integrated wearable power supply system, and other sub-Increment 1a capabilities.</p> <p>FY 2012 Base Plans: Continues development and qualification of Air Soldier System sub-Increment 1a. Improves helmet protection, improves fixed laser eye protection, and develops wearable cooling and integrated wearable power supply system. Begins three-dimensional audio, head tracking, soldier display, aircraft mounted mission display, soldier computer module development, integrated layered clothing system, and aircraft integration development.</p>					
Accomplishments/Planned Programs Subtotals	12.181	10.295	18.946	-	18.946

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• ACIS Advanced Development: <i>RDTE, A PE 0603827A, PROJ S51 - Adv Dev</i>	2.136	0.141	0.134		0.134		0.146	0.153	0.155	Continuing	Continuing
• ACIS Procurement: <i>Aircraft Procurement, Army SSN AZ3110 - ACIS</i>	66.053	52.423	82.883		82.883		47.670	102.011	116.056	Continuing	Continuing

D. Acquisition Strategy

Engineering and Manufacturing Development efforts for Aircrew Integrated Systems program include completion of the Air Warrior Aircraft Wireless Intercom System (AWIS) and continuation of the Air Soldier System. The AWIS is a hands-free telecommunication device using radio signals for aircrew communication. Through a series of developmental program increments, the Air Soldier System program integrates capabilities including optimized survival equipment, Wearable Environmental

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0604601A: <i>Infantry Support Weapons</i>	S61: <i>ACIS ENGINEERING DEVELOPMENT</i>

Control System with integrated wearable power, integrated Soldier-worn electronics suite, wireless aircraft and survival and evasion communications capability, a fully compliant Modular Integrated Helmet and Display System (MIHDS), Chemical, Biological (CB) eye and respiratory protection, digital day/night Heads Up Display common to all Army aircraft platforms and optimized laser eye protection, waste disposal system and reduced weight and bulk. The MIHDS will provide a day (as well as night) heads up display, external audio, don in flight CB protection and improved laser eye protection. Development efforts are awarded through competitive cost plus fixed fee contracts or by Military Interdepartmental Purchase Requests (MIPRs) to other government agencies.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S61: <i>ACIS ENGINEERING DEVELOPMENT</i>
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Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Administration	AlLOT	Various Government:Huntsville, Alabama	0.896	0.248		0.359		-		0.359	Continuing	Continuing	Continuing
Subtotal			0.896	0.248		0.359		-		0.359			

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Warrior and Air Soldier System Development	C/FP	Various Government:Various Locations	13.153	9.740		17.640		-		17.640	Continuing	Continuing	Continuing
Personnel Recovery Support Equipment Development	SS/FP	Various Activities:Various Locations	29.600	-		-		-		-	Continuing	Continuing	Continuing
Congressional Add. Composite Bottles for Survival Egress Air	SS/FP	JVYS:Huntsville, Alabama	2.000	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			44.753	9.740		17.640		-		17.640			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	RO	Various Government:Various Locations	0.510	0.251		0.947		-		0.947	Continuing	Continuing	Continuing
Subtotal			0.510	0.251		0.947		-		0.947			

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S61: <i>ACIS ENGINEERING DEVELOPMENT</i>

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	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

Air Soldier System Engineering Manufacturing Develop and Qualification Testing	[REDACTED]																											
Air Soldier System Milestone B	[REDACTED]																											
Air Soldier System Milestone C	[REDACTED]																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S61: <i>ACIS ENGINEERING DEVELOPMENT</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Air Soldier System Engineering Manufacturing Develop and Qualification Testing	1	2011	3	2016
Air Soldier System Milestone B	1	2011	1	2011
Air Soldier System Milestone C	3	2012	3	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S62: <i>Counter-Defilade Target Engagement - SDD</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S62: <i>Counter-Defilade Target Engagement - SDD</i>	7.276	34.416	19.968	-	19.968	0.603	-	-	-	0.000	62.263
Quantity of RDT&E Articles											

Note

Note applicable for this item.

A. Mission Description and Budget Item Justification

The Maneuver Center of Excellence (MCoE), FT Benning, GA (User Community) identifies the Counter Defilade Target Engagement (CDTE) as their number one material solution to mitigate a critical capability gap for our Soldiers in combat (defeating defilade targets from 15-500m). The XM25 CDTE system provides the Infantry Soldier with a leap-ahead overmatch capability that will dramatically increase lethality, range, and capability through the use of a family of low-velocity programmable 25mm ammunition. The XM25 CDTE fires 25mm munitions including high-explosive airburst (HEAB), armor-piercing, breaching, less-than-lethal, and training rounds. The XM25 comes with a target acquisition/fire control that integrates thermal capability with direct-view optics laser rangefinder, compass, fuze setter, ballistic computer, laser pointer and illuminator and internal display. The XM25 has a 500-meter point target range and a 700-meter area target range capable of deating defilade (hidden) targets.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Design, Develop and Fabricate	5.000	18.967	12.170	-	12.170
Articles:	0	0			
Description: Description: Design, develop and fabricate weapon systems					
FY 2010 Accomplishments: Design, Develop and Fabricate					
FY 2010 Accomplishments: Capability Development Document (CDD) prepared and staffed, received Joint Requirements Oversight Council (JROC) approval for Milestone B December 2010.					
FY 2011 Plans: Design, Develop and Fabricate					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S62: <i>Counter-Defilade Target Engagement - SDD</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2011 Plans: Design, develop, fabricate and implement technical and producible improvements to the weapon system design, if required. Funds will also provide for prototype assembly and demonstration as well as some manufacturing facility ramp up. FY 2012 Base Plans: Design, Develop and Fabricate FY 2012 Plans: Design improvements, if required, design finalization, long lead items, and additional manufacturing facility start up costs					
Title: Engineering and Training Development Description: Description: Engineering and Training Development FY 2010 Accomplishments: Engineering and Training Development FY 2010 Accomplishments: Capability Development Document (CDD) prepared and staffed, received Joint Requirements Oversight Council (JROC) approval for Milestone B December 2010 FY 2011 Plans: Engineering and Training Development FY 2011 Plans: Continued engineering support and services to include engineering evaluations, verifications and validation of system performance requirements, contractor inspections and development of training solutions and it's successful implementation. FY 2012 Base Plans: Engineering and Training Development FY 2012 Plans: Continued engineering support and services to include engineering evaluations, verifications and validation of system performance requirements, contractor inspections and for the development of training solutions and its successful implementation.	Articles: 1.000 0	2.530 0	1.300	-	1.300
Title: Development Test and Evaluation	1.000	11.889	6.000	-	6.000

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S62: <i>Counter-Defilade Target Engagement - SDD</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p align="right">Articles:</p> <p>Description: Description: Development Test and Evaluation</p> <p>FY 2010 Accomplishments: Development Test and Evaluation</p> <p>FY 2010 Accomplishments: Capability Development Document (CDD) prepared and staffed, received Joint Requirements Oversight Council (JROC) approval for Milestone B December 2010.</p> <p>FY 2011 Plans: Development Test and Evaluation</p> <p>FY2011 Plans: Developmental testing, technical and risk assessments and evaluations, systems performance and safety requirements testing and validation of manufactures facilities.</p> <p>FY 2012 Base Plans: Development Test and Evaluation</p> <p>FY2012 Plans: Continued developmental testing, technical and risk assessments and evaluations, systems performance and safety requirements testing and validation of manufactures facilities.</p>	0	0			
<p>Title: Program Management</p> <p align="right">Articles:</p> <p>Description: Description: Program Management</p> <p>FY 2010 Accomplishments: Program Management</p> <p>FY 2010 Accomplishments: Capability Development Document (CDD) prepared and staff, awaiting the Joint Requirements Oversight Council (JROC) approval for Milestone B.</p> <p>FY 2011 Plans: Program Management</p>	0.276 0	1.030 0	0.498	-	0.498

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S62: <i>Counter-Defilade Target Engagement - SDD</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2011 Plans: Program management, logistical and life cycle support, to organize, coordinate and control program activities and to comply with contract requirements to include timely delivery of the required products and services.					
<i>FY 2012 Base Plans:</i> Program Management					
FY 2012 Plans: Program management, logistical and life cycle support, to organize, coordinate and control program activities and to comply with contract requirements to include timely delivery of the required products and services.					
Accomplishments/Planned Programs Subtotals	7.276	34.416	19.968	-	19.968

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTE: PE 0603827A, Project S55: <i>RDTE: PE 0603827A, Project S55</i>	5.867									0.000	5.867
• WTCV: G16100: <i>WTCV: G16100</i>			16.046		16.046		70.321	70.285	70.217	0.000	260.959
• AMMO: E92500: <i>AMMO: E92500</i>			3.399		3.399		10.166	15.676	32.162	0.000	65.851

D. Acquisition Strategy
The XM25 CDTE transitioned from the Technology and Development phase to Engineering and Manufacturing Development (EMD) phase by achieving Milestone B in December 2010. The EMD phase will complete development of the XM25 CDTE and verify training solution for the Milestone C approval in FY2013. Research and Development acquisition strategy is to use sole source contracting with ATK (formerly known as Alliant Techsystems), Plymouth, MN.

E. Performance Metrics
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S62: <i>Counter-Defilade Target Engagement - SDD</i>
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Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management (Government)	Allot	PM Soldier Weapons:Picatinny Arsenal, NJ	-	1.030		0.498		-		0.498	Continuing	Continuing	Continuing
Subtotal			-	1.030		0.498		-		0.498			

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Design, Develop & Fabricate	SS/CPFF	ATK:Plymouth, MN	-	18.967		12.170		-		12.170	Continuing	Continuing	Continuing
Subtotal			-	18.967		12.170		-		12.170			

Remarks
The FY2010 EMD Contract award will not occur until early 2Qtr11 due to delayed Milestone B decision and DCAA audit of contractor.

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	Various	Multiple:Multiple	-	2.330		1.100		-		1.100	Continuing	Continuing	Continuing
Training Development Support	MIPR	PEO STRI:PEO STRI	-	0.200		0.200		-		0.200	Continuing	Continuing	Continuing
Subtotal			-	2.530		1.300		-		1.300			

Remarks
The FY2010 EMD Contract award will not occur until early 2Qtr11 due to delayed Milestone B decision and DCAA audit of contractor.

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S62: <i>Counter-Defilade Target Engagement - SDD</i>

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	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
MS B				■																								
Design, Develop & Fabricate				■	■	■	■	■	■	■	■	■																
Development Tests & Evaluation									■	■	■	■	■	■	■	■												
MS C/Type Classification-Low Rate Initial Production																■												
Production Qualification Test (PQT)																■	■	■	■	■								
Initial Operational Test & Evaluation (IOT&E)																					■	■	■	■				
Low Rate Initial Production (LRIP)																■	■	■	■	■								
Type Classification - Standard																												■

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S62: <i>Counter-Defilade Target Engagement - SDD</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MS B	4	2010	4	2010
Design, Develop & Fabricate	4	2010	4	2012
Development Tests & Evaluation	2	2012	3	2013
MS C/Type Classification-Low Rate Initial Production	4	2013	4	2013
Production Qualification Test (PQT)	4	2013	1	2014
Initial Operational Test & Evaluation (IOT&E)	1	2014	4	2014
Low Rate Initial Production (LRIP)	4	2013	4	2014
Type Classification - Standard	4	2014	4	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S63: <i>SMALL ARMS IMPROVEMENT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S63: <i>SMALL ARMS IMPROVEMENT</i>	9.653	19.805	18.168	-	18.168	14.361	14.364	14.207	14.374	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Small Arms Improvement program funds Engineering and Manufacturing Development (EMD) of engineering models/studies and the integration of commercial items with weapons/ammunition. Small arms include individual and crew-served weapons/ammunition ranging up to 40 millimeter. Current and future efforts focus on improvements designed to enhance lethality, target acquisition, fire control, training effectiveness, and reliability of small arms weapons/ammunition. Focus areas include the demonstration, integration and study of light weight materials, coatings, concealants, scouting, observation, lethal and non-lethal ammunition, and equipment. Benefits include continuous improvements to fire control equipment, optics, close quarters battle kit, training devices, component mounts, weapon mounts, suppressors, magazines, binoculars, ammunition, ammunition upgrades, Personal Defense Weapon, 30 Round 5.56mm Magazine, Modular Handgun, Precision Sniper Rifle, new weapons, weapon upgrades and accessories (e.g., Sniper Upgrades), and small arms weapon enhancements. In accordance with congressional language and the Secretary of the Army's direction, the Army initiated a new start individual weapon in FY10. The new carbine will provide the Soldier with an enhanced weapons capability and will be competed utilizing a best value, full and open competition to meet operational requirements. The requirement for the new individual carbine is being coordinated with other joint services to equip the warfighter with an accurate, reliable, Soldier-centric basic weapon capability which will be evaluated against current and emerging threats and incorporates technology advancements in the small arms industry mitigating capability gaps and shortcomings in currently fielded carbines. New starts in FY2012 consists of the following new initiative: Modular Handgun Systems and Precision Sniper Rifle.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: New Weapons	1.368	9.148	10.705	-	10.705
Articles:	0	0			
Description: Description: Development of new weapons					
FY 2010 Accomplishments: Evaluated new weapons initiatives. FY 2010 Accomplishments: Initiated the Individual Carbine Competition.					
FY 2011 Plans: Evaluate on-going new weapons initiatives. FY 2011 Plans: Evaluate on-going initiatives of the Individual Carbine Competition. Provide program management guidance to support future Capability Development Documents.					
FY 2012 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army				DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>		PROJECT S63: <i>SMALL ARMS IMPROVEMENT</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
arm for fuze and cartridge testing; to procure additional 7.62mm lightweight stainless steel cartridges; and to manufacture, evaluate and test prototype XM1112 40mm low velocity airbursting non-lethal munition cartridge.					
FY 2011 Plans: Continue on-going activities to enhance small arms ammunition. Planned contract award to incorporate micro mechanical safe and arm assembly equipment and provide safe and arm for fuze and cartridge testing. Evaluate and test prototype XM1112 40mm low velocity airbursting non-lethal munition cartridge. Study, design and implement technical and producibility improvements to the Air Bursting Fuze for low velocity High Explosive Airbursting (HEAB) cartridge. Transition small arms ammunition RDTE initiatives to PEO Ammunition.					
FY 2012 Base Plans: Continue on-going activities to enhance small arms ammunition. Continue engineering, development, evaluation and testing of the XM1112 40mm low velocity airbursting non-lethal munition cartridge. Continued design and implementation of producible improvements to the Air Bursting Fuze.					
Title: Combat Optics					
Description: Improvement of combat optics					
FY 2012 Base Plans: Initiate combat optics and upgrades research and development efforts. Funding planned to provide engineering support and services to include engineering evaluations, verifications and validation of weapon systems performance requirements.					
Title: Fire Control					
Articles:					
Description: Improvement of small arms fire control.					
FY 2010 Accomplishments: Design a new mounting bracket to improve flexibility of mounting improve flexibility of mounting the XM320 Improved Grenade Launcher Module to host weapons and mounting sights. Conduct developmental testing to determine Grenade Long Range Fire performance of the XM320 Improved Grenade Launcher Module.					
FY 2011 Plans:					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
	-	-	0.100	-	0.100
	0.667 0	1.195 0	0.750	-	0.750

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S63: <i>SMALL ARMS IMPROVEMENT</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Conversion of drawings and specifications into Government/Military standard format. Continue developmental testing to determine Grenade Long Range Fire suitability and supportability and qualification test of new mounting bracket of the XM320 Improved Grenade Launcher Module.					
<i>FY 2012 Base Plans:</i> Validation of the XM320 Improved Grenade Launcher Module technical data package to be conducted prior to release for competition.					
Accomplishments/Planned Programs Subtotals	9.653	19.805	18.168	-	18.168

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTE S54: <i>RDTE S54, Program Element 0603827A - Soldier Systems - Advanced Development</i>	5.085		4.506		4.506		4.853	5.100	5.040	Continuing	Continuing
• WTCV, GZ1290: <i>WTCV, GZ1290, M24 Squad Automatic Weapon (SAW) MODS</i>	33.695	5.922	8.480		8.480		5.037	5.088	5.173	Continuing	Continuing
• WTCV, GZ2800: <i>WTCV, GZ2800, M16 Rifle MODS</i>	4.173	3.855	3.476		3.476		3.248	3.240	3.292	Continuing	Continuing
• WTCV, GB3000: <i>WTCV, GB3000, MK19 Grenade Machine Gun MODS</i>	8.523	4.286								Continuing	Continuing
• WTCV, GZ1300: <i>WTCV, GZ1300, M240 Medium Machine Gun MODS</i>	22.709	15.852	15.718		15.718		4.663	4.624	4.702	Continuing	Continuing
• WTCV, GB3007: <i>WTCV, GB3007, M4 Carbine MODS</i>	35.525	26.944	25.092	16.800	41.892		13.099	13.328	13.552	Continuing	Continuing
• WTCV, GB4000: <i>WTCV, GB4000, M2 .50 CAL Heavy Machine Gun MODS</i>	36.766	15.000	14.856		14.856		9.965	5.548	20.218	Continuing	Continuing
			1.994		1.994		1.993	1.992	1.991	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army	DATE: February 2011
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S63: <i>SMALL ARMS IMPROVEMENT</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• WTCV, GZ1500: <i>WTCV, GZ1500, Sniper Rifle MODS</i>											

D. Acquisition Strategy

Primary strategy is to mature and finalize design efforts, award RDT&E hardware contracts, and test and evaluate systems that will result in type classification and follow-on production contract awards.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S63: <i>SMALL ARMS IMPROVEMENT</i>
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Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Allot	PM Soldier Weapons:PM Soldier Weapons	1.987	0.880		2.475		-		2.475	Continuing	Continuing	Continuing
Travel	MIPR	PM Soldier Weapons:PM Soldier Weapons	0.280	0.180		0.223		-		0.223	Continuing	Continuing	Continuing
Subtotal			2.267	1.060		2.698		-		2.698			

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	MIPR	Various:Various	2.886	4.240		0.388		-		0.388	Continuing	Continuing	Continuing
Subtotal			2.886	4.240		0.388		-		0.388			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development	PO	RDECOM - ARDEC:RDECOM - ARDEC	8.181	4.951		8.279		-		8.279	Continuing	Continuing	Continuing
Logistics	MIPR	TACOM:TACOM	0.460	0.630		1.291		-		1.291	Continuing	Continuing	Continuing
Human Research and Eng Directorate	MIPR	Aberdeen Proving Ground:Aberdeen Proving Ground	0.850	0.485		0.598		-		0.598	Continuing	Continuing	Continuing
Subtotal			9.491	6.066		10.168		-		10.168			

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S63: <i>SMALL ARMS IMPROVEMENT</i>

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	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
Modular Handgun																												
Sub-Compact Weapon																												
Precision Sniper Rifle																												
Light Weight Machine Gun																												
Improved Weapons Coating																												
Improved Counter Defilade Fuze																												
Integrated Fire Control for Small Arms																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Modular Handgun	4	2011	3	2013
Sub-Compact Weapon	4	2012	3	2016
Precision Sniper Rifle	4	2011	3	2014
Light Weight Machine Gun	4	2013	3	2016
Improved Weapons Coating	4	2010	3	2013
Improved Counter Defilade Fuze	4	2010	3	2012
Integrated Fire Control for Small Arms	4	2012	3	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S64: <i>COMMON REMOTELY OPERATED WPN SYS (CROWS)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S64: <i>COMMON REMOTELY OPERATED WPN SYS (CROWS)</i>	10.000	-	-	-	-	-	-	-	-	0.000	10.000
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project develops capability, reliability and supportability enhancements for Remote Weapon Station platforms, to include the Common Remotely Operated Weapons Station (CROWS), that enhance the Soldier's survivability, lethality and situational awareness while increasing the system's application across combat and tactical platforms. FY10 RDTE funds were reprogrammed from WTCV to address an Operational Need Statement (ONS 08-6152) to provide an increased elevation capability to engage targets at elevations up to 80 degrees. The operational need is driven by Mounted Operation in Urban Terrain (MOUT) environments in order to acquire and engage enemy targets in rooftop or high mountain positions. Funds also maintain a state-of-the-art system by providing for product improvements that will enhance new weapons adapter kits, value-added or performance specification engineering change proposals, software development and integration, engineering modifications (storage lots, redesigns, prototypes and testing) and increased commonality between CROWS variants.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Title: Design & Fabricate CROWS Increased Elevation Capability</p> <p align="right">Articles:</p> <p>Description: Description: Contract with Kongsberg Aerospace for development of the increased elevation capability.</p> <p>FY 2010 Accomplishments: Design and Fabricate Hardware. FY2010 Accomplishments: Initiated program to address ONS 08-6152. Contract award is planned March 2011.</p>	9.500 0	-	-	-	-
<p>Title: Engineering Support</p> <p align="right">Articles:</p> <p>Description: Description: Government engineering support for R&D effort.</p> <p>FY 2010 Accomplishments: ARDEC engineering support. FY2010 Accomplishments: Evaluated operational needs requirement.</p>	0.394 0	-	-	-	-
<p>Title: Program management</p> <p align="right">Articles:</p>	0.106 0	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S64: <i>COMMON REMOTELY OPERATED WPN SYS (CROWS)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p>Description: Description: Program management.</p> <p>FY 2010 Accomplishments: PM management support of the R&D effort. FY2010 Accomplishments: Initiated program and contract negotiations, coordinated engineering support and evaluation of the operational needs requirement.</p>					
Accomplishments/Planned Programs Subtotals	10.000	-	-	-	-

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• WTCV, G04700, CROWS: <i>WTCV, G04700, CROWS</i>	552.370		0.000	14.856	14.856		56.201	56.173	56.162	0.000	735.762

D. Acquisition Strategy

The Common Remotely Operated Weapon Station (CROWS) uses a single-step acquisition approach in its strategy. The CROWS is planned to achieve Type Classification Standard in 2QFY11, Full Materiel Release in 4QFY11, and Full Rate Production in 2QFY12, in accordance with the Capability Production Document (CPD) Increment 1, as clarified in June 2009.

The program objective is to continue developing, improving and fielding the CROWS on Up-Armored High Mobility Multipurpose Wheeled Vehicles (UA-HMMWV) and other combat vehicles to the Army Acquisition Objective (AAO) and in accordance with the Basis of Issue Plan (BOIP). In addition, the program will support new and emerging urgent requirements like the integration of the Mine Resistant Ambush Protected (MRAP) family of vehicles, M1A2 Abrams Main Battle Tank, M1200 Armored Knight, Ground Combat Vehicles and Joint Lightweight Tactical Vehicles (JLTV).

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>	1.267	1.260	3.063	-	3.063	3.568	1.142	1.116	1.128	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project provides system research and development of Personnel Recovery Support System (PRSS) products that support operations to report and locate isolated, missing, detained or captured (IMDC) Soldiers. The PRSS program consists of the enhancement of existing products to ensure continued successful interoperability within the relevant theater of operation, and the development of a Personal Reporting Device (PRD) that will operate over a secure architecture.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Development of Personnel Recovery Support System (PRSS)	1.267	1.260	3.063	-	3.063
Articles:	0	0			
Description: Development of PRSS products that ensure continued successful interoperability within the relevant theater of operation, and development of a Personal Reporting Device that will operate over a secure architecture.					
FY 2010 Accomplishments: Development of PRSS products improved interoperability within the relevant theater of operation.					
FY 2011 Plans: Continue to develop performance enhancements to improve effectiveness of Personnel Recovery Support System (PRSS) products.					
FY 2012 Base Plans: Continue development of performance enhancements to improve effectiveness of Personnel Recovery Support System (PRSS) products, and begin development of a new Personal Reporting Device (PRD) within the evolving DoD global Military Distress (MDR) network.					
Accomplishments/Planned Programs Subtotals	1.267	1.260	3.063	-	3.063

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Procurement, OPA: <i>Other Procurement, Army, SSN G01101 - Personnel Recovery Support System (PRSS)</i>	6.959	7.813	8.509		8.509		8.472	8.244	7.448	Continuing	Continuing
• Procurement, APA: <i>Aircraft Procurement, Army SSN AZ3110 - ACIS, includes funding of PRSE aircraft mods</i>	66.053	52.423	82.883		82.883		47.670	102.011	116.056	Continuing	Continuing

D. Acquisition Strategy

The Personnel Recovery Support System (PRSS) program development effort for performance optimization will be executed through Firm Fixed Price contracts and Military Interdepartmental Purchase Requests to other Governmental agencies. Open competition will be conducted for the Personal Reporting Device (PRD) development to encourage integration and innovation from private industry.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>
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Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Administration	Allot	Various Government:Huntsville, Alabama	-	0.027		0.338		-		0.338	Continuing	Continuing	Continuing
Subtotal			-	0.027		0.338		-		0.338			

Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Personnel Recovery Support System Development	SS/FP	Various:Product Development	-	0.838		1.939		-		1.939	Continuing	Continuing	Continuing
Subtotal			-	0.838		1.939		-		1.939			

Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	RO	Various Organizations:Various Locations	-	0.220		0.586		-		0.586	Continuing	Continuing	Continuing
Subtotal			-	0.220		0.586		-		0.586			

Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Testing	RO	Various Organizations:Various Locations	-	0.175		0.200		-		0.200	Continuing	Continuing	Continuing
Subtotal			-	0.175		0.200		-		0.200			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army							DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>			PROJECT S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	-	1.260	3.063	-	3.063				

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	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

PRSS hardware build and integration	[REDACTED]																											
PRSS Upgrades & Adaptations to New Platforms	[REDACTED]																[REDACTED]											

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
PRSS hardware build and integration	2	2010	2	2013
PRSS Upgrades & Adaptations to New Platforms	4	2013	3	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army **DATE:** February 2011

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT VS5: <i>SOLDIER PROTECTIVE EQUIPMENT</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
VS5: <i>SOLDIER PROTECTIVE EQUIPMENT</i>	-	-	3.986	-	3.986	3.988	3.967	3.784	3.762	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This funding supports engineering and manufacturing development tasks related to Individual Soldier Ballistic Protection. It funds system integration and formal DT/OT of preproduction and production representative systems leveraging advancements in technology to continue incremental improvements (sizing, functionality, heat management and reduction of weight/bulk) of body armor, and transition of new technologies as they mature. It funds efforts to assess head protection component technologies to mitigate the effects of ballistic/blast and non-ballistic impact(crash) threats, and continue to increase eyewear ballistic/blast protection and transition to production.

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

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Soldier Protective Equipment	-	-	3.986	-	3.986
Description: Newly established funding line. Effort was previously executed in Program Element 0604601 S60. Effort is to increase the Warfighter lethality and mobility, by optimizing Soldier protection while effectively managing all life cycle aspect of Personal Protective Equipment (PPE).					
FY 2012 Base Plans: Complete stab and ballistic protection integration efforts for the Family of Concealable Body Armor and transition to production in FY13. Initiate System Capability & Manufacturing Process Demonstration (SC&MPD) of Soldier Protection System (SPS) Increment 1a. SPS will be a Mission Tailorable Body Armor (MTBA) suite to provide integrated protection to Soldiers' Vital Torso, Head & Face and Extremities and will transition to production in FY14. Continue development, test and evaluation of self-diagnostic capability for ballistic insert integrity. Continue to improve ballistic & advanced laser protection on combat eyewear. Improve lens coatings to improve scratch & fog resistance.					
Accomplishments/Planned Programs Subtotals	-	-	3.986	-	3.986

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT VS5: <i>SOLDIER PROTECTIVE EQUIPMENT</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</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>FY 2016</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• 0603827: <i>Soldier Protective Equipment</i>			1.846		1.846		2.872	2.950	2.938	0.000	12.479
• 121017: <i>Central Funding & Fielding</i>			74.940		74.940		78.177	80.240	93.221	0.000	405.291

D. Acquisition Strategy

Acquisition strategies will vary in methods: (1) Quick fixes in 12-24 months or less from concept to Type Classification (TC), (2) modernization improvements which require limited RD&E and will be completed in 24-48 months from inception to TC, and (3) fully integrated development that will require substantial RDT&E funding and will be completed in four years or more.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army											DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				PE 0604601A: Infantry Support Weapons				VS5: SOLDIER PROTECTIVE EQUIPMENT					
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
In House Support	Various	PM SPE:various	-	-		0.200		-		0.200	Continuing	Continuing	0.000
Subtotal			-	-		0.200		-		0.200			0.000
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Contracts	Various	Various:Various	-	-		1.400		-		1.400	Continuing	Continuing	0.000
Engineering Spt	MIPR	NSRDEC:Natick, MA	-	-		0.672		-		0.672	Continuing	Continuing	0.000
Subtotal			-	-		2.072		-		2.072			0.000
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Misc Support Costs	Various	Various:Various	-	-		0.600		-		0.600	0.000	0.600	0.000
Subtotal			-	-		0.600		-		0.600	0.000	0.600	0.000
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing Costs	MIPR	Various:various	-	-		1.114		-		1.114	Continuing	Continuing	0.000
Subtotal			-	-		1.114		-		1.114			0.000
Project Cost Totals			-	-		3.986		-		3.986			0.000

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Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT VS5: <i>SOLDIER PROTECTIVE EQUIPMENT</i>

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	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
Complete integration of stab & ballistic protection for FoCBA to Production																												
Conduct Dev Engineering for MTBA																												
Conduct DT/OT on MTBA																												
MTBA MS C																												
Conduct Dev Engineering for EOD Bomb Suit																												
Conduct DT on EOD Bomb Suit																												
Conduct OT on EOD Bomb Suit																												
EOD Bomb Suit MS C																												
Continue DT&E of self-diagnostic capability for ballistic insert																												
Transition self diagnostic ballistic insert to production																												
Transition laser lenses to production																												
Continue to improve ballistic & advanced laser protection on eyewear																												
Head & Face Protection system DT/OT																												
Head & Face Protection transition to Production																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604601A: <i>Infantry Support Weapons</i>	PROJECT VS5: <i>SOLDIER PROTECTIVE EQUIPMENT</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Complete integration of stab & ballistic protection for FoCBA to Production	4	2012	4	2012
Conduct Dev Engineering for MTBA	3	2011	1	2014
Conduct DT/OT on MTBA	4	2013	1	2014
MTBA MS C	1	2014	1	2014
Conduct Dev Engineering for EOD Bomb Suit	4	2013	3	2014
Conduct DT on EOD Bomb Suit	4	2014	1	2015
Conduct OT on EOD Bomb Suit	1	2015	2	2015
EOD Bomb Suit MS C	3	2016	3	2016
Continue DT&E of self-diagnostic capability for ballistic insert	4	2011	4	2012
Transition self diagnostic ballistic insert to production	1	2013	1	2013
Transition laser lenses to production	3	2012	4	2012
Continue to improve ballistic & advanced laser protection on eyewear	4	2011	4	2013
Head & Face Protection system DT/OT	2	2013	3	2013
Head & Face Protection transition to Production	4	2013	4	2013