

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2007

BUDGET ACTIVITY		PE NUMBER AND TITLE								
5 - System Development and Demonstration		0604601A - Infantry Support Weapons								
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	49954	43165	45229	32585	44001	40276	46945	46445		382297
033 ADV CREW SVC WPN		3214								36911
S58 SOLDIER ENHANCEMENT PROGRAM	12200	15476	18985	15367	16228	11230	16650	16750		122886
S59 SOLDIER SUPPORT EQUIPMENT - ED	282	305								587
S60 CLOTHING & EQUIPMENT	7546	11197	9699	9677	10044	10082	10800	10100		79145
S61 ACIS ENGINEERING DEVELOPMENT	10727	2300	2542	2667	2751	2852	4500	4600		32939
S62 OBJECTIVE INDIVIDUAL COMBAT WEAPON	9993	1794								11787
S63 SMALL ARMS IMPROVEMENT	6905	5665	14003	4874	14978	16112	14995	14995		92527
S64 COMMON REMOTELY OPERATED WPN SYS (CROWS)	2301	3214								5515

A. Mission Description and Budget Item Justification: This program element for System Development and Demonstration (SDD) 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.

Project 033 (Advanced Crew Served Weapon) develops the 25mm XM-307 light weight, low recoil grenade machine gun, which enables the Soldier to effectively suppress and incapacitate exposed and defilade personnel targets out to 2000 meters using airbursting, fragmenting, or armor piercing ammunition. Starting in FY 06 and continuing through FY 11, the Future Combat System (FCS) version of the XM-307 machine gun will be funded directly from PE 0604645 to support the(FCS) Unit of Action requirement.

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.

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.

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.

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

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Utility Helicopter, and Armed Reconnaissance Helicopter.

Project S62 (Objective Individual Combat Weapon) The XM25 is the air burst portion of the XM-29 Integrated Air Burst Weapon. The XM-25 dramatically increases Soldier lethality, survivability, and standoff capability when engaged in combat operations.

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.

Project S64 (CROWS Lightning) funds will be applied to continue integrating a lightweight weapon station including fire control, sensors and control grip onto light and/or medium tactical vehicles to obtain a safety release for operational assessment in Iraq. This capability will enhance the Soldiers survivability, lethality and situational awareness.

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BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604601A - Infantry Support Weapons
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<u>B. Program Change Summary</u>	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	53257	31748	48644	33238
Current BES/President's Budget (FY 2008/2009)	49954	43165	45229	32585
Total Adjustments	-3303	11417	-3415	-653
Congressional program reductions	-233	-165		
Congressional rescissions	-537	-318		
Congressional increases	19400	11900		
Reprogrammings	-20459			
SBIR/STTR Transfer	-1474			
Adjustments to Budget Years			-3415	-653

FY07 Congressional increases include the following:

- 1) \$3.25 million for XM307 25mm Advanced Crew Served Weapon System (Project 033)
- 2) \$3.25 million for CROWS Lightning Integrated Acoustic Sensor (Project S64)
- 3) \$3.3 million for the Joint Service Small Arms Program's (JSSAP) Polymer Cased Small Arms Ammunition Production Program was appropriated incorrectly to this PE in Project S63. Funds will be reprogrammed to PE 0602624A.
- 4) \$1.1 million for Durable Nylon/Cotton Army Combat Uniform Fabric (Project S60).
- 5) \$1.0 million for Development of Enhanced Self-Sintered Silicon Carbide Body Armor (Project S60).

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BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604601A - Infantry Support Weapons						PROJECT S58		
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost	
S58 SOLDIER ENHANCEMENT PROGRAM	12200	15476	18985	15367	16228	11230	16650	16750		122886	

A. Mission Description and Budget Item Justification: This 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. Soldiers are managed in three categories: dismounted Soldiers, combat crews (air and ground), and other Soldiers. Projects are generally completed in three years or less.

Funds for prior year efforts were funded under PE 0604713A (Project 668 - Soldier Enhancement Program).

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
FY07-FY08: Accomplishments and Current Plan include evaluation and procurement of prototypes and/or test for the following Soldier Equipment Items: Enhanced Hearing Protection, Family of Flashlights, Parachute Electronic Activation Device, Parachute Oxygen Mask, and On-The-Move Hydration System.	4098	5310	9418	6659
FY07-FY08: Accomplishments and Current Plan include evaluation and procurement of prototypes and/or test for the following Soldier Weapons Items: Close Combat Mission Capability Kit, 12 Ga Non-lethal Extended Range Round, 40 MM Extended Range Non-lethal Round, Close Quarters Battle Kit Re-compete, Modular Accessory Shotgun System, Family of Suppressors, XM320 Genade Launcher Module, Advanced Sniper Accessory Kit, and the M2 Quick Change Barrel Kit.	2769	2338	2601	2280
FY07-FY08: Continue in-house engineering support services, conduct technical evaluations and program reviews.	2222	2693	2537	2527
FY07-FY08: Initiate market surveys and/or evaluations on new items to commence development and demonstration. New items initiated will continue evaluation/procurement of new prototypes.	1107	2828	1971	1792
FY07-FY08: Current Plan includes evaluation and procurement of prototypes and/or test for Soldier equipment and Lethality programs that will be reviewed in a semi-annual review scheduled for Feb 2007 which could include: Modular Thermal Target (MTT), Shaving/Field & Non-Field Item, Concertina Cutter, Carbon X flight and armor crew suits, Modular Boonie Hat System, Head and Neck Restraint System, A Multi-Shot Grenade Launcher, Utility Automatic Knife, Heat Moldable Boot Insole, Compact Tactical Illuminator, Small Arms Collimator (SAC), Outer Tactical Vest, Ballistically Corrected Telescopic Sight, Hammock Shelter System, Battle Lab Commander's Arm Board, Universal Mamba Weapon Sling, SLAM-DEP Counter IED Jammer, Next Generation Microfiber.	2004	2307	2458	2109
Total	12200	15476	18985	15367

<u>B. Other Program Funding Summary</u>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
OPA3, MA68000, Soldier Enhancement	4553	13245	13540	3463	7462	5541	12500	13052	Continuing	Continuing
OPA2, BA5300, Soldier Enhancement	5925	9893	10192	6410	7210	5188	14800	15500	Continuing	Continuing

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BUDGET ACTIVITY	PE NUMBER AND TITLE								PROJECT	
5 - System Development and Demonstration	0604601A - Infantry Support Weapons								S58	
WTCV, GC0076, Small Arms (SEP)	10689	2739	5424	1261	5177	4197	5200	5200	Continuing	Continuing
WTCV, GZ1290,Squad Automatic Wpn (Mods)	21533	5232	12361	7153	8090	6150	5200	5300	Continuing	Continuing
WTCV, GZ2800, M16 Rifle Mods	12141	1008	3900	1017	3563	3558	3500	3500	Continuing	Continuing
WTCV, GB3007, M4 Carbine Mods	87375	30809	13696	6081	13472	14441	13692	13535	Continuing	Continuing
WTCV, GO1500, Sniper Rifle	20228	8424	417	225	231	244			Continuing	Continuing
WTCV,GC0925, Mods	16169	1693	2791	497	3067	2113	3123	3259	Continuing	Continuing
PAA, F47500, 7.62mm AP	4833	5154	8424	8736	5900				Continuing	Continuing
PAA, F47600, 5.65mm AP	6727	7283	11813	12187	8264				Continuing	Continuing
OMA, 121017, Central Funding & Fielding	123954	134328	110688	92715	89409	39529	79984	113404	Continuing	Continuing

Comment:

C. Acquisition Strategy The Soldier Enhancement Program (SEP) focuses on developmental initiatives and integration efforts that lend themselves to accelerated acquisition and fielding in the near term (within three years). New SEP candidates are reviewed and approved semi-annually. SEP items are procured from multiple appropriations, i.e., OMA, OPA, WTCV, and PAA.

ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
5 - System Development and Demonstration			0604601A - Infantry Support Weapons									S58		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	TBD		8871	1-2Q	8305	1-2Q	11625	1-3Q	8532	1-3Q		37333	
Subtotal:				8871		8305		11625		8532			37333	
Remarks: Candidates for the Soldier Enhancement Program are received, reviewed, and approved semi-annually. Contractual efforts are focused on procuring prototypes for testing. Funding for PE 0604713A, Project 668 transitions to PE 0604601A Project S58 beginning in FY06.														
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	TBD		750	1-4Q	1551	1-4Q	1672	1-4Q	1896	1-4Q		5869	
Subtotal:				750		1551		1672		1896			5869	
Remarks: Support costs vary annually depending on the type of items that are being evaluated. Research, Development, and Engineering Centers support to evaluate these items also varies annually depending on the number and types of items. Funding for PE 0604713A, Project 668 transitions to PE 0604601A Project S58 in FY06.														
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Various	Various			1107	1-4Q	2628	1-4Q	2653	1-3Q	2543	1-3Q		8931	
Subtotal:				1107		2628		2653		2543			8931	
Remarks: Testing costs vary annually depending on number and type of items being evaluated.														
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
In-House	MIPR	PEO Soldier, Ft Belvoir, Va		1472	1-4Q	2992	1-4Q	3035	1-4Q	2396	1-4Q		9895	
Subtotal:				1472		2992		3035		2396			9895	

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY

5 - System Development and Demonstration

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0604601A - Infantry Support Weapons

PROJECT

S58

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

Project Total Cost:

12200

15476

18985

15367

62028

Schedule Detail (R4a Exhibit)	February 2007
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BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604601A - Infantry Support Weapons	PROJECT S58
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Schedule Detail: Not applicable for this item.

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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUMBER AND TITLE 0604601A - Infantry Support Weapons							PROJECT S60	
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
S60 CLOTHING & EQUIPMENT	7546	11197	9699	9677	10044	10082	10800	10100		79145

A. Mission Description and Budget Item Justification: Funding 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.

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Individual Soldier Ballistic Protection: (FY06) Continued Product Improvement on Interceptor Body Armor (IBA) in support of fielding and executing incremental capability improvements related to technology maturity and operational feedback. Evaluated and guided industry to product improve commercial ballistic eyewear and selected the most viable for incorporation of standard prescription carriers and protection against lasers. Tested advanced photochromic technology and dielectric stack technology to ballistic protective lenses. Conducts system integration and formal DT/OT of pre-production and production representative systems applying advanced ballistic materials to increase Soldier survivability while decreasing weight, cube and cost. (FY07-09) Integrate and enhance Soldier Body Armor, Combat Eyewear, Bomb Suit, Face Shield, Blast Protective Footwear and Combat Helmet capabilities providing head-to-toe protection from current and emerging ballistic/blast threats. Prove out commonality at the component and subsystem levels to provide a modular layered/integrated ballistic protection system.	3804	4734	4923	4849
Soldier Uniforms and Clothing: (FY06) Continued efforts to incorporate new fabrics, fabric finishes and design features in the black windbreaker. Modified Self Contained Toxic Environmental Protective Outfit (STEPO) bootie and harness. Completed User testing of STEPO modification. Completed the field test of Extreme Cold Weather Clothing System (ECWCS) Generation III. (FY07-09) Conduct 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 chem/bio protection to increase the capabilities and durability of tactical and non-tactical clothing. Prove out commonality across as broad a spectrum of users as possible to provide a modular integrated uniform/clothing system from skin out and head-to-toe.	537	2150	2640	2628
Individual Equipment: (FY06) Built Operational Test assets for Advanced Tactical Parachute System (ATPS) and conducted developmental and operational testing. Initiated effort to incorporate evolving filtration/purification technologies into On-the-Move Hydration systems and conducted user test. (FY07-09) Conduct system integration and formal DT/OT of preproduction and production representative systems utilizing advancements in technology for load bearing equipment, hydration technologies including water filtration and NBC hydration, and other mission essential and/or mission specific equipment for Soldiers. Prove out as much commonality as feasible across a broad spectrum of user and mission scenarios.	3205	3998	2136	2000
Soldier Cooling: Conduct System integration and formal DT/OT of preproduction and production representative advanced lightweight, low power cooling systems for use with NBC and ballistic protection ensembles. Prove out courses of action from trade-off analyses and system integration providing Soldiers enhanced ability to conduct missions for longer periods of time in extreme environments.				200
FY07: SBIR/STTR		315		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604601A - Infantry Support Weapons	PROJECT S60			
Total		7546	11197	9699	9677

<u>B. Other Program Funding Summary</u>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
RDTE, 0603747.669, Clothing and Equipment		8							Continuing	8
RDTE, 0603827.S53, Clothing and Equipment	6924	6827	10050	9631	7193	7405	6878	6986	Continuing	Continuing
OMA, 121017, Central Funding and Fielding	123954	134328	110688	92715	89409	39529	79984	113404	Continuing	Continuing

Comment:

C. Acquisition Strategy Acquisition strategies will vary in methods: quick fixes in 12-24 months or less from concept to Type Classification (TC), 2) Moderization improvements which require limited RD&E and will be completed in more than 24-48 months from inception to Type Classification, 3) Fully integrated development that will require substantial RDT&E funding and will be completed in 4 years or more.

ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
5 - System Development and Demonstration			0604601A - Infantry Support Weapons									S60		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Various	MIPRs	Natick Soldier Center, Natick, MA		2000	1-3Q	2100	1-3Q	1039	1-3Q	1070	1-3Q	Cont.	Cont.	
Various	Contracts	Various		2071	1-3Q	4307	1-3Q	3800	1-3Q	3750	1-3Q	Cont.	Cont.	
Subtotal:				4071		6407		4839		4820		Cont.	Cont.	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Misc Support Costs	MIPR	Various		1702	1-2Q	2125	1-2Q	2250	1-2Q	2207	1-2Q	Cont.	Cont.	
Subtotal:				1702		2125		2250		2207		Cont.	Cont.	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Various	MIPRS	Various		1057	1-3Q	1740	1-3Q	1560	1-3Q	1550	1-3Q	Cont.	Cont.	
Subtotal:				1057		1740		1560		1550		Cont.	Cont.	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
In-House Support		PM CIE Ft Belvoir, VA		716	1-4Q	925	1-4Q	1050	1-4Q	1100	1-4Q	Cont.	Cont.	
Subtotal:				716		925		1050		1100		Cont.	Cont.	

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY

5 - System Development and Demonstration

PE NUMBER AND TITLE

0604601A - Infantry Support Weapons

PROJECT

S60

Project Total Cost:

7546

11197

9699

9677

Cont.

Cont.

Schedule Profile (R4 Exhibit)

February 2007

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S60

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13																											
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																								
BALLISTIC																																																								
(1) Combat Eyewear/Laser Prot trans to prod																																																								
(2) Next Generation Body Armor trans to prod																																																								
(3) Next Generation Combat Helmet trans to prod																																																								
(4) Adv EOD Prot Ensemble trans to prod																																																								
UNIFORM CLOTHING																																																								
(5) Fuel Handlers Coveralls MS-C																																																								
(6) ACU Enhancements trans to prod																																																								
(7) Adv CVC Ensemble trans to prod																																																								
(8) Moist Wick Flame Resist Undergmt trans to Prod																																																								
(9) Modular Boot trans to prod																																																								
INDIVIDUAL EQUIPMENT																																																								
(10) ATPS T-11 MS C																																																								

Schedule Profile (R4 Exhibit)

February 2007

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S60

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(11) Cold Weather stove trans to prod													▲																			

Schedule Detail (R4a Exhibit)

February 2007

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S60

<u>Schedule Detail</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
BALLISTIC								
Combat Eyewear/Laser Prot trans to prod			2Q					
Next Generation Body Armor trans to prod			1Q					
Next Generation Combat Helmet trans to prod			1Q					
Adv EOD Prot Ensemble trans to prod				3Q				
UNIFORM CLOTHING								
Fuel Handlers Coveralls MS-C		1Q						
ACU Enhancements trans to prod			1Q					
Adv CVC Ensemble trans to prod					1Q			
Moist Wick Flame Resist Undergmt trans to Prod			4Q					
Modular Boot trans to prod			4Q					
INDIVIDUAL EQUIPMENT								
ATPS T-11 MS C			1Q					
Cold Weather stove trans to prod				3Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

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BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604601A - Infantry Support Weapons							PROJECT S61		
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
S61 ACIS ENGINEERING DEVELOPMENT	10727	2300	2542	2667	2751	2852	4500	4600		32939

A. Mission Description and Budget Item Justification: This project 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. These programs include soldier systems and equipment which are unique and necessary for the sustainment, survivability, and performance of Army aircrews and troops on the future integrated battlefield. The Air Warrior program will provide the aircrew with a systems approach to noise protection, three-dimensional audio and external audio capability, microclimate conditioning, crash and post-crash survivability, concealment and environmental protection, ballistic protection, night vision capability and heads-up display, directed energy eye protection and flame/heat protection. Air Warrior enables the Army Aviation Warfighter to meet the approved Operational Requirements Document mission length of 5.3 hours with aviators in full chemical/biological protective gear. Preplanned block improvements integrating new technologies into the Air Warrior system will continue to enhance and maximize aircrew mission performance, comfort, aircrew station interface, safety, and survivability. These funds also resource improved laser protection against emerging new threat systems and product improvement of existing helmets to improve performance and increased commonality. Maximum advantage will be taken of simulation to reduce program technical risk through early user evaluation and to reduce program design and test cost and schedules. This program does not duplicate any aircraft platform program efforts. Both joint and service independent efforts continue to be pursued under the scope of this program. FY06 funding was provided for the development of the Personnel Recovery Support Equipment operations support program which currently consists of three efforts, two of which are classified.

Funds for prior year efforts were funded in PE 0604801A (Project C45 - Aircrew Integrated Systems).

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Continue the integration of preplanned Air Warrior Block 2 and 3 improvements	1317	854	1191	1498
Aircrew wireless intercom system (AWIS) encryption certification	1468	1381	1351	1169
Development of Personnel Recovery Support Equipment	7942			
Small Business Innovative Research/Small Business Technology Transfer Programs		65		
Total	10727	2300	2542	2667

<u>B. Other Program Funding Summary</u>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
RDTE, A PE 0604801A PROJ DC45 EMD									Continuing	Continuing
RDTE, A PE 0604801A, PROJ DB45 - Adv Dev									Continuing	Continuing
RDTE, A PE 0603827A, PROJ S51 - Adv Dev	2572	3459	3179	2997	3136	2909	9996	10200	Continuing	Continuing

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BUDGET ACTIVITY 5 - System Development and Demonstration			PE NUMBER AND TITLE 0604601A - Infantry Support Weapons					PROJECT S61		
Aircraft Procurement, Army SSN AZ3110 - ACIS	31820	40632	42727	39430	57404	42849	138642	125577	Continuing	Continuing

Comment:

C. Acquisition Strategy System Development and Demonstration efforts are for the Air Warrior Block 2 Aircraft Wireless Intercom System (AWIS). The AWIS is a hands-free telecommunication device using radio signals for aircrew communication. Development efforts are awarded through competitive cost plus fixed fee contracts or by Military Interdepartmental Purchase Requests (MIPRs) to other government agencies. The Personnel Recovery Support Equipment program development effort provides integration and optimization of personnel recovery systems performance support equipment being executed through cost plus fixed fee contracts and Military Interdepartmental Purchase Requests to other government agencies.

ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
5 - System Development and Demonstration			0604601A - Infantry Support Weapons									S61		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Air Warrior Development	C - CPFF	Various		2588	1Q	2113	1Q	2347	1-2Q	2470	1-2Q		9518	
Personnel Recovery Support Equipment Development	MIPR	Various		7942	3Q								7942	
Subtotal:				10530		2113		2347		2470			17460	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR and Project Order	Various Government		32	1-4Q	32	1-4Q	38	1-4Q	38	1-4Q		140	
Subtotal:				32		32		38		38			140	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Developmental Testing	MIPR	Various		27	1-2Q	23	1-2Q	28	1-2Q	32	1-2Q		110	
Subtotal:				27		23		28		32			110	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
PM Administration	Allotment	Various Government		138	1-4Q	132	1-4Q	129	1-4Q	127	1-4Q		526	
Subtotal:				138		132		129		127			526	

ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

5 - System Development and Demonstration

0604601A - Infantry Support Weapons

S61

Project Total Cost:

10727

2300

2542

2667

18236

Schedule Profile (R4 Exhibit)

February 2007

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S61

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
High Level Ballistic Protection Dev & Test	[Bar]				[Red Grid]																											
Personnel Recovery Support Equipment (PRSE) Development	PRSE																															
Block 2 AWIS Encrypted System Dev, Testing and Certification									Block 2 AWIS Encrypted System																							
Block 3 System Development and Demonstration and Qualification Testing																	Block 3 System Development & Qualification Testing															

Schedule Detail (R4a Exhibit)

February 2007

BUDGET ACTIVITY 5 - System Development and Demonstration		PE NUMBER AND TITLE 0604601A - Infantry Support Weapons					PROJECT S61		
<u>Schedule Detail</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	
High Level Ballistic Protection Dev & Test	1Q - 3Q								
Personnel Recovery Support Equipment (PRSE) Development	3Q - 4Q								
Block 2 AWIS Encrypted System Dev, Testing and Certification	4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q					
Block 3 System Development and Demonstration and Qualification Testing					1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604601A - Infantry Support Weapons							PROJECT S63		
COST (In Thousands)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
S63 SMALL ARMS IMPROVEMENT	6905	5665	14003	4874	14978	16112	14995	14995		92527

A. Mission Description and Budget Item Justification: The Small Arms Improvement program funds system demonstration of engineering development 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, obscurants, reconnaissance, observation, lethal and non-lethal ammunition, and electronics. Benefits include improvements to fire control equipment, optics, training devices, component mounts, weapon mounts, and ammunition.

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Polymer Cased Small Arms Ammunition Production Program (see note below)		3300		
Common Remotely Operated Weapon System (CROWS) (see note below)	1200			
Small Arms Weapons Enhancements				
- Design, Development and Engineering	646	1016	1980	454
- Prototype Fabrication	262	135	2504	1596
- Testing and Evaluation	1229	449	3051	120
- Demonstration	340		175	561
Ammunition				
- Design, Development and Engineering	605	465	1660	
- Prototype Fabrication	410	120	3157	1233
- Testing and Evaluation	460	180	1351	650
- Demonstration	70		125	10
Combat Optics				
- Design, Development and Engineering	548			
- Prototype Fabrication	185			
- Testing and Evaluation	690			
- Demonstration	260			
Fire Control				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 5 - System Development and Demonstration	PE NUMBER AND TITLE 0604601A - Infantry Support Weapons				PROJECT S63			
- Design, Development and Engineering								250
Total		6905	5665	14003				4874

<u>B. Other Program Funding Summary</u>	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
WTCV, GZ1290, Squad Automatic Weapon (SAW) MODS	21533	5232	12361	7153	8090	6150	5200	5300	Continuing	Continuing
WTCV, GZ2800, M16 Rifle MODS	12141	1008	3900	1017	3563	3558	3500	3500	Continuing	Continuing
WTCV, GB3000, MK19 MODS	4988	3155	6264	7724	8433	8581	11000	11270	Continuing	Continuing
WTCV, GZ1300, M240 Medium Machine Gun MODS	25917	5272	10177	6000	6277	5558	4800	5000	Continuing	Continuing
WTCV, GB3007, M4 Carbine MODS	87375	30809	13696	6081	13472	14441	13692	13535	Continuing	Continuing
WTCV, GB4000, M2 Machine Gun MODS	13339	5000	17173						Continuing	Continuing

Comment: FY06 funds in the amount of \$1.2 million were realigned from Project S63 Small Arms Improvement to Project S64 Common Remotely Operated Weapon System (CROWS) within this PE.

FY07 funds in the amount of \$3.3 million for the Joint Service Small Arms Program's (JSSAP) Polymer Cased Small Arms Ammunition Production Program were appropriated incorrectly to this PE. Funds will be reprogrammed to PE 0602624A.

C. 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.

ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
5 - System Development and Demonstration			0604601A - Infantry Support Weapons									S63		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	TBD	Various		689		295		6131		2186		Cont.	Cont.	
See Remarks				1200		3300							4500	
Subtotal:				1889		3595		6131		2186		Cont.	Cont.	

Remarks:
 FY06 funds in the amount of \$1.2 million were realigned from Project S63 Small Arms Improvement to Project S64 Common Remotely Operated Weapon System (CROWS) within this PE.
 FY07 funds in the amount of \$3.3 million for the JSAAP's Polymer Cased Small Arms Ammunition Production Program were appropriated incorrectly to this PE. Funds will be reprogrammed to PE 0602624A.

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Development	MIPR	RDECOM - ARDEC, Picatinny Arsenal, NJ		1740		881		2891		1639			7151	
Logistics	MIPR	TACOM, Rock Island Arsenal, IL		85				175					260	
Human Research and Eng Directorate	MIPR	Aberdeen Proving Ground (APG), MD		310		110		520		50			990	
Subtotal:				2135		991		3586		1689			8401	

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Developmental Testing	MIPR	Developmental Test Command (DTC), Aberdeen Proving Ground (APG), MD		927		549		620		550		Cont.	Cont.	
Operational Testing	MIPR	Army Test and		351				800					1151	

ARMY RDT&E COST ANALYSIS (R3)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE										PROJECT				
5 - System Development and Demonstration			0604601A - Infantry Support Weapons										S63				
		Evaluation Command (ATEC), Alexandria, VA															
Validation Testing	MIPR	Developmental Test Command (DTC), Aberdeen Proving Ground (APG), MD		1038		445		1430		50					2963		
Subtotal:				2316		994		2850		600			Cont.		Cont.		

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Management	In House	PM Soldier Weapons, Picatinny Arsenal, NJ		500		85		1331		394			2310	
Travel	In House	PM Soldier Weapons, Picatinny Arsenal, NJ		65				105		5			175	
Subtotal:				565		85		1436		399			2485	

Project Total Cost:				6905		5665		14003		4874		Cont.		Cont.
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Schedule Profile (R4 Exhibit)

February 2007

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S63

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13																															
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																												
SMALL ARMS WEAPONS ENHANCEMENTS																																																												
M2 MG Light Weight Tripod																																	SDD																											
(1) MS C																																																												
Light Weight Machine Gun																																	SDD								Development / SDD																			
(2) MS B, (3) MS C																																																	MS B				MS C							
Weapon Upgrades																																																									SDD			
AMMUNITION																																																												
Small Caliber Light Weight Ammo																																	SDD																											
(4) IPR																																																												
Proximity Ammo																																																	SDD											
(5) MS C																																																									MS C			
Ammunition Upgrades																																																									SDD			
COMBAT OPTICS																																																												
Rifle Combat Optics																																	SDD																											
(6) MS C																																																									MS C			
Optics Upgrades																													SDD																															

Schedule Profile (R4 Exhibit)

February 2007

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S63

Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FIRE CONTROL																																
Fire Control Upgrades																																
	SDD																															

Schedule Detail (R4a Exhibit)

February 2007

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S63

<u>Schedule Detail</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>
SMALL ARMS WEAPONS ENHANCEMENTS	1Q - 4Q							
M2 MG Light Weight Tripod	1Q - 4Q	1Q - 4Q	1Q - 4Q					
MS C			4Q					
Light Weight Machine Gun	1Q - 4Q	1Q - 3Q						
MS B			1Q - 4Q		4Q			
MS C						3Q		
Weapon Upgrades			1Q - 4Q					
AMMUNITION		1Q - 4Q						
Small Caliber Light Weight Ammo	1Q - 4Q	1Q - 4Q	1Q - 4Q					
IPR			4Q					
Proximity Ammo			1Q - 4Q	1Q - 4Q	1Q - 4Q			
MS C					4Q			
Ammunition Upgrades			1Q - 4Q					
COMBAT OPTICS	1Q - 4Q							
Rifle Combat Optics	1Q - 4Q	1Q - 4Q						
MS C				1Q				
Optics Upgrades			1Q - 4Q					
FIRE CONTROL								
Fire Control Upgrades			1Q - 4Q					