

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2008**

BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>		PE NUMBER AND TITLE <b>0604601A - Infantry Support Weapons</b>							
COST (In Thousands)	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	44550	63026	42414	46805	42881	56558	56289	Continuing	Continuing
033 ADV CREW SVC WPN	3147	9937							46781
S58 SOLDIER ENHANCEMENT PROGRAM	14704	21447	15269	16113	11150	16537	16644		111864
S59 SOLDIER SUPPORT EQUIPMENT - ED	298								580
S60 CLOTHING & EQUIPMENT	10964	12817	9615	9973	10011	10727	10036		74143
S61 ACIS ENGINEERING DEVELOPMENT	11087	4115	12687	5847	5722	14400	14709	Continuing	Continuing
S62 OBJECTIVE INDIVIDUAL COMBAT WEAPON	18								10011
S63 SMALL ARMS IMPROVEMENT	1185	14710	4843	14872	15998	14894	14900	Continuing	Continuing
S64 COMMON REMOTELY OPERATED WPN SYS (CROWS)	3147								5448

**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.

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 Utility Helicopter, and Armed Reconnaissance Helicopter.

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BUDGET ACTIVITY

**5 - System Development and Demonstration**

PE NUMBER AND TITLE

**0604601A - Infantry Support Weapons**

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. 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**

<u><b>B. Program Change Summary</b></u>	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008/2009)	43165	45229	32585
Current BES/President's Budget (FY 2009)	44550	63026	42414
Total Adjustments	1385	17797	9829
Congressional program reductions	-169	-403	
Congressional rescissions			
Congressional increases		18200	
Reprogrammings	2770		
SBIR/STTR Transfer	-1216		
Adjustments to Budget Years			9829

Change Summary Explanation:

Funding

FY 2009 Adjustments +10,101

+2,997 realigned from 643827 S51, Aircrew Integrated Sys

+7,104 for Personnel Recovery Support Equipment (PRSE)

FY 2008 Adjustments +18,200

+10,000 Congressional Add in Project 033 for XM312

+ 1,600 Congressional Add in Project S60 for Enhanced Self-Sintered Silicon Carbide Body Armor

+ 1,600 Congressional Add in Project S60 for Enhanced Flame Retardant Body Protection

+ 1,600 Congressional Add in Project S64 for Protector Enhancements and integration on New Vehicle

+ 800 Congressional Add in Project S64 for CROWS with Acoustic Target Recognition and Cueing Control

+ 1,000 Congressional Add in Project S64 for Integration of MK47, 40mm Air Burst Capability onto US Army CROWS

+ 1,600 Congressional Add in Project S64 for Integration of the Javelin Antitank Missile onto the US Army CROWS

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2008**

<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>		<b>PE NUMBER AND TITLE</b> <b>0604601A - Infantry Support Weapons</b>						<b>PROJECT</b> <b>S58</b>	
COST (In Thousands)	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	14704	21447	15269	16113	11150	16537	16644		111864

**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.

FY 2007 funding total includes no funding received in GWOT supplemental.  
 FY 2008 funding total includes no funding received in the Bridge Supplemental.  
 FY 2008 funding totals do not include any previously requested funding for current FY 2008 GWOT requirements, and no FY 2008 GWOT funds have been previously requested in the RDTE Project of S58.

<b><u>Accomplishments/Planned Program:</u></b>	<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>
FY07-FY09: 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, Aircrew Laser Pointer, Ghillie Suit, Family of Body Armor, Clip on Sniper Night Sight, and Mounted Soldier Body Armor Demonstration.	4102	9280	6561
FY07-FY09: 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.	2338	2601	2280
FY07-FY09: Continue in-house engineering support services, conduct technical evaluations and program reviews.	2693	2537	2527
FY07-FY09: Initiate market surveys and/or evaluations on new items to commence development and demonstration. New items initiated will continue evaluation/procurement of new prototypes.	2828	1971	1792
FY07-FY09: 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 Sep 2007 which could include: The Tag Along Towel Cap, Leader/ Recon Communications earpieces, low/no light video viewer , Individual Force Protection System, Night Optic Video Integrated System, Enhanced Vehicle and Personnel Screening For IED Interdiction, IED Detection Using Robotic Sniffer Systems, SmartCard Explosives Detection Reader, Engineer Equipment Set: Urban Operations, Platoon, Range Finders with Angle Range Compensation (ARC), Zerust Corrosion Inhibiting Film and Bags, Skyclock, Combat Cushion, ACCU-SHOT MONOPOD, LB2 Tactical Light for chem light reduction, Ricoh 500SE-M GPS Tactical Digital Camera, NightMarker Covert IR Marking and ID Products, 12 gauge Stand-Off Breaching Round, Duty Vest for MP's, Personnel Recovery System.	2307	2458	2109
Small Business Innovative Research/Small Business Technology Transfer Programs	436		

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2008**

<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>	<b>PE NUMBER AND TITLE</b> <b>0604601A - Infantry Support Weapons</b>	<b>PROJECT</b> <b>S58</b>
MISALIGNED CONGRESSIONAL ADDS: Remotely Operation Weapon Station; Integration of MK47, 40mm Air Burst Fuse Capability onto US Army - 1600 Common Remotely Operated Weapon Station; Common Remotely Operated Weapon Station (CROWS) with Accoustic - 1000		2600
<b>Total</b>		14704      21447      15269

<b><u>B. Other Program Funding Summary</u></b>	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	To Compl	Total Cost
OPA3, MA68000, Soldier Enhancement	35598	20662	9898	8101	5772	12386	12934	Continuing	Continuing
OPA2, BA5300, Soldier Enhancement	9893	10123	7545	8403	5469	14668	15370	Continuing	Continuing
WTCV, GC0076, Small Arms (SEP)	2739	5424	1261	5177	4197	5200	5200	Continuing	Continuing
WTCV, GZ1290,Squad Automatic Wpn (Mods)	28815	44275	22134	7196				Continuing	Continuing
WTCV, GZ2800, M16 Rifle Mods	2955	5905	1181	4285	3965	3618	3469	Continuing	Continuing
WTCV, GB3007, M4 Carbine Mods	160561	17594	16796	17885	16613	13672	13414	Continuing	Continuing
WTCV, GO1500, Sniper Rifle	3243	414	223	229	242			Continuing	Continuing
WTCV,GC0925, Mods	1693	2772	3763	6310	6263	3096	3230	Continuing	Continuing
PAA, F47500, 7.62mm AP	5172	10000	10000	10000	10000	6000	2000	Continuing	Continuing
PAA, F47600, 5.65mm AP	6255							Continuing	Continuing
OMA, 121017, Central Funding & Fielding	134328	110684	92606	89100	39137	79642	113198	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 2008

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 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	7533	1-2Q	14087	1-3Q	8434	1-3Q		38925	
Subtotal:			8871	7533		14087		8434			38925	
Remarks: Candidates for the Soldier Enhancement Program are received, reviewed, and approved semi-annually. Contractual efforts are focused on procuring prototypes for testing.												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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	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.												
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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	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 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	2992	1-4Q	3035	1-4Q	2396	1-4Q		9895	
Subtotal:			1472	2992		3035		2396			9895	

# ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY

**5 - System Development and Demonstration**

PE NUMBER AND TITLE

**0604601A - Infantry Support Weapons**

PROJECT

**S58**

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

**Project Total Cost:**

12200

14704

21447

15269

63620

<b>Schedule Detail (R4a Exhibit)</b>	<b>February 2008</b>
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BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>	PE NUMBER AND TITLE <b>0604601A - Infantry Support Weapons</b>	PROJECT <b>S58</b>
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**Schedule Detail:** Not applicable for this item.

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# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2008**

<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>		<b>PE NUMBER AND TITLE</b> <b>0604601A - Infantry Support Weapons</b>						<b>PROJECT</b> <b>S60</b>	
COST (In Thousands)	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	10964	12817	9615	9973	10011	10727	10036		74143

**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, comfort, and sustainment affecting the quality of life of the individual Soldier.

FY 2007 funding total includes no funding received in GWOT supplemental.  
 FY 2008 funding total includes no funding received in the Bridge Supplemental.  
 FY 2008 funding totals do not include any previously requested funding for current FY 2008 GWOT requirements, and no FY 2008 GWOT funds have been previously requested in the RDTE Project of S60.

<b><u>Accomplishments/Planned Program:</u></b>	<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>
Individual Soldier Ballistic Protection: (FY07) 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. Continue 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. (FY08-09) Integrate and enhance Soldier Body Armor, Combat Eyewear, Bomb Suit, Face Shield. Researched technologies to mitigate the effects of high speed ballistic blunt trauma and low rate impact (crash) protection 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 and spiral in new technologies as they mature. Continue to evaluate Non Destructive Test Facility Production Demonstration Models.	5807	6738	4787
Soldier Uniforms and Clothing: (FY07) Successfully obtained Milestone C/Type Classification Standard approval on the Fuel Handlers Coverall (FHC). Conducted FHC Fire Resistant Insertion technical/user test. Completed improved Combat Vehicle Crewman Coverall user assessment. Completed Army Aircrew 2 Combat Uniform limited user test (Abrams fabric). Completed Athletic size Army Combat User (ACU) test. ACU enhancements transitioned to SDD. (FY08-09) 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 chemical/biological protection to increase the capabilities and durability of tactical and non-tactical clothing such as the improved Army Combat Uniform (ACU) and the FR Fuel Handlers Coverall (FR-FHC). 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.	2731	2256	2628
Individual Equipment: (FY07) Built Operational Test assets for Advanced Tactical Parachute System (ATPS) and initiated developmental testing. Completed Cold Weather Stove Technical test. (FY08-09) Conduct system integration and formal DT/OT of preproduction and production representative systems utilizing advancements in technology for load bearing equipment, hydration technologies including	2426	3465	2000

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

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<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>	<b>PE NUMBER AND TITLE</b> <b>0604601A - Infantry Support Weapons</b>	<b>PROJECT</b> <b>S60</b>
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. Purchase equipment and conduct pilot testing for Radio Frequency Identification (RFID).		
Soldier Cooling: (FY08-09) 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.		
Small Business Innovative Research/Small Business Technology Transfer Programs		
<b>Total</b>		<b>9615</b>

<b><u>B. Other Program Funding Summary</u></b>	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	Continuing
RDTE, 0603827.S53, Clothing and Equipment	6684	11814	9571	7145	7355	6834	6946	Continuing	Continuing
OMA, 121017, Central Funding and Fielding	137028	101284	92606	89100	39137	79642	113198	Continuing	Continuing

Comment:

**C. 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 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.

# ARMY RDT&E COST ANALYSIS (R3)

February 2008

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 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	2100	1-3Q	1539	1-3Q	1070	1-3Q	Cont.	Cont.	
Various	Contracts	Various	2071	4107	1-3Q	5400	1-3Q	3750	1-3Q	Cont.	Cont.	
Subtotal:			4071	6207		6939		4820		Cont.	Cont.	
II. Support Costs			Total PYs Cost	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	2125	1-2Q	2450	1-2Q	2145	1-2Q	Cont.	Cont.	
Subtotal:			1702	2125		2450		2145		Cont.	Cont.	
III. Test And Evaluation			Total PYs Cost	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	1707	1-3Q	1860	1-3Q	1550	1-3Q	Cont.	Cont.	
Subtotal:			1057	1707		1860		1550		Cont.	Cont.	
IV. Management Services			Total PYs Cost	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	925	1-4Q	1568	1-4Q	1100	1-4Q	Cont.	Cont.	
Subtotal:			716	925		1568		1100		Cont.	Cont.	

# ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY

**5 - System Development and Demonstration**

PE NUMBER AND TITLE

**0604601A - Infantry Support Weapons**

PROJECT

**S60**

**Project Total Cost:**

**7546**

**10964**

**12817**

**9615**

**Cont.**

**Cont.**

# Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604601A - Infantry Support Weapons**

PROJECT  
**S60**

Event Name	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
<b>(1) BALLISTIC</b>																												
Evaluate Combat Eyewear Laser Protection																												
Combat Eyewear/Laser Protection trans to production																												
Evaluate Extremity Protection																												
NDTF Evaluation																												
NDTF Transition to Production																												
ABS NVVS Evaluation																												
NVVS Transition to Production																												
Improved body Armor trans to production																												
Adv EOD Protective Ensemble trans to production																												
Soft Armor Upgrade trans to production																												
Evaluate material upgrades for Hard and Soft Armor																												
Hard Armor Upgrade trans to production																												
7.62 Protective Helmet trans to production																												

**(2) UNIFORM CLOTHING**

0604601A (S60)  
 CLOTHING & EQUIPMENT

# Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604601A - Infantry Support Weapons**

PROJECT  
**S60**

Event Name	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
Fuel Handlers Coveralls MS-C	■																											
Army Combat Uniform Enhancements trans to prod					■																							
Advanced CVC Ensemble trans to prod													■															
Moist Wick Flame Resist Undergmt trans to Prod																												
FHC FR Insertion Tech/User Test																												
A2CU Limited User Test - Abrams Fabric																												
ACU Fit Test - Athletic size uniforms																												
ACU design improvements																												
ProTech Fabric ACU																												
(3) INDIVIDUAL EQUIPMENT																												
ATPS T-11 OT																												
ATPS T-11 MS C																												
Cold Weather Stove Tech Test																												
Cold Weather Stove User Eval																												
Cold Weather Stove User Eval - Final																												

**Cold Weather Stove trans to production**  
 0604601A (S60)  
 CLOTHING & EQUIPMENT

# Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604601A - Infantry Support Weapons**

PROJECT  
**S60**

Event Name	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
	NBC Hydration OT																											
Conduct Radio Frequency Identification (RFI) pilot test																												
(4) SOLDIER COOLING																												
Soldier Cooling DT/OT																												

**Schedule Detail (R4a Exhibit)**

**February 2008**

BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>		PE NUMBER AND TITLE <b>0604601A - Infantry Support Weapons</b>					PROJECT <b>S60</b>	
<u>Schedule Detail</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>	
<b>BALLISTIC</b>								
Evaluate Combat Eyewear Laser Protection		1Q - 4Q						
Combat Eyewear/Laser Protection trans to production			2Q					
Evaluate Extremity Protection		2Q - 4Q	1Q					
NDTF Evaluation		1Q - 4Q						
NDTF Transition to Production			1Q					
ABS NVVS Evaluation		1Q - 3Q						
NVVS Transition to Production		4Q						
Improved body Armor trans to production			3Q					
Adv EOD Protective Ensemble trans to production			3Q					
Soft Armor Upgrade trans to production			3Q - 4Q	1Q				
Evaluate material upgrades for Hard and Soft Armor	4Q	1Q - 4Q	1Q - 3Q					
Hard Armor Upgrade trans to production			4Q					
7.62 Protective Helmet trans to production			1Q - 2Q					
<b>UNIFORM CLOTHING</b>								
Fuel Handlers Coveralls MS-C	1Q							
Army Combat Uniform Enhancements trans to prod		1Q						
Advanced CVC Ensemble trans to prod				1Q				
Moist Wick Flame Resist Undergmt trans to Prod		4Q						
FHC FR Insertion Tech/User Test	3Q - 4Q	1Q - 2Q						
A2CU Limited User Test - Abrams Fabric	2Q							

ACU Fit Test - Athletic size uniforms	1Q					
ACU design improvements		3Q				
ProTech Fabric ACU			1Q			
INDIVIDUAL EQUIPMENT						
ATPS T-11 OT		2Q - 4Q				
ATPS T-11 MS C			1Q			
Cold Weather Stove Tech Test	3Q					
Cold Weather Stove User Eval	1Q - 2Q	4Q				
Cold Weather Stove User Eval - Final		4Q				
Cold Weather Stove trans to production				1Q		
NBC Hydration OT		4Q	1Q			
Conduct Radio Frenquency Identification (RFI) pilot test		2Q - 3Q				
SOLDIER COOLING						
Soldier Cooling DT/OT		1Q - 4Q				

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2008**

<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>		<b>PE NUMBER AND TITLE</b> <b>0604601A - Infantry Support Weapons</b>						<b>PROJECT</b> <b>S61</b>	
COST (In Thousands)	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	11087	4115	12687	5847	5722	14400	14709	Continuing	Continuing

**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 Air Soldier System 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, flame/heat protection, on-the-go hydration, encrypted Aircrew Wireless Intercom System (AWIS), integrated survival kit, and portable oxygen system. Preplanned 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. FY 2006 and FY 2007 funding was provided for the development of the Personnel Recovery Support Equipment (PRSE) operations support program which currently consists of classified and unclassified efforts. FY 2009 funding is included for the continuation of PRSE development.

FY 2007 funding total includes \$8,158 received in GWOT supplemental.  
 FY 2008 funding total includes no funding received in the Bridge Supplemental.  
 FY 2008 funding totals does not include \$8,158 previously requested for current FY 2008 GWOT requirements.

<b><u>Accomplishments/Planned Program:</u></b>	<b><u>FY 2007</u></b>	<b><u>FY 2008</u></b>	<b><u>FY 2009</u></b>
Continue the integration of preplanned Air Warrior Increment III and Air Soldier System improvements	854	300	4414
Aircrew Wireless Intercom System (AWIS) encryption certification	2075	2103	1169
Development of Personnel Recovery Support Equipment	8158		7104
Acid Alkaline Direct methanol Fuel Cell Technology, FY 2008 Congressional Add		1600	
Small Business Innovative Research/Small Business Technology Transfer Programs		112	
<b>Total</b>	<b>11087</b>	<b>4115</b>	<b>12687</b>

<b><u>B. Other Program Funding Summary</u></b>	<b>FY 2007</b>	<b>FY 2008</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>To Compl</b>	<b>Total Cost</b>
RDTE, A PE 0603827A, PROJ S51 - Adv Dev	2285	3159	1	2	2	2	2		5453

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<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>		<b>PE NUMBER AND TITLE</b> <b>0604601A - Infantry Support Weapons</b>						<b>PROJECT</b> <b>S61</b>	
Aircraft Procurement, Army SSN AZ3110 - ACIS	61332	44822	40697	56921	42487	137424	124474	Continuing	Continuing

Comment:

**C. Acquisition Strategy** System Development and Demonstration efforts are for the Air Soldier System and Air Warrior 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 2008

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 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	2742	1Q	2320	1-2Q	5386	1-2Q		13036	
Personnel Recovery Support Equipment Development	MIPR	Various	7942	8158	3-4Q			6487	1-2Q		22587	
Acid Alkaline Direct methanol Fuel Cell Technology	TBD					1600	4Q				1600	
Subtotal:			10530	10900		3920		11873			37223	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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	32	1-4Q	38	1-4Q	376	1-4Q		446	
Subtotal:			32	32		38		376			446	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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	23	1-2Q	28	1-2Q	79	1-2Q		130	
Subtotal:			27	23		28		79			130	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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	132	1-4Q	129	1-4Q	359	1-4Q		620	

# ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE						PROJECT
<b>5 - System Development and Demonstration</b>	<b>0604601A - Infantry Support Weapons</b>						<b>S61</b>
Subtotal:	138	132		129		359	620
<b>Project Total Cost:</b>	<b>10727</b>	<b>11087</b>		<b>4115</b>		<b>12687</b>	<b>38419</b>

# Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604601A - Infantry Support Weapons**

PROJECT  
**S61**

Event Name	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
Personnel Recovery Support Equipment (PRSE) Development	PRSE																											
Personnel Recovery Support Equipment (PRSE) Development									PRSE																			
Increment III AWIS Encrypted System Dev, Testing and Certification									Increment III AWIS Encrypted System																			
Air Soldier System Development and Demonstration and Qualification Testing													Air Soldier System Development & Qualification Testing															

**Schedule Detail (R4a Exhibit)**

**February 2008**

BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>		PE NUMBER AND TITLE <b>0604601A - Infantry Support Weapons</b>					PROJECT <b>S61</b>	
<u>Schedule Detail</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>	
Personnel Recovery Support Equipment (PRSE) Development	3Q - 4Q							
Personnel Recovery Support Equipment (PRSE) Development			1Q - 4Q					
Increment III AWIS Encrypted System Dev, Testing and Certification	1Q - 4Q	1Q - 4Q	1Q - 4Q					
Air Soldier System Development and Demonstration and Qualification Testing				1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2008**

<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>		<b>PE NUMBER AND TITLE</b> <b>0604601A - Infantry Support Weapons</b>						<b>PROJECT</b> <b>S63</b>	
COST (In Thousands)	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	1185	14710	4843	14872	15998	14894	14900	Continuing	Continuing

**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.

FY 2007 funding total includes no funding received in GWOT supplemental.

FY 2008 funding total includes no funding received in the Bridge Supplemental.

FY 2008 funding totals do not include any previously requested funding for current FY 2008 GWOT requirements, and no FY 2008 GWOT funds have been previously requested in the RDTE Project of S63.

<b><u>Accomplishments/Planned Program:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Small Arms Weapons Enhancements			
- Design, Development and Engineering	358	2285	300
- Prototype Fabrication	105	533	50
- Testing and Evaluation	584	1213	190
- Demonstration		930	500
Ammunition			
- Design, Development and Engineering	63	2310	768
- Prototype Fabrication		2949	1944
- Testing and Evaluation		2400	491
- Demonstration		900	350
Combat Optics			
- Testing and Evaluation	75		
Fire Control			
- Design, Development and Engineering			250

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2008**

<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>	<b>PE NUMBER AND TITLE</b> <b>0604601A - Infantry Support Weapons</b>		<b>PROJECT</b> <b>S63</b>
Misaligned Congressional Add, Target Recognition and Cueing Control		800	
Small Business Innovative Research/Small Business Technology Transfer Programs		390	
<b>Total</b>	<b>1185</b>	<b>14710</b>	<b>4843</b>

<b><u>B. Other Program Funding Summary</u></b>	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	18788	12277	7088	8018	6097	5154	5253	Continuing	Continuing
WTCV, GZ2800, M16 Rifle MODS	2955	4060	1181	4285	3965	3618	3469	Continuing	Continuing
WTCV, GB3000, MK19 MODS	3155	6222	7654	8357	8506	10904	11170	Continuing	Continuing
WTCV, GZ1300, M240 Medium Machine Gun MODS	8863	11621	21128	17369	14927	14175	4955	Continuing	Continuing
WTCV, GB3007, M4 Carbine MODS	160561	17594	16796	17885	16613	13672	13414	Continuing	Continuing
WTCV, GB4000, M2 Machine Gun MODS	6000	17057						Continuing	Continuing

Comment:

**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 2008

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
<b>5 - System Development and Demonstration</b>			<b>0604601A - Infantry Support Weapons</b>							<b>S63</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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	105		3659		1490		Cont.	Cont.	
Subtotal:			689	105		3659		1490		Cont.	Cont.	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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	446		4636		1676			8498	
Logistics	MIPR	TACOM, Rock Island Arsenal, IL	85			170					255	
Human Research and Eng Directorate	MIPR	Aberdeen Proving Ground (APG), MD	310	10		500		50			870	
Subtotal:			2135	456		5306		1726			9623	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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			1404		904		Cont.	Cont.	
Operational Testing	MIPR	Army Test and Evaluation Command (ATEC), Alexandria, VA	351			1380		155			1886	
Validation Testing	MIPR	Developmental Test Command (DTC),	1038	604		1455		100			3197	

# ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY			PE NUMBER AND TITLE								PROJECT	
<b>5 - System Development and Demonstration</b>			<b>0604601A - Infantry Support Weapons</b>								<b>S63</b>	
		Aberdeen Proving Ground (APG), MD										
Subtotal:			2316	604		4239			1159		Cont.	Cont.
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	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	20		1391		443			2354	
Travel	In House	PM Soldier Weapons, Picatinny Arsenal, NJ	65			115		25			205	
Subtotal:			565	20		1506		468			2559	
<b>Project Total Cost:</b>			<b>5705</b>	<b>1185</b>		<b>14710</b>		<b>4843</b>		<b>Cont.</b>	<b>Cont.</b>	

# Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604601A - Infantry Support Weapons**

PROJECT  
**S63**

Event Name	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				
<b>SMALL ARMS WEAPONS ENHANCEMENTS</b>																																
M2 MG Light Weight Tripod																													SDD			
(1) MS C									▲ MS C																							
Weapon Upgrades									SDD																							
<b>AMMUNITION</b>																																
40MM Close in Antipersonnel																																
(2) MS C																					▲ MS C											
Small Caliber Light Weight Ammo	SDD																															
(3) IPR									▲ IPR																							
Proximity Ammo									SDD																							
(4) MS C																	▲ MS C															
Ammunition Upgrades									SDD																							
<b>COMBAT OPTICS</b>																																
Rifle Combat Optics																													SDD			
(5) MS C																					▲ MS C											
Optics Upgrades									SDD																							

# Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604601A - Infantry Support Weapons**

PROJECT  
**S63**

Event Name	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
<b>FIRE CONTROL</b>																												
<b>Fire Control Upgrades</b>									SDD																			

**Schedule Detail (R4a Exhibit)**

**February 2008**

**BUDGET ACTIVITY  
5 - System Development and Demonstration**

**PE NUMBER AND TITLE  
0604601A - Infantry Support Weapons**

**PROJECT  
S63**

<u>Schedule Detail</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					
MS C		4Q					
Weapon Upgrades		1Q - 4Q					
AMMUNITION	1Q - 4Q						
40MM Close in Antipersonnel		1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q		
MS C					4Q		
Small Caliber Light Weight Ammo	1Q - 4Q	1Q - 4Q					
IPR		4Q					
Proximity Ammo		1Q - 4Q	1Q - 4Q	1Q - 4Q			
MS C				4Q			
Ammunition Upgrades		1Q - 4Q					
COMBAT OPTICS							
Rifle Combat Optics	1Q - 4Q						
MS C			1Q				
Optics Upgrades		1Q - 4Q					
FIRE CONTROL							
Fire Control Upgrades		1Q - 4Q					