

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2007

BUDGET ACTIVITY	PE NUMBER AND TITLE							
3 - Advanced technology development	0603607A - JOINT SERVICE SMALL ARMS PROGRAM							
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
Total Program Element (PE) Cost	7971	8112	8097	8856	9136	9394	8711	8632
627 JT SVC SA PROG (JSSAP)	7012	7123	8097	8856	9136	9394	8711	8632
62D SMALL ARMS ADVANCED TECHNOLOGY DEV (CA)	959	989						

A. Mission Description and Budget Item Justification: This program element (PE) matures and demonstrates advanced technologies that integrate into individual and crew served weapons for all Services to provide greater lethality, utility, and range at a significantly reduced weight for the Future Force and, where feasible, exploits opportunities to enhance Current Force capabilities. The main effort is the Lightweight Small Arms Technologies (LSAT). The LSAT will offer significantly reduced weight over the currently fielded weapons and ammunition. These technologies will lighten the Soldier's load, provide improved battlefield mobility, and reduced logistics burden to maximize operational utility and survivability, while maintaining or improving current levels of performance. All Joint Service Small Arms Program (JSSAP) efforts follow the Joint Service Small Arms Master Plan (JSSAMP), the Joint Capabilities Integration Development System (JCIDS) Small Arms Analysis, and the resulting Capabilities Development Documents. The cited work is consistent with the Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP) and the Defense Technology Area Plan (DTAP). Work is performed by the US Army Armament Research, Development, and Engineering Center, Picatinny Arsenal, NJ. Work in this PE is related to and fully integrated with the efforts funded in PE 0602623A (Joint Service Small Arms Program) and PE 0602624A (Weapons and Munitions Technology). Transition paths have been established in coordination with Program Executive Officer (PEO) Soldier, Project Manager Soldier Weapons, Product Manager (PM) Crew Served Weapons, PM Individual Weapons, United States Marine Corps (USMC) PM Infantry Weapons; and PEO Special Programs, US Special Operations Command (SOCOM). Project 627 contains congressional adds only.

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<u>B. Program Change Summary</u>	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	7474	7202	7360	7472
Current BES/President's Budget (FY 2008/2009)	7971	8112	8097	8856
Total Adjustments	497	910	737	1384
Congressional Program Reductions		-31		
Congressional Rescissions				
Congressional Increases		1000		
Reprogrammings	497	-59		
SBIR/STTR Transfer				
Adjustments to Budget Years			737	1384

FY08 and FY09 funds increased to support development of smaller, lighter weight, small arms (weapons and rounds) with increased target acquisition/tracking capability.

One FY07 congressional add totaling \$958 (after adjustment for Congressional undistributed reductions) was added to this PE.

(\$958) Lightweight Small Arms Technologies (LSAT)

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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	
627 JT SVC SA PROG (JSSAP)	7012	7123	8097	8856	9136	9394	8711	8632	

A. Mission Description and Budget Item Justification: This project matures and demonstrates advanced technologies that integrate into individual and crew-served weapons for all Services to provide greater lethality, utility, and range at a significantly reduced weight for Future Combat Systems (FCS), the Future Force and, where feasible, exploits opportunities to enhance Current Force capabilities. The main effort is the Lightweight Small Arms Technologies (LSAT). The LSAT will offer significantly reduced weight over the currently fielded weapons and ammunition. These technologies will lighten the Soldier's load, provide improved battlefield mobility, and reduced logistics burden to maximize operational utility and survivability, while maintaining or improving current levels of performance. All Joint Service Small Arms Program (JSSAP) efforts follow the Joint Service Small Arms Master Plan (JSSAMP), the Joint Capabilities Integration Development System (JCIDS) Small Arms Analysis, and the resulting Capabilities Development Documents. The cited work is consistent with the Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), and the Defense Technology Area Plan (DTAP). Work is performed by the US Army Armament Research, Development, and Engineering Center, Picatinny Arsenal, NJ. Work in this PE is related to and fully integrated with the efforts funded in PE 0602623A (Joint Service Small Arms Program) and PE 0602624A (Weapons and Munitions Technology). Transition paths have been established in coordination with Program Executive Officer (PEO) Soldier, Project Manager Soldier Weapons, Product Manager (PM) Crew Served Weapons, PM Individual Weapons, United States Marine Corps (USMC) PM Infantry Weapons; and PEO Special Programs, US Special Operations Command (SOCOM).

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Lightweight Small Arms Technologies (LSAT): In FY06, built integrated weapon prototypes to test weapon and ammunition functionality and human factors and validate/update virtual prototypes; modified weapon system to incorporate improvements, matured weapon system to increase reliability; modified ammunition case configuration, case material, and bullet retention, and attained required muzzle velocity, interior ballistics, chamber pressure, and port pressure; assessed maintenance and training issues and made necessary modifications to Soldier interfaces, assembly, and disassembly procedures, and loading of ammunition. In FY07, perform integration testing to demonstrate lethality and reliability of the lightweight weapons and ammunition in a light machine gun configuration, identify, and fabricate prototype alternate weapon configurations and perform trade studies to determine best application(s) for lightweight technologies, continue refinement of ammunition, and weapon designs to achieve maximum weight reduction with best lethality and reliability characteristics.	6336	6951		
Lightweight Small Arms Technologies Demonstrations: In FY08, will mature and demonstrate high payoff technologies from LSAT that are technically successful, affordable, and manufacturable. Identify and complete development of desired ammunition and weapon configuration, fabricate quantities of ammunition and weapons, and test hardware to validate analyses. In FY09, will fabricate all necessary ammunition and weapons to complete the test program in accordance with International Test Operating Procedures (ITOPs) to achieve required maturity level for weapon/ammunition system, perform safety and environmental testing, and conclude with user testing.			7360	7472
Small Arms Enabling Technology Demonstrations: In FY08, will begin system integration planning and modeling as part of system engineering for existing and potential future weapon concepts. In FY09, will begin to develop laser ranging electronics for weapon integration base on feasibility established in complimentary program in PE 0622623A/project H21.			737	1384
Air-bursting Munition: In FY06, continued engineering improvements to air-bursting munition fragmenting body and demonstrated a	676			

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prototyptpe concept.				
Small Business Innovative Research/Small Business Technology Transfer Programs		172		
Total		7012	7123	8097
				8856