

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY		PE NUMBER AND TITLE					
2 - Applied Research		0602623A - JOINT SERVICE SMALL ARMS PROGRAM					
COST (In Thousands)	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	6012	6962	7531	7747	7995	8389	8787
H21	JT SVC SA PROG (JSSAP)	6012	6962	7531	7747	7995	8389
S50	SMALL ARMS APPLIED RESEARCH (CA)						

A. Mission Description and Budget Item Justification: This program element (PE) designs and develops individual and crew-served weapon technologies that enhance the fighting capabilities and survivability of dismounted battlefield personnel in support of all Services. The technology enhancement efforts of this PE assure that the next generation of small arms weapons systems overmatch the evolving threat and address the needs of the Future Force, and, where practical enhance the Current Force. Project H21 funds the development of technologies to improve small arms lethality, utility, and technical fire control via new projectile designs, warheads and target locating, and aiming devices. Joint user requirements for small arms evolved with an emphasis on increased lethality and range accuracy on moving targets. Project S50 funds congressional special interest items. All Joint Service Small Arms Program (JSSAP) efforts are based upon the Joint Service Small Arms Master Plan (JSSAMP), the Joint Capabilities Integration Development System's Small Arms Analyses, and the resulting Capabilities Development Documents of the Services. The cited work is consistent with the Department of Defense Research and Engineering Strategic Plan, the Army Science and Technology Master Plan, the Army Modernization Strategy, and the Army Posture Statement. This program is managed by the US Army Armament Research, Development, and Engineering Center (ARDEC), Picatinny, NJ. Work conducted under this PE is not duplicated under any other PE but is related to, and fully coordinated with, efforts in PE 0602624A (Weapons and Munitions Technology), and PE 0603607A (Joint Service Small Arms Program). Transition paths are established in coordination with Program Executive Officer (PEO) Soldier, Project Manager Soldier Weapons, Product Manager (PM) Crew Served Weapons, PM Individual Weapons, USMC PM Infantry Weapons, and PEO Special Operations Forces Warrior (SOF) Programs, U.S. Special Operations Command (SOCOM).

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<u>B. Program Change Summary</u>	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008/2009)	6178	7008	7571
Current BES/President's Budget (FY 2009)	6012	6962	7531
Total Adjustments	-166	-46	-40
Congressional program reductions		-46	
Congressional rescissions			
Congressional increases	-17		
Reprogrammings	-149		
SBIR/STTR Transfer			
Adjustments to Budget Years			-40

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February 2008

BUDGET ACTIVITY 2 - Applied Research		PE NUMBER AND TITLE 0602623A - JOINT SERVICE SMALL ARMS PROGRAM					PROJECT H21	
COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	
H21 JT SVC SA PROG (JSSAP)	6012	6962	7531	7747	7995	8389	8787	

A. Mission Description and Budget Item Justification: This project designs and develops individual and crew-served weapon technologies that enhance the fighting capabilities and survivability of dismounted battlefield personnel in support of all the Services. The technology enhancement efforts of this PE assure that the next generation of small arms weapon systems continue to overmatch the evolving threat and address the needs of the Future Force, and where practical, enhance Current Force capabilities. Major efforts in H21 included light-weight small arms technologies, advanced bullet designs and studies, surveillance and tag/ mark munitions, and the assessment of other small arms capabilities. Beginning in FY08, Advanced Lethality Armaments Technology for Small Arms and Advanced Fire Control Technology for Small Arms tasks began. These two tasks each contain emerging applied research efforts improving small arms for the Services warfighters. All Joint Service Small Arms Program (JSSAP) efforts are based upon the Joint Service Small Arms Master Plan (JSSAMP), the Joint Capabilities Integration Development System's Small Arms Analyses, and the resulting Capabilities Development Documents of the Services. The cited work is consistent with the Department of Defense Research and Engineering Strategic Plan, the Army Science and Technology Master Plan, the Army Modernization Strategy, and the Army Posture Statement. This program is managed by the US Army Armament Research, Development, and Engineering Center (ARDEC), Picatinny, NJ. Work in this PE is related to, and fully coordinated with, efforts in PE 0602624A (Weapons and Munitions Technology) and PE 0603607A (Joint Service Small Arms Program). 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, US Marine Corps PM Infantry Weapons, and PEO SOF Warrior Programs, US Special Operations Command (SOCOM).

<u>Accomplishments/Planned Program:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Lightweight Small Arms Technologies (LSAT): In FY07, completed weapon and ammunition component evaluation and conducted laboratory testing; tested integrated weapon and ammunition component technologies into weapon system; integrated subsystem 3-D models into a fully functioning system level model for both cased telescoped and caseless ammo applications; maximized modularity of components to facilitate future upgrades.	6012		
Advanced Lethal Armament Technology for Small Arms: In FY08, develop advanced small arms lethality designs; evaluate technology design concepts; model technology improvements for individual warfighter bursting projectiles in conjunction with advanced fuzing techniques; create low weight recoil reduction designs and lab prototype; evaluate and assess technological improvements and their relationship to soldier capabilities through warfighter modeling and simulation tools. In FY09, will assess and apply best technology improvements to FY08 designs; will determine combination of most promising improvements in projectile payloads, control and fuzing; will evaluate proof of principle recoil reduction concepts; will analyze individual and combinatorial improvements of technologies via warfighter modeling and simulation tool set.		3294	3815
Advanced Fire Control Technology for Small Arms: In FY08, determine and develop the best technical approaches for improvements in warfighter rapid range finding against stationary targets; evaluate short time exposure range-finding improvements and their relationship to soldier capabilities through warfighter modeling and simulation tools. In FY09, will evaluate improved ranging accuracy concepts, mounted on individual weapons, against moving targets; will develop concepts to consolidate energy supply of multiple sighting and other devices mounted on the current rail systems; will assess the improvements in automated target location correction for very short time target		3500	3716

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exposures; will assess warfighter effectiveness with modeling and simulation tools.			
Small Business Innovative Research/Small Business Technology Transfer Programs		168	
Total		6012	7531