ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2007

BUDGET ACTIVITY	PE NUMBER AND TITLE
2 - Applied Research	**0602623A - 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	6449	6178	7008	7571	7790	8039	8433	8830
H21	JT SVC SA PROG (JSSAP)	5490	6178	7008	7571	7790	8039	8433	8830
S50	SMALL ARMS APPLIED RESEARCH (CA)	959							

A. Mission Description and Budget Item Justification: This program element (PE) researches and designs individual and crew-served weapon technology 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 will overmatch the evolving threat and address the needs of the Future Force, and, where practical enhance the Current Force. Project H21 designs and evaluates component technologies for the Lightweight Small Arms Technologies (LSAT) effort. LSAT provides technologies that will significantly reduce weight compared to currently fielded weapons and associated ammunition. LSAT 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. Work here also advances small arms capability through the design and evaluation of improved small arms lethality, utility, and technical fire control via new projectile designs, warheads and target locating, and aiming devices. 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 Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), and the Defense Technology Area Plan (DTAP). 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), but the work conducted under this PE is not duplicated under any other PE. 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, USMC PM Infantry Weapons, and PEO Special Programs, U.S. Special Operations Command (SOCOM). Project S50 contains congressional adds only.

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BUDGET ACTIVITY
2 - Applied Research

PE NUMBER AND TITLE
0602623A - JOINT SERVICE SMALL ARMS PROGRAM

B. Program Change Summary	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	6607	6247	6362	6435
Current BES/President's Budget (FY 2008/2009)	6449	6178	7008	7571
Total Adjustments	-158	-69	646	1136
Congressional program reductions		-24		
Congressional rescissions				
Congressional increases				
Reprogrammings	-158	-45		
SBIR/STTR Transfer				
Adjustments to Budget Years			646	1136

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

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
2 - Applied Research	**0602623A - JOINT SERVICE SMALL ARMS PROGRAM**	**H21**

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
H21	JT SVC SA PROG (JSSAP)	5490	6178	7008	7571	7790	8039	8433	8830

A. Mission Description and Budget Item Justification: This project researches and designs 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 will continue to overmatch the evolving threat and address the needs of the Future Force, and where practical, enhance Current Force capabilities. The main effort in Project H21 is the Lightweight Small Arms Technologies (LSAT). LSAT will lighten the Soldier's load and provide improved battlefield mobility and reduced logistics burden to maximize operational utility and survivability, while maintaining or improving current levels of performance. Other efforts in H21 include advanced bullet designs, surveillance and tag/ mark munitions, and the assessment of stun, smoke, and other small arms delivered capabilities. 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 Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), and the Defense Technology Area Plan (DTAP). 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 Special Programs, US Special Operations Command (SOCOM).

Accomplishments/Planned Program:	FY 2006	FY 2007	FY 2008	FY 2009
Lightweight Small Arms Technologies (LSAT): In FY06, conducted ammunition testing to validate models with measured values for chamber pressure, muzzle velocity, material strength, and functionality for both cased telescoped ammunition and caseless ammunition; conducted extensive evaluation of weapon action subcomponents as well as alternate materials to validate and update models with new data. In FY07, complete weapon and ammunition component evaluation and lab scale testing; integrate weapon and ammunition component designs into weapon system; integrate subsystem 3-D models into a fully functioning system level model for both cased telescoped and caseless applications; maximize modularity of components to facilitate future upgrades. In FY08, technologies enabling improved small arms lethality and utility and technical fire control will be advanced. Will fabricate prototype bullets based on these designs and conduct laboratory tests to validate improvements over legacy designs. Improved cartridge cases, materials, and higher energetic propellants will be fabricated and laboratory tested to determine interior ballistics. The best technical approach for use of surveillance (tag and mark) munitions will be determined in conjunction with weapon fire control systems. Current versus required capabilities for stun, smoke, and other small arms delivered capabilities will be assessed. Alternate methods of range finding, such as laser steering, will be advanced. In FY09, the best technical approach for surveillance, stun and smoke will be identified, fabricated, and assembled into cartridges for flight testing ballistics data collection. Improved ranging accuracy will be evaluated through the use of multiple pulse model averaging lasers and laser steering technology. Also in FY09, modular technology will be developed to enable real-time display of pertinent battlefield data through small arms fire control.	5490	6029	7008	7571
Small Business Innovative Research/Small Business Technology Transfer Programs		149		
Total	5490	6178	7008	7571