ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2004

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

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
H21	JT SVC SA PROG (JSSAP)	5373	5649	5739	5932	6205	6311	6433

A. Mission Description and Budget Item Justification: This Program Element designs and develops key individual and crew-served weapon technologies that will enable the Army Transformation to the Future Force by enhancing the fighting capabilities and survivability of dismounted battlefield personnel of the Services and, where feasible, exploits opportunities to enhance Current Force capabilities. Funded efforts include component technologies for: the Objective Crew-Served Weapon (OCSW); the Objective Individual Combat Weapon (OICW) System Enhancements; the Lightweight Machine Guns and Ammunition (LMGA); and Lightweight 5.56mm Ammunition. OCSW provides the next generation crew-served weapon with improved combat effectiveness, including bursting munitions technology to provide 500%+ increase in probability of target incapacitation at extended range (to 2000m) with the capability to hit protected personnel targets in defilade (obscured or non-visible), and reduced weight over weapons it replaces. The OCSW is designed to replace selected M2 machine guns and MK19 grenade machine guns. The OICW System Enhancement efforts develop lethality-enhancing and cost/weight-reducing technologies for OICW. The LMGA, complementing both the highly lethal OICW & OCSW will offer significantly reduced weight over the currently fielded M249 Squad Automatic Weapon and its associated ammunition. LMGA will lighten the soldier's load, provide improved battlefield mobility and reduced logistics burden to maximize operational utility and survivability, while maintaining current levels of performance. The lightweight 5.56mm polymer ammunition evaluation seeks to determine the feasibility of utilizing polymer composite cases for 5.56mm ammunition for use in current and future weapons. The technology enhancement efforts of this PE will assure that the Objective Family of Small Arms (OFSA), the next generation of small arms weapons systems, continues to overmatch the evolving threat and addresses the needs of the Future Force. All Joint Service Small Arms Program (JSSAP) efforts are based upon the Joint Service Small Arms Master Plan (JSSAMP), Mission Needs Statements and 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). The program element contains no duplication with any effort within the Military Departments. This program is primarily managed by the U.S. Army Armament Research, Development and Engineering Center (ARDEC), Picatinny Arsenal, New Jersey. 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 Soldier, Project Manager Soldier Weapons, Product Manager (PM) Crew Served Weapons, PM Individual Weapons, USMC Director Ground Weapons and US Special Operations Command (SOCOM).

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Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
OCSW: In FY03, refined fuze design; evaluated explosive train functionality; conducted environmental testing of weapon; fabricated/upgraded weapons; completed contractual reporting requirements.	1351	0	0
OICW System Enhancement: In FY03, completed Micro Scale Firetrain formulation and transfer charge design for gun launched micro electro-mechanical system based safe and arming evaluation.	1000	0	0
LMGA: In FY03, researched weapon component technologies and worked with Objective Force Warrior Lead Technology Integrators to determine needs. Quantified operational and human enhancements for individual soldiers through modeling, simulation and analyses of applicable concepts. Assessed alternate case ammunition concepts as enabling technologies for a lightweight family of weapons and for lightweight 5.56 ammunition. In FY04, evaluate and mature lightweight material technologies for small arms application. Design and assess mechanisms to reduce weight and provide component commonality across a family of weapons. Assess potential of placing traditional weapon function on the soldier and of placing other soldier system controls on the weapon. In FY05, will downselect to final weapon development design, finalize design, conduct component evaluation and build non-firing prototype.	3022	5003	5739
Future Lightweight 5.56mm Ammunition: In FY04, evaluate 5.56mm polymer cased ammunition concepts to potentially achieve 20% ammunition weight reduction.	0	501	0
Small Business Innovative Research/Small Business Technology Transfer Programs	0	145	0
Totals	5373	5649	5739

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B. Program Change Summary	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2004)	5468	5835	5979
Current Budget (FY 2005 PB)	5373	5649	5739
Total Adjustments	-95	-186	-240
Congressional program reductions		-50	
Congressional rescissions			
Congressional increases			
Reprogrammings	-95	-136	
SBIR/STTR Transfer			
Adjustments to Budget Years			-240