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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 3: Advanced Technology Development (ATD)					R-1 ITEM NOMENCLATURE PE 0603607A: JOINT SERVICE SMALL ARMS PROGRAM							
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	7.473	6.095	5.030	-	5.030	7.317	5.137	5.873	5.823	Continuing	Continuing
627: JT SVC SA PROG (JSSAP)	-	7.473	6.095	5.030	-	5.030	7.317	5.137	5.873	5.823	Continuing	Continuing
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note FY14 funding realigned to higher priority efforts.												
A. Mission Description and Budget Item Justification This project matures and demonstrates advanced technologies that provide greater lethality, target acquisition, fire control, training effectiveness and range at a significantly reduced weight. These technologies lighten the Soldier's load, provide improved battlefield mobility, and reduce logistics burden while maintaining or improving current levels of performance. Efforts in this program element support the Soldier Science and Technology portfolio. 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). The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy. Work in this project is performed by the US Army Armament Research, Development, and Engineering Center (ARDEC), Picatinny Arsenal, NJ.												

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
2040: Research, Development, Test & Evaluation, Army		PE 0603607A: JOINT SERVICE SMALL ARMS PROGRAM			
BA 3: Advanced Technology Development (ATD)					
B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	7.674	6.095	6.235	-	6.235
Current President's Budget	7.473	6.095	5.030	-	5.030
Total Adjustments	-0.201	0.000	-1.205	-	-1.205
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.201	-			
• Adjustments to Budget Years	-	-	-1.205	-	-1.205

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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
627: JT SVC SA PROG (JSSAP)	-	7.473	6.095	5.030	-	5.030	7.317	5.137	5.873	5.823	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This project matures and demonstrates advanced technologies that provide greater lethality, target acquisition, fire control, training effectiveness and range at a significantly reduced weight. These technologies lighten the Soldier's load, provide improved battlefield mobility, and reduce logistics burden while maintaining or improving current levels of performance.

Efforts in this program element support the Soldier Science and Technology portfolio.

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).

The cited work is consistent with the Assistant Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

Work in this project is performed by the US Army Armament Research, Development, and Engineering Center (ARDEC), Picatinny Arsenal, NJ.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2012	FY 2013	FY 2014
Title: Small Arms Weapons and Fire Control Integration	3.640	2.519	2.305
Description: The best breadboard concepts from the Advanced Fire Control Technology for Small Arms (0602623A/H21) will be integrated into lab demonstrators and evaluated on relevant current (M4, M16, M249, M240) and developmental small arms systems to optimize affordability, target acquisition, fire control, weight, and lethality. Project transitions to Project Manager Soldier Weapons (PM SW).			
FY 2012 Accomplishments: Matured dynamic target tracking and range finding, as well as adaptive polymer zoom lens technologies; demonstrated power distribution/sourcing technologies in an integrated weapon and fire control prototype; matured and demonstrated integrated thermal management small arms weapon technologies such as graphite foam and heat pipes.			
FY 2013 Plans:			

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013
<p>Mature and demonstrate improvements to target tracking and range determination component technologies and algorithms; integrate subcomponents into realistic fire control system envelope; use modeling and simulation to evaluate system level effectiveness; use results to assist in selection of best systems.</p> <p>FY 2014 Plans: Will complete integration of the daytime electro-optic fire control demonstrator with target tracking algorithms and range determination component technologies for machine gun mounted optics; demonstrate capability to track multiple targets and increase probability of hit by 100% out to a range of 1200 meters.</p>			
<p>Title: Small Arms Grenade Munitions Integration and Evaluation</p> <p>Description: The best breadboard concepts from the Advanced Lethality Armament Technology for Small Arms (0602623A/H21) project will be integrated into a 40mm ammunition prototype and evaluated on current (M203, M320, and M32 40mm grenade launchers) small arms systems to optimize affordability, effects and lethality. Project transitions to Project Manager Maneuver Ammunition Systems (PM MAS).</p> <p>FY 2012 Accomplishments: Demonstrated advanced lethality concepts, including course correction, as well as enhanced fragmentation/directionality technologies; integrated and demonstrated recoil mitigation technologies.</p> <p>FY 2013 Plans: Integrate alternate fuze detonation modes into the smaller modified MK550 fuze to improve initiation location and improve Probability of Incapacitation (P(I)) against threat personnel in defilade; integrate smart fuze and sensors into 40mm low velocity grenades for demonstration; assess performance improvement results to assist in selection of best systems; transition fuze design improvements to PM-MAS.</p> <p>FY 2014 Plans: Will minimize dispersion and drag variation of the mk433 40mm grenade through exterior design modifications in order to maximize the range of the projectile; integrate the smaller fuze and sensor components into the improved projectile body; demonstrate improved warhead and ballistic performance; transition grenade design improvements to PM-MAS. Initiate weapon effectiveness study to understand target and advanced projectile interactions for overwhelming lethal effects.</p>		3.833	3.576
Accomplishments/Planned Programs Subtotals		7.473	5.030
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			

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D. Acquisition Strategy N/A		
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.		