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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
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APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 2: <i>Applied Research</i>					PE 0602623A: <i>JOINT SERVICE SMALL ARMS PROGRAM</i>							
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	-	8.010	7.169	7.818	-	7.818	8.969	9.114	9.267	9.434	Continuing	Continuing
H21: <i>JT SVC SA PROG (JSSAP)</i>	-	8.010	7.169	7.818	-	7.818	8.969	9.114	9.267	9.434	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 program element (PE) investigates designs and evaluates individual and crew-served weapon technologies that enhance the fighting capabilities and survivability of the dismounted Warfighter in support of all the Services. All work is done under the Joint Service Small Arms Program (JSSAP) (Project H21) and are based upon the Joint Service Small Arms Master Plan (JSSAMP) and the Joint Capabilities Integration Development System's Small Arms Analyses.

Work in this PE is related to, and fully coordinated with, efforts in PE 061102A (Defense Research Sciences), PE 0602624A (Weapons and Munitions Technology), PE 0603607A (Joint Service Small Arms Program), and PE 0603827A (Soldier Systems-Advanced Development).

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

This program is managed by the US Army Armament Research, Development, and Engineering Center (ARDEC), Picatinny Arsenal, NJ in collaboration with the Army Research Laboratory (ARL) at Aberdeen proving Ground, MD.

B. Program Change Summary (\$ in Millions)	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	8.231	7.169	7.818	-	7.818
Current President's Budget	8.010	7.169	7.818	-	7.818
Total Adjustments	-0.221	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.221	-			

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 2: Applied Research					R-1 ITEM NOMENCLATURE PE 0602623A: JOINT SERVICE SMALL ARMS PROGRAM				PROJECT H21: JT SVC SA PROG (JSSAP)			
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
H21: JT SVC SA PROG (JSSAP)	-	8.010	7.169	7.818	-	7.818	8.969	9.114	9.267	9.434	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 investigates designs and evaluates individual and crew-served weapon component technologies that enable increased lethality for survivability of the dismounted Warfighter in all the Services. All efforts are based upon the Joint Service Small Arms Master Plan (JSSAMP) and the Joint Capabilities Integration Development System's Small Arms Analyses.												
Efforts in this program element support the Soldier Science and Technology portfolio												
Work in this project is related to, and fully coordinated with, efforts in PE 0602624A (Weapons and Munitions Technology) and PE 0603607A (Joint Service Small Arms Program) and PE 0602786A (Warfighter 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, NJ.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2012	FY 2013	FY 2014	
Title: Advanced Small Unit (Squad) Small Arms Technology Concepts									3.545	3.801	3.750	
Description: This effort was originally titled JSSAP Mini Grand Challenge. It addresses future small arms technology investments including new materials, high power energy sources, miniaturization techniques, and reduction of weapon moving components.												
FY 2012 Accomplishments: Investigated, designed and developed the next generation (2016 and beyond) small arms weapons platforms; investigated critical technologies and concepts that could be integrated into weapons system platforms to provide the Warfighter the next generation new small arms capabilities; conducted experiments to mature small arms component technologies in target engagement, target effectiveness, and power and energy requirements.												
FY 2013 Plans:												

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
Investigate new small arm concepts and systems proposed to enable Small Unit operations; fund research to decrease time to complete mission objective and double the maximum effective range of current individual and crew served small arm systems as defined by the Small Arms Capabilities Based Assessment; analyze new concepts through modeling and simulation. FY 2014 Plans: Will continue to design and conduct experiments of a universal projectile concept to validate modeling and simulation of projectile aerodynamics, launch survivability and suitability to military environments; investigate gun barrel stabilization technologies to validate effectiveness of maximum range increases.				
Title: Small Arms Material and Process Technology Description: This effort addresses state of the art material substrates and surface coatings to improve reliability, reduce maintenance and improve weapon diagnostics through embedded technology. FY 2012 Accomplishments: Performed a detailed investigation of these new materials and techniques as applied to current and new weapon systems; matured past investments in lubricous weapon coatings, shot counters and other indicators to increase weapon life, improve durability and reduce weight. FY 2013 Plans: Investigate available state-of-the-art coatings materials and processes and the potential synergistic effects to weapon applications; design and conduct experiments at component level to determine validity of technology to small arms applications; use modeling and simulation to validate analytical predictions; formulate concept and application studies. FY 2014 Plans: Will develop and analyze custom phosphors for providing day/night capable tracer material; validate phosphor characteristics (excitation and emission energies) to enhance focus light back to the shooter;mature coatings for corrosion resistant applications on ammunition and weapons;conduct experiments through suppressor development designs to decrease peak temperatures and increase reliability.		4.244	3.368	4.068
Title: Small Business Innovative Research/Small Business Technology Transfer Program Description: Small Business Innovative Research/Small Business Technology Transfer Program FY 2012 Accomplishments: Business Innovative Research/Small Business Technology Transfer Program		0.221	0.000	0.000
Accomplishments/Planned Programs Subtotals		8.010	7.169	7.818

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C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
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.		