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Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army **Date:** February 2018

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 3: Advanced Technology Development (ATD)					R-1 Program Element (Number/Name) PE 0603607A I Joint Service Small Arms Program							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	5.615	5.796	5.885	-	5.885	4.604	4.696	6.249	6.374	0.000	39.219
627: Jt Svc Sa Prog (JSSAP)	-	5.615	5.796	5.885	-	5.885	4.604	4.696	6.249	6.374	0.000	39.219

A. Mission Description and Budget Item Justification

This Program Element (PE) matures and demonstrates advanced technologies that provide greater lethality, target acquisition, fire control, 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 PE support the Army Science and Technology Lethality Portfolio.

Work in this PE is related to and fully integrated with the efforts funded in PE 0602623A (Joint Service Small Arms Program), PE 0602624A (Weapons and Munitions Technology) and PE 0602618A (Ballistic Technology).

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

The work in this PE is performed by the Army Research, Development and Engineering Command (RDECOM).

B. Program Change Summary (\$ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	5.839	5.796	5.885	-	5.885
Current President's Budget	5.615	5.796	5.885	-	5.885
Total Adjustments	-0.224	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	-			
• FFRDC	-0.003	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040 / 3					R-1 Program Element (Number/Name) PE 0603607A / Joint Service Small Arms Program				Project (Number/Name) 627 / Jt Svc Sa Prog (JSSAP)			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
627: Jt Svc Sa Prog (JSSAP)	-	5.615	5.796	5.885	-	5.885	4.604	4.696	6.249	6.374	0.000	39.219

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 Project support the Army Science and Technology Lethality Portfolio.

Work in this Project is related to and fully integrated with the efforts funded in Program Element (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.

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

	FY 2017	FY 2018	FY 2019
Title: Volume Effects Description: This effort addresses the maturation and demonstration of emerging small arms technologies from PE 0602623A efforts into current and next generation weapon systems to address Volume (sustained suppressive and lethal fires for area targets) capability gaps for improved effectiveness at extended ranges. FY 2018 Plans: Continue to support technology development for Next Generation Squad Automatic Rifle (NGSAR) requirements; investigate weapon systems, fire control, and ammunition technologies to increase the current performance of the lightweight medium machine gun. FY 2019 Plans: Will mature technology concepts to inform NGSAR requirements and optimize designs for the next generation carbines and Squad Designated Marksman (SDM) weapon systems; will mature weapon system, fire control, and ammunition technologies to increase the current performance of the lightweight medium machine gun. FY 2018 to FY 2019 Increase/Decrease Statement: Decrease is due to component technologies being matured for a demonstration of a next generation squad weapon.	2.272	2.373	1.945
Title: Precision Effects	1.521	1.428	1.013

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Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603607A / <i>Joint Service Small Arms Program</i>	Project (Number/Name) 627 / <i>Jt Svc Sa Prog (JSSAP)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018
<p>Description: This effort focuses on the maturation and demonstration of emerging small arms technologies from PE 0602623A efforts into current and next generation weapon systems to address precision fire (Precision fire is support fire in the offense during the assault and engagement of targets to the maximum effective range of the weapon), and fire control capability gaps for improved accuracy at extended ranges.</p> <p>FY 2018 Plans: Optimize and demonstrate precision ammunition technologies to support precision ammunition requirements for extended range, accuracy and terminal effects required to perforate toughest targets and implement highly efficient aerodynamics.</p> <p>FY 2019 Plans: Will optimize and demonstrate anti-material, improved performance and subsonic precision ammunition in three different calibers to support requirements for extended range and increased accuracy and terminal effects required to meet those needs across multiple fielded or emerging weapon platforms.</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement: Decrease is due to technologies for small arms precision being matured for a demonstration in three different calibers.</p>			
<p>Title: Small Arms Systems Integration and Demo</p> <p>Description: This effort addresses the maturation and demonstration of small arms component technologies resulting from PE 0602623A efforts and applied into advanced small arms technologies as to inform the user requirement process, address operational capability gaps and transition mature components and technology concepts.</p> <p>FY 2018 Plans: Continue to increase lethality capabilities and assess small arms effectiveness.</p> <p>FY 2019 Plans: Will demonstrate next Generation Small Arms Squad Technologies at the Army Expeditionary Warrior Experiment (AEWE) in support of increasing small unit effectiveness.</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement: Increase is due to the leadtime for and during the demonstration of the next generation squad weapons a live fire warfighter exercise.</p>		0.380	0.495
<p>Title: Joint Service Small Arms Science and Technology Collaboration</p> <p>Description: This effort addresses the continued operations of the Joint Service Small Arms Program (JSSAP) office to coordinate and harmonize new Services' materiel requirements with potential joint applications, and to maintain awareness of the</p>		1.442	1.500
			1.427

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
<p>Services' efforts to improve Small Arms capabilities thus reducing duplication of ongoing and planned technology, acquisition and sustainment activities.</p> <p><i>FY 2018 Plans:</i> Continue to manage Joint Services Small Arms Programs; continue technology developmental efforts on material solutions for transitioning to small arms programs of record; continue to influence small arms technology maturation activities in collaboration with North Atlantic Treaty Organization (NATO) partners.</p> <p><i>FY 2019 Plans:</i> Will continue to manage Joint Services Small Arms Programs; will continue technology developmental efforts on material solutions for transitioning to small arms programs of record; will continue to influence small arms technology maturation activities in collaboration with North Atlantic Treaty Organization (NATO) partners.</p> <p><i>FY 2018 to FY 2019 Increase/Decrease Statement:</i> Decrease due to reduced level of effort in support of technology maturation activities with NATO partners.</p>				
Accomplishments/Planned Programs Subtotals		5.615	5.796	5.885
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				
E. Performance Metrics				
N/A				