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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604611A / JAVELIN
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	4.006	3.945	20.011	-	20.011	21.095	17.772	0.000	0.000	0.000	66.829
499: <i>Javelin (AAWS-M)</i>	-	4.006	3.945	20.011	-	20.011	21.095	17.772	0.000	0.000	0.000	66.829

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Beginning in FY 2015, all funding in this project is to support development of the Javelin Lightweight Command Launch Unit (CLU). Objective of the Javelin Lightweight CLU is a 50% reduction in weight and size compared to the Block I CLU, while meeting detect, recognize, and identify requirements. Javelin Lightweight CLU is a result of user feedback on weight and bulk, and addresses the Close Combat Missile System - Medium Capability Production Document objective system weight requirement.

B. Program Change Summary (\$ in Millions)

	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017 Base</u>	<u>FY 2017 OCO</u>	<u>FY 2017 Total</u>
Previous President's Budget	4.164	3.945	20.282	-	20.282
Current President's Budget	4.006	3.945	20.011	-	20.011
Total Adjustments	-0.158	0.000	-0.271	-	-0.271
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.158	-			
• Adjustments to Budget Years	-	-	-0.271	-	-0.271

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Army										Date: February 2016		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604611A / JAVELIN				Project (Number/Name) 499 / Javelin (AAWS-M)			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
499: Javelin (AAWS-M)	-	4.006	3.945	20.011	-	20.011	21.095	17.772	0.000	0.000	0.000	66.829
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

FY 2017 funding will continue development engineering of the Javelin Lightweight Command Launch Unit (CLU). Objective of the Javelin Lightweight CLU is a 50% reduction in weight and size compared to the Block I CLU, while meeting detect, recognize, and identify requirements. Javelin Lightweight CLU is a result of user feedback on weight and bulk, and addresses the Close Combat Missile System - Medium Capability Production Document objective system weight requirement.

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

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: Javelin System Improvements	4.006	3.945	20.011	-	20.011
Description: Develop Lightweight Command Launch Unit.					
FY 2015 Accomplishments: Lightweight CLU system architecture design, research and design advanced lightweight composite material for CLU housing, research and design small form factored/ lightweight acquisition sensor and associated optics, and initiation of prototype software/firmware design.					
FY 2016 Plans: Lightweight CLU: completion of prototype hardware, firmware and software design. Critical prototype fabrication and system integration activities.					
FY 2017 Base Plans: Lightweight CLU Design phase - Conduct system level analysis; design, build and integrate 7 system-level prototypes for system-level design verification testing (DVT). Conduct DVT to include environmental, producibility, reliability, electromagnetic/electrostatic discharge, image quality, and mechanical separation/launch dynamic tests. Conduct user evaluation, critical design review, and prepare preliminary engineering change proposal.					
Accomplishments/Planned Programs Subtotals	4.006	3.945	20.011	-	20.011

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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u> <u>Base</u>	<u>FY 2017</u> <u>OCO</u>	<u>FY 2017</u> <u>Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• SSN CC0007: Javelin (AAWS-M) Procurement	72.877	168.163	73.508	15.567	89.075	89.520	88.702	100.539	143.917	Continuing	Continuing

Remarks

FY

D. Acquisition Strategy

Javelin Lightweight CLU development is Sole Source to the Javelin Joint Venture (Raytheon, Tucson, AZ, and Lockheed Martin, Orlando, FL). Engineering services contract with the Javelin Joint Venture will be utilized for Lightweight CLU development efforts. The major subassemblies, which are also the primary cost drivers, will be competed. The Javelin Joint Venture has invested Industry Research and Development in the Lightweight CLU. Development, prototype, and testing will occur FY 2015-2019 with production beginning in FY 2020. Army Acquisition Objective (AAO) is 4,500. Current plan is to field to priority Infantry Brigade Combat Teams and Special Forces and cascade Block 0 CLUs out of the inventory.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army **Date:** February 2016

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604611A / JAVELIN	Project (Number/Name) 499 / Javelin (AAWS-M)
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Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Engineering/ Program Management, Govt	Allot	Close Combat Weapon Systems Project Office : Redstone Arsenal, AL	0.000	0.362	Nov 2014	0.420	Nov 2015	1.767	Nov 2016	-		1.767	3.499	6.048	0
Subtotal			0.000	0.362		0.420		1.767		-		1.767	3.499	6.048	0.000

Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Lightweight CLU Development	SS/CPFF	JJV/Raytheon/ Lockheed Martin : Orlando, FL/ Tucson,AZ	0.000	2.345	Jan 2015	2.750	Jan 2016	15.396	Jan 2017	-		15.396	28.863	49.354	0
Lightweight CLU Development	MIPR	Redstone Test Center : Redstone Arsenal, AL	0.000	-		-		0.570	Nov 2016	-		0.570	0	0.570	0
Lightweight CLU Trade Studies and Demonstrations	MIPR	AMRDEC : Redstone Arsenal, AL	0.000	1.299	Nov 2014	0.775	Nov 2015	-		-		-	0	2.074	0
Subtotal			0.000	3.644		3.525		15.966		-		15.966	28.863	51.998	0.000

Remarks
 JJV - Javelin Joint Venture
 SS CPFF - Sole Source Cost Plus Fixed Fee
 CLU - Command Launch Unit
 AMRDEC - Aviation & Missile Research, Development and Engineering Center
 MIPR - Military Interdepartmental Purchase Request

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army **Date:** February 2016

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Event Name	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
LW CLU System Architecture Design	████████				████████																							
LW CLU Research/ Design Advanced Materials	████████				████████																							
Initiate LW CLU Prototype Software/Firmware	████████				████████																							
LW CLU Fabrication/ System Integration of Prototypes	████████				████████				████████																			
LW CLU Prototype Demonstration	████████				████████				████████																			
LW CLU Producibility and Environmental Design	████████				████████				████████																			
LW CLU Design Verification Testing	████████				████████				████████																			
LW CLU Qualification Testing	████████				████████								████████															

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army **Date:** February 2016

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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
LW CLU System Architecture Design	1	2015	2	2015
LW CLU Research/ Design Advanced Materials	3	2015	4	2015
Initiate LW CLU Prototype Software/Firmware	4	2015	3	2016
LW CLU Fabrication/ System Integration of Prototypes	4	2016	2	2017
LW CLU Prototype Demonstration	2	2017	4	2017
LW CLU Producibility and Environmental Design	2	2017	3	2017
LW CLU Design Verification Testing	4	2017	4	2017
LW CLU Qualification Testing	1	2018	4	2019

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