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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army **Date:** February 2015

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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	-	4.471	4.164	3.945	-	3.945	20.282	21.095	17.772	-	-	71.729
499: <i>Javelin (AAWS-M)</i>	-	4.471	4.164	3.945	-	3.945	20.282	21.095	17.772	-	-	71.729

A. Mission Description and Budget Item Justification

FY16 funding will continue developmental engineering of the Javelin Lightweight Command Launch Unit (CLU). Goal of the Javelin Lightweight CLU is a 50% reduction in size and weight, 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 2014</u>	<u>FY 2015</u>	<u>FY 2016 Base</u>	<u>FY 2016 OCO</u>	<u>FY 2016 Total</u>
Previous President's Budget	5.000	4.166	4.909	-	4.909
Current President's Budget	4.471	4.164	3.945	-	3.945
Total Adjustments	-0.529	-0.002	-0.964	-	-0.964
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-0.529	-0.002	-0.964	-	-0.964

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
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 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
499: Javelin (AAWS-M)	-	4.471	4.164	3.945	-	3.945	20.282	21.095	17.772	-	-	71.729
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

FY 16 funding will continue developmental engineering of the Javelin Lightweight Command Launch Unit (CLU). Goal of the Javelin Lightweight CLU is a 50% reduction in size and weight, 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 Missiles System - Medium Capability Production Document objective system weight requirement.

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

	FY 2014	FY 2015	FY 2016
Title: Javelin System Improvements	4.471	4.164	3.945
Description: Improve the current Javelin missile with multi-purpose warhead (MPWH) (FY13-14). Develop Lightweight Command Launch Unit (FY15-19).			
FY 2014 Accomplishments: Javelin MPWH system qualification (flight), live fire testing for integration into Javelin Block I missile. CLU Far Target Locator demonstrations and user evaluations.			
FY 2015 Plans: Lightweight CLU system architecture design, research and design advanced lightweight composite materials 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.			
Accomplishments/Planned Programs Subtotals	4.471	4.164	3.945

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

Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SSN CC0007: Javelin (AAWS-M) Procurement	110.510	72.877	77.163	-	77.163	74.218	72.919	69.044	128.278	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army	Date: February 2015
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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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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u> <u>Base</u>	<u>FY 2016</u> <u>OCO</u>	<u>FY 2016</u> <u>Total</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks
 FY 16-19 procurement funds are to procure missiles only. No CLUs will be procured with these funds. Missles, Lightweight CLUs, and associated training devices will be procured with FY 20 procurement funds.

D. Acquisition Strategy

Javelin Lightweight CLU development will be conducted by 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 15-19 with production beginning FY20. 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 2016 Army **Date:** February 2015

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 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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	0.402		0.377		0.420		-		0.420	5.290	6.489	-
Subtotal			0.000	0.402		0.377		0.420		-		0.420	5.290	6.489	-

Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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			
Multi-purpose Warhead Development	SS/CPFF	JJV/Raytheon/ Lockheed Martin : Orlando, FL/Tucson, AZ	0.000	1.138	Jan 2014	-		-		-		-	-	1.138	-
Lightweight CLU Development	SS/CPFF	JJV/Raytheon/ Lockheed Martin : Orlando, FL/ Tucson,AZ	0.000	-		2.437	Jan 2015	2.750	Jan 2016	-		2.750	44.467	49.654	-
Lightweight CLU Development	MIPR	AMRDEC : Redstone Arsenal, AL	0.000	-		1.350		0.775		-		0.775	-	2.125	-
Trade Studies and Demonstration	MIPR	Redstone Test Center : Redstone Arsenal, AL	0.000	-		-		-		-		-	0.578	0.578	-
Trade Studies and Demonstrations	MIPR	AMRDEC : Redstone Arsenal, AL	0.000	0.291		-		-		-		-	-	0.291	-
Subtotal			0.000	1.429		3.787		3.525		-		3.525	45.045	53.786	-

Remarks
 JV - 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 2016 Army **Date:** February 2015

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Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
MPWH Systems Integration and Test	System Integ & Test																											
MPWH System Qualification/ Live Fire (Flight Testing)	System Qual/ Live Fire																											
(1) MPWH Engineering Change Proposal Approval	ECP Approved																											
LW CLU System Architecture Design	System Architecture Design																											
LW CLU Research/ Design Advanced Materials	Research/ Design Advanced Materials																											
Initiate LW CLU Prototype Software/Firmware	Prototype Software/Firmware																											
LW CLU Fabrication/ System Integration of Prototypes	Fabrication/ System Integration																											
LW CLU Prototype Demonstration	Prototype Demonstration																											
LW CLU Producibility and Environmental Design	Producibility and Environmental Design																											
LW CLU Design Verification Testing	DVT																											
LW CLU Qualification Testing	Qual Tests																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army **Date:** February 2015

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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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MPWH Systems Integration and Test	2	2013	2	2014
MPWH System Qualification/ Live Fire (Flight Testing)	1	2014	4	2014
MPWH Engineering Change Proposal Approval	1	2015	1	2015
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	1	2017
LW CLU Prototype Demonstration	1	2017	1	2017
LW CLU Producibility and Environmental Design	2	2017	2	2018
LW CLU Design Verification Testing	2	2018	1	2019
LW CLU Qualification Testing	2	2019	4	2019