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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army **Date:** March 2014

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0205456A / Lower Tier Air and Missile Defense (AMD)							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	-	-	78.758	-	78.758	64.628	67.461	65.734	117.666	-	394.247
EF9: System Integration and Test	-	-	-	78.758	-	78.758	64.628	67.461	65.734	117.666	-	394.247

The FY 2015 OCO Request will be submitted at a later date.

Note

FY15 project EF9 funds realigned from PE 0605456A PA3.

A. Mission Description and Budget Item Justification

The PATRIOT system includes a family of hardware and software interceptors (GEM, PAC-2, PAC-3/MSE) and Ground Support Equipment. The system is required to continue evaluating the engagement envelope defended area for the fielded application. As software and hardware improvements are developed there is a continuing need for system level modeling, simulations, and tests. Modeling and Simulation allow for performance assessment against all threats that would not be possible in flight tests due to cost, target and range constraints. Flight testing is periodically required for validation of the Modeling and Simulation as well as satisfying ATEC/DOTE requirements of segment improvements.

PATRIOT is an integral part of the overall Air and Missile Defense (AMD) Architecture and enables the incremental fielding of the system capability for Army Air and Missile Defense Battalions.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	78.758	-	78.758
Total Adjustments	-	-	78.758	-	78.758
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	78.758	-	78.758

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army										Date: March 2014		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0205456A / Lower Tier Air and Missile Defense (AMD)				Project (Number/Name) EF9 / System Integration and Test			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
EF9: System Integration and Test	-	-	-	78.758	-	78.758	64.628	67.461	65.734	117.666	-	394.247
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note This is not a new start - continues efforts funded in PAC-3/MSE Missile 0605456A.												
A. Mission Description and Budget Item Justification The PATRIOT system includes a family of hardware and software interceptors (GEM, PAC-2,PAC-3/MSE) and Ground Support Equipment. The system is required to continue evaluating the engagement envelope defended area for the fielded application. As software and hardware improvements are developed there is a continuing need for system level modeling, simulations, and tests. Modeling and Simulation allow for performance assessment against all threats that would not be possible in flight tests due to cost, target and range constraints. Flight testing is periodically required for validation of the Modeling and Simulation as well as satisfying ATEC/DOTE requirements of segment improvements. PATRIOT is an integral part of the overall Air and Missile Defense (AMD) Architecture and enables the incremental fielding of the system capability for Army Air and Missile Defense Battalions.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015	
Title: Program Development, Integration, and Support Description: Funding is provided for the following effort: FY 2015 Plans: Program development, integration of missile and ground system hardware and software in support of PDB-8 activities.									-	-	15.558	
Title: Testing, Targets, Modeling and Simulation Description: Funding is provided for the following effort. FY 2015 Plans: Continues testing program to include utilization of targets/threat simulators, flight simulator, modeling efforts and test activities to support Test and Evaluation Master Plan and system testing/analysis for PDB-8 IOT&E.									-	-	63.200	
Accomplishments/Planned Programs Subtotals									-	-	78.758	

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0205456A / <i>Lower Tier Air and Missile Defense (AMD)</i>	Project (Number/Name) EF9 / <i>System Integration and Test</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks		
D. Acquisition Strategy The design objective of the PATRIOT system is to provide an element of an integrated Ballistic Missile Defense system capable of being modified to cope with the evolving threat. This strategy minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. PAC-3 system development efforts further improve system capabilities against emerging and reactive threats. The PAC-3 Missile Program focuses on developing, fabricating and testing the high velocity, hit to kill, surface to air missile and associated ground support equipment to provide essential increases in battle space, accuracy, lethality and firepower to counter and destroy evolving air defense threats. The missile performance is demonstrated through a series of flight tests and modeling and simulation activities. The PAC-3 MSE program evolves the PAC-3 system providing extended ranges, insensitive munitions enhancements, and greater logistical flexibility. The PAC-3 MSE will be fielded to U.S. PATRIOT units.		
E. Performance Metrics N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army												Date: March 2014			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0205456A / Lower Tier Air and Missile Defense (AMD)				Project (Number/Name) EF9 / System Integration and Test					
Management Services (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	RO	Various : Huntsville, Alabama	0.000	-		-		1.150	Dec 2014	-		1.150	-	1.150	-
Subtotal			0.000	-		-		1.150		-		1.150	-	1.150	-
Product Development (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Integration	MIPR	Various : Huntsville, AL	0.000	-		-		3.550	Dec 2014	-		3.550	-	3.550	-
PAC-3 Product Office	RO	PO : Huntsville, AL	0.000	-		-		0.165	Dec 2014	-		0.165	-	0.165	-
MSE/PAC-3 Raytheon	Various	Multiple : Multiple	0.000	-		-		4.450	Jan 2015	-		4.450	-	4.450	-
SETA Contracts	Various	Multiple : Multiple	0.000	-		-		3.083	Feb 2015	-		3.083	-	3.083	-
U.S. Other Government Agencies (OGAs)	MIPR	Various : Huntsville, Alabama	0.000	-		-		4.310	Dec 2014	-		4.310	-	4.310	-
Subtotal			0.000	-		-		15.558		-		15.558	-	15.558	-
Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Targets/Threats Simulators	MIPR	Various : Huntsville, Alabama	0.000	-		-		25.345	Dec 2014	-		25.345	-	25.345	-
Modeling and Simulation	MIPR	Various : Huntsville, Alabama	0.000	-		-		3.724	Dec 2014	-		3.724	-	3.724	-
Contractor T&E	Various	Multiple : Multiple	0.000	-		-		8.425	Dec 2014	-		8.425	-	8.425	-
Other T&E funding	MIPR	Various : WSMR, NM	0.000	-		-		14.925	Dec 2014	-		14.925	-	14.925	-
Mobile Flight Mission Simulator (MFMS)	SS/FPIF	Raytheon : Massachusetts	0.000	-		-		8.300	Dec 2014	-		8.300	-	8.300	-
PDB 8/9	MIPR	Various : WSMR, NM	0.000	-		-		1.331	Dec 2014	-		1.331	-	1.331	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army												Date: March 2014		
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Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	-		-		62.050		-		62.050	-	62.050	-

	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-	-	78.758	-	78.758	-	78.758	-

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0205456A / Lower Tier Air and Missile Defense (AMD)	Project (Number/Name) EF9 / System Integration and Test	

	FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019			
	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
PATRIOT System Testing and Evaluation																												
PDB 8 Fielding - Radar Digital Processor																												
PDB-8 IOC																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0205456A / <i>Lower Tier Air and Missile Defense (AMD)</i>	Project (Number/Name) EF9 / <i>System Integration and Test</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
PATRIOT System Testing and Evaluation	1	2015	4	2019
PDB 8 Fielding - Radar Digital Processor	4	2014	2	2019
PDB-8 IOC	3	2016	3	2016