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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)							
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	-	358.192	152.516	214.099	-	214.099	227.103	169.575	153.451	33.424	Continuing	Continuing
S40: Army Integrated Air and Missile Defense	-	358.192	152.516	214.099	-	214.099	227.103	169.575	153.451	33.424	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Army Integrated Air and Missile Defense (AIAMD) program is a designated Major Defense Acquisition Program (MDAP).

The AIAMD program is a direct response to the U.S. Army Air and Missile Defense (AMD) Concept and Operational and Organizational (O&O) Plan for the Future Force, the AIAMD System of Systems (SoS) Capabilities Development Document (CDD) and the new Air and Missile Defense Task Force Concept of Operations (CONOPS). The AIAMD Program is uniquely structured to enable the development of an overarching SoS capability with all participating Air Defense Artillery (ADA) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD program achieves this objective by establishing the AIAMD architecture and developing (1) the IAMD Battle Command Systems (IBCS) Engagement Operations Center (EOC) that provides the common Mission Command capability, (2) the Integrated Fire Control Network (IFCN) capability for fire control connectivity and distributed operations, and (3) the common Plug and Fight (P&F) Kits that network enable multiple sensor components, weapon components, and the IBCS EOC.

The AIAMD Program will provide advanced capabilities to the Army and the soldier by allowing transformation to a network-centric system-of-systems capability (also referred to as "Plug and Fight") that integrates AMD sensors and weapons with the IBCS EOC. The AIAMD SoS architecture will enable extended range and non-line-of-sight engagements, to include joint kill chain engagements across the full spectrum of aerial threats, providing fire control quality data to the most appropriate weapon to complete the mission successfully. Further, it will mitigate the coverage gaps and the single points of failure that have plagued AMD defense design in the past. The AIAMD program will provide the user with the ability to train on a single command and control (C2) system that will result in overall training savings. The AIAMD program will also provide the Army with the ability to procure components that will build to established interfaces allowing them to "connect" to the IFCN alleviating the cost of procuring total system capabilities in the future.

The FY18 Initial Operational Capability (IOC) will be delivered through fielding of the IBCS EOC-based AIAMD architecture including the IBCS EOC, Sentinel, and Patriot components connected via an IFCN, working in an integrated manner. Additional capabilities include the incorporation of IBCS functionality into Air Defense Airspace Management (ADAM) Cells, ADA Brigade Headquarters and Army Air and Missile Defense Command (AAMDC) Headquarters. Future additional capabilities include incorporation of Terminal High Altitude Air Defense (THAAD) batteries and composite Indirect Fire Protection Capability (IFPC)/Avenger battalions into the AIAMD architecture.

Funding in FY16 will provide for EMD Developmental Test phase activities, to include preparation and conduct of flight tests, and execution of a Limited User Test (LUT). A MS C decision is scheduled for 4QFY16.

Fielding of the IBCS is the Army Air Defense Artillery User's number one priority. The AIAMD Program is on track to deliver the IOC in FY18.

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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)</i>			R-1 Program Element (Number/Name) PE 0605457A <i>I Army Integrated Air and Missile Defense (AIAMD)</i>		
B. Program Change Summary (\$ in Millions)			FY 2014	FY 2015	FY 2016 Base
Previous President's Budget			369.452	142.584	215.659
Current President's Budget			358.192	152.516	214.099
Total Adjustments			-11.260	9.932	-1.560
• Congressional General Reductions			-0.197	-	-
• Congressional Directed Reductions			-	-	-
• Congressional Rescissions			-	-	-
• Congressional Adds			5.000	10.000	-
• Congressional Directed Transfers			-	-	-
• Reprogrammings			-	-	-
• SBIR/STTR Transfer			-11.968	-	-
• Adjustments to Budget Years			-	-	-1.560
• Other Adjustments 1			-4.095	-	-
• Other Adjustments 2			-	-0.068	-
Congressional Add Details (\$ in Millions, and Includes General Reductions)					
Project: S40: <i>Army Integrated Air and Missile Defense</i>					
Congressional Add: <i>Product Development - Cyber Security</i>					
			FY 2014	FY 2015	
			5.000	10.000	
Congressional Add Subtotals for Project: S40			5.000	10.000	
Congressional Add Totals for all Projects			5.000	10.000	

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Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)				Project (Number/Name) S40 / Army Integrated Air and Missile Defense			
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
S40: Army Integrated Air and Missile Defense	-	358.192	152.516	214.099	-	214.099	227.103	169.575	153.451	33.424	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Army Integrated Air and Missile Defense (AIAMD) Program is a direct response to the U.S. Army Air and Missile Defense (AMD) Concept and Operational and Organizational (O&O) Plan for the Future Force, the AIAMD System of Systems (SoS) Capabilities Development Document (CDD) and the new Air and Missile Defense Task Force Concept of Operations (CONOPS). The AIAMD Program is uniquely structured to enable the development of an overarching SoS capability with all participating Air Defense Artillery (ADA) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD program achieves this objective by establishing the AIAMD architecture and developing (1) the IAMD Battle Command Systems (IBCS) Engagement Operations Center (EOC) that provides the common Mission Command capability, (2) the Integrated Fire Control Network (IFCN) capability for fire control connectivity and distributed operations, and (3) the common Plug and Fight (P&F) Kits that network enable multiple sensor components, weapon components, and the IBCS EOC.

The AIAMD Program will provide advanced capabilities to the Army and the soldier by allowing transformation to a network-centric system-of-systems capability (also referred to as "Plug and Fight") that integrates AMD sensors and weapons with the IBCS EOC. The AIAMD SoS architecture will enable extended range and non-line-of-sight engagements, to include joint kill chain engagements across the full spectrum of aerial threats, providing fire control quality data to the most appropriate weapon to complete the mission successfully. Further, it will mitigate the coverage gaps and the single points of failure that have plagued AMD defense design in the past. The AIAMD program will provide the user with the ability to train on a single command and control (C2) system that will result in overall training savings. The AIAMD program will also provide the Army with the ability to procure components that will build to established interfaces allowing them to "connect" to the IFCN alleviating the cost of procuring total system capabilities in the future.

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Funding in FY16 will provide for EMD Developmental Test phase activities, to include preparation and conduct of flight tests, and execution of a Limited User Test (LUT). A MS C decision is scheduled for 4QFY16.

Fielding of the IBCS is the Army Air Defense Artillery User's number one priority. The AIAMD Program is on track to deliver the IOC in FY18.

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)	Project (Number/Name) S40 / Army Integrated Air and Missile Defense		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
Title: Product Development Description: Funding is provided for the following effort FY 2014 Accomplishments: Continuing product development in support of Prototype Deliveries of EOCs and P&F kits. Risk reduction test. Advanced Electronic Protection Enhancements. FY 2015 Plans: Continuing product development in support of EMD Developmental Test activities and risk reduction test. FY 2016 Plans: Continuing product development in support of EMD Developmental Test activities, preparation and conduct of flight tests, MS C decision, and ongoing risk reduction test.		300.763	100.334	166.165
Title: Government Program Management Description: Funding is provided for the following effort FY 2014 Accomplishments: Government Program Management in support of developing the P&F kits, IFCN, and Modeling and Simulation. Other contracts and OGAs support of the EMD phase. Risk reduction test. FY 2015 Plans: Government Program Management in support of developing the P&F kits, IFCN, and Modeling and Simulation. Other contracts and OGAs support of the EMD phase. Risk reduction test. FY 2016 Plans: Government Program Management in support of developing the P&F kits, IFCN, and Modeling and Simulation. Other contracts and OGAs in support of the EMD Developmental Test activities, preparation and conduct of flight tests, MS C decision, and ongoing risk reduction test.		3.835	4.538	4.568
Title: Test and Evaluation Description: Funding is provided for the following effort FY 2014 Accomplishments:		48.594	37.644	43.366

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B. Accomplishments/Planned Programs (\$ in Millions)										FY 2014	FY 2015	FY 2016
Provides for Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support to include design testing. Risk reduction test. Range activation preparation. Target preparation. FY 2015 Plans: Provides for Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support for EMD Developmental Test. Risk reduction test. Target preparation. FY 2016 Plans: Provides for Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support for EMD Developmental Test activities including preparation and conduct of flight tests. Also provides for Customer Test, Limited User Test/Hardware in the Loop, ongoing risk reduction test, and target preparation.												
Accomplishments/Planned Programs Subtotals										353.192	142.516	214.099
										FY 2014	FY 2015	
Congressional Add: Product Development - Cyber Security										5.000	10.000	
FY 2014 Accomplishments: Cyber security and supply chain management												
FY 2015 Plans: Counter cyber vulnerabilities												
Congressional Adds Subtotals										5.000	10.000	
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	
• PE 0605456A, Project PA3: PE 0605456A, Project PA3, PAC- 3/MSE Missile	86.223	34.991	2.272	-	2.272	-	-	-	-	-	123.486	
• SSN C53101: SSN C53101, MSE Missile	690.401	532.605	414.946	-	414.946	430.622	462.676	493.613	569.488	Continuing	Continuing	
• PE 0205456, Project EF9: PE 0205456, Project EF9, System Integration and Test	-	78.720	64.159	-	64.159	60.214	58.722	75.315	96.392	Continuing	Continuing	

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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 C50016: SSN C50016, Lower Tier Air and Missile Defense (AMD)	-	110.300	115.075	-	115.075	130.366	113.676	123.582	151.421	Continuing	Continuing	
• PE 0102419A, Proj E55: PE 0102419A, Proj E55, Joint Aero Stat Program - EMD Effort	57.976	-	-	-	-	-	-	-	-	-	57.976	
• PE 0604319A, Proj DU3: PE 0604319A, Proj DU3, IFPC2 (FY12 PE0603305A IFPC II- Intercept)	76.559	96.131	155.361	-	155.361	90.323	58.562	43.384	109.495	Continuing	Continuing	
• SSN C62002: IFPC Inc 2-I Block 1 Missile	-	-	-	-	-	-	73.552	123.106	186.480	Continuing	Continuing	
• SSN C62001: IFPC INC 2-I Block 1 System	-	-	-	-	-	19.920	48.076	139.362	175.738	Continuing	Continuing	
• PE 0604820A, Proj E10: PE 0604820A, Proj E10, SENTINEL	1.796	5.221	12.309	-	12.309	11.465	10.971	12.191	30.277	Continuing	Continuing	
• SSN BZ5075: SSN BZ5075, Army IAMD Battle Command System (IBCS)	-	-	20.917	-	20.917	204.513	296.361	375.763	443.637	Continuing	Continuing	
• PE 0604741A, Proj 126, 146, 149: PE 0604741A, Proj 126, 146, 149, Counter-Rockets, Artillery and Mortar (C-RAM)	38.412	15.898	24.569	-	24.569	27.131	20.524	20.018	18.082	Continuing	Continuing	
• SSN AD50700: AIR & MSL Defense Planning & Control Sys	13.090	27.374	28.176	-	28.176	32.443	32.690	33.032	13.366	Continuing	Continuing	
• PE 0202429A, Proj EP8: JLENS COCOM EXERCISE	22.659	43.248	40.565	-	40.565	46.371	6.746	-	-	-	159.589	
Remarks												
This program is an integral part of the Army Integrated Air and Missile Defense (AIAMD) architecture. It provides for development of a common Mission Command (MC) through an open architecture approach allowing for integration of Air Defense Artillery (ADA) components as they become available. This approach enables the AIAMD program to pursue its baseline program independent of fluctuation of other programs.												

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<u>D. Acquisition Strategy</u> The AIAMD acquisition strategy is to deliver an Initial Operational Capability (IOC) in FY18. The capabilities are delivered through the fielding of the IAMD Battle Command System (IBCS) Engagement Operations Center (EOC)-based AIAMD architecture including the IBCS EOC, Sentinel, and Patriot (through a Radar Interface Unit (RIU)) components connected via an Integrated Fire Control Network (IFCN), working in an integrated manner. Additional capabilities include the incorporation of IBCS functionality into Air Defense Airspace Management (ADAM) Cells, ADA Brigade Headquarters and Army Air and Missile Defense Command (AAMDC) Headquarters. Future additional capabilities include incorporation of Terminal High Altitude Area Defense (THAAD) batteries and other Army and Joint net-centric architectures to ensure compatibility. Key principles of the AIAMD acquisition approach are the following: - Migrate from system-based acquisition to component-based acquisition - Use system-of-systems acquisition approach with collaboration among AIAMD, PEO MS, PEO C3T, and Brigade Combat Team (BCT) Modernization Component Project Offices, Missile Defense Agency (MDA), and other Service Project Offices to network enable weapons and sensor components - Develop and procure common Army IAMD Battle Command System (IBCS) Engagement Operations Center (EOC) that replaces seven weapon system unique Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) components - Establish product lines used to evaluate and select, modify and integrate modular open systems hardware (HW) and software (SW) common configuration items - Conduct architecture-based System Engineering, Integration and Test (SEI&T) activities for an incremental fielded configuration of the AIAMD Integrated Fire Control (IFC) Network-compatible IBCS EOC, weapons and sensor system components <u>E. Performance Metrics</u> 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 0605457A / Army Integrated Air and Missile Defense (AIAMD)				Project (Number/Name) S40 / Army Integrated Air and Missile Defense					
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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	TBD	Various : Huntsville, AL	14.189	3.835		4.538		4.568		-		4.568	Continuing	Continuing	Continuing
Subtotal			14.189	3.835		4.538		4.568		-		4.568	-	-	-
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Air Space and Missile Defense (ASMD) System of Systems (SOS) Hardware-in-the- Loop Testbed	C/CPFF	Various : Huntsville, AL and multiple other locations	17.697	-		-		-		-		-	-	17.697	-
AIAMD System Engineering & Integration	C/CPFF	Various : Huntsville, AL	51.531	23.949		21.544		23.772		-		23.772	Continuing	Continuing	Continuing
IAMD Engineering Manufacturing and Development	C/CPIF	Northrop Grumman, Raytheon and Other : Huntsville, AL and Various other locations	561.392	239.645		65.180		126.707		-		126.707	Continuing	Continuing	Continuing
Government Furnished Equipment	TBD	Various : Multiple	12.055	2.338		2.017		3.025		-		3.025	Continuing	Continuing	Continuing
Government Systems Engineering and Logistics	TBD	Various : Huntsville, AL	18.953	13.831		11.593		12.661		-		12.661	Continuing	Continuing	Continuing
Advanced Electronic Protection Enhancement (AEPE)	TBD	Various : TBD	0.000	21.000		-		-		-		-	-	21.000	-
Cyber Security	TBD	Huntsville, AL : TBD	0.000	5.000		10.000		-		-		-	-	15.000	-
Subtotal			661.628	305.763		110.334		166.165		-		166.165	-	-	-

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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 0605457A / Army Integrated Air and Missile Defense (AIAMD)						Project (Number/Name) S40 / Army Integrated Air and Missile Defense			
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 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
Army Evaluation Center/ Developmental Test Command/Operational Test Command	TBD	Various : Multiple Locations	4.063	4.222		3.129		3.143		-		3.143	Continuing	Continuing	Continuing
Modeling & Sim/Joint Interoperability Test Spt	MIPR	SED : Huntsville, AL	56.418	35.705		28.804		34.522		-		34.522	Continuing	Continuing	Continuing
Range Support	TBD	WSMR : White Sands, NM	6.317	8.667		5.711		5.701		-		5.701	Continuing	Continuing	Continuing
Subtotal			66.798	48.594		37.644		43.366		-		43.366	-	-	-
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			742.615	358.192		152.516		214.099		-		214.099	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																Date: February 2015																
Appropriation/Budget Activity								R-1 Program Element (Number/Name)								Project (Number/Name)																
2040 / 5								PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)								S40 / Army Integrated Air and Missile Defense																
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				
Modeling and Simulation																																
EMD Developmental Test																																
Customer Test/Limited User Test (CT, LUT)																																
(1) Product Readiness Review (PRR)																																
(2) Milestone C (MS C)																																
LRIP Developmental Test																																
Force Development Test/Initial Op T&E/HWIL (FDT/IOT&E/HWIL)																																
(3) First Unit Equipped (FUE)																																
(4) Initial Operational Capability (IOC)																																

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

Events	Start		End	
	Quarter	Year	Quarter	Year
Modeling and Simulation	1	2013	4	2020
EMD Developmental Test	1	2015	1	2016
Customer Test/Limited User Test (CT, LUT)	1	2016	3	2016
Product Readiness Review (PRR)	1	2016	1	2016
Milestone C (MS C)	4	2016	4	2016
LRIP Developmental Test	2	2017	4	2017
Force Development Test/Initial Op T&E/HWIL (FDT/IOT&E/HWIL)	4	2017	3	2018
First Unit Equipped (FUE)	3	2017	3	2017
Initial Operational Capability (IOC)	3	2018	3	2018