Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army											DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*					R-1 ITEM NOMENCLATURE PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*							
COST ($ in Millions)	**All Prior Years**	**FY 2012**	**FY 2013#**	**FY 2014 Base**	**FY 2014 OCO ##**	**FY 2014 Total**	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**Cost To Complete**	**Total Cost**
Total Program Element	-	57.050	73.333	18.294	-	18.294	20.898	20.557	18.009	11.015	Continuing	Continuing
126: *FAAD C2 ED*	-	9.443	3.664	3.408	-	3.408	0.000	0.000	0.000	0.000	Continuing	Continuing
146: *Air & Msl Defense Planning Control Sys*	-	15.174	15.381	13.310	-	13.310	16.084	16.114	14.409	7.315	Continuing	Continuing
149: *Counter-Rockets, Artillery & Mortar*	-	32.433	54.288	1.576	-	1.576	4.814	4.443	3.600	3.700	Continuing	Continuing

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

Note

FY12 RDTE reflects a fact-of-life adjustment in the amount of -$25.882 million.

FY14 Base RDTE reflects a fact-of-life adjustment in the amount of -$4.714 million.

A. Mission Description and Budget Item Justification

The Forward Area Air Defense Command and Control (FAAD C2) system collects, digitally processes, and disseminates real-time target cuing and tracking information; the common tactical 3-dimentional air picture; and command, control, and intelligence information to all Air and Missile Defense (AMD) weapon systems (Avenger and Man-Portable Air Defense System (MANPADS)), and joint and combined arms systems. The FAAD C2 system provides alerting data to air defense gunners, airspace battle management, and up-linking of mission operations, thereby enhancing force protection against air and missile attack. Situational awareness and targeting data is provided on threat aircraft, cruise missiles, and unmanned aerial systems (UAS). The FAAD C2 system provides this mission capability by integrating dynamic FAAD C2 engagement operations software with the Multifunctional Information Distribution System (MIDS), Joint Tactical Terminal (JTT), Single Channel Ground and Airborne Radio System (SINCGARS), Enhanced Position Location and Reporting System (EPLRS), Global Positioning System (GPS), Airborne Warning and Control Systems (AWACS), Sentinel radar, and the Mission Command architecture. In addition, FAAD C2 provides interoperability with Joint C2 systems and horizontal integration with PATRIOT and Theater High-Altitude Area Defense (THAAD), and the Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) by fusing sensor data to create a scalable and filterable Single Integrated Air Picture (SIAP) and common tactical picture. The system software is a key component of the Air Defense and Airspace Management (ADAM) Cell that is being fielded to Brigade Combat Teams (BCT), Multi-Functional Support Brigades and Division Headquarters as part of the Army's modularity concept. System software is able to provide target data and engagement commands/status to AMD Battalions. FAAD C2 is also a principal air defense system within the Homeland Defense Program. Soldiers from activated Army National Guard AMD battalions operate the FAAD C2 systems in the National Capital Region and other locations.

The Air and Missile Defense Planning and Control System (AMDPCS) is an Army Objective Force System that provides integration of AMD operations at all echelons. AMDPCS systems are deployed with Air Defense Artillery (ADA) brigades, Army Air and Missile Defense Commands (AAMDCs), and ADAM Cells at the Brigade

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*

Combat Teams (BCTs), Multi Functional Support Brigades and Divisions/Corps. AMDPCS systems also provide air defense capabilities to Homeland Defense systems. The fielding of ADAM Cells is essential in fulfilling the Army's Modularity requirement. ADAM Cells provide the Commander at BCTs, Brigades and Divisions with air defense situational awareness and airspace management capabilities. They also provide the interoperability link with Joint, multinational and coalition forces. AMDPCS components are vital in the transformation of ADA units and the activation of the AMD Battalions and AMD Composite Battalions. AMDPCS has three major components: (1) Air and Missile Defense Workstation (AMDWS) is an automated defense and staff planning tool that displays the common tactical and operational 3-dimentional air picture; (2) Air Defense System Integrator (ADSI) is a communications data link processor and display system that provides near-real time, 3-dimensional, joint airspace situational awareness and fire direction command and control for AMD forces; (3) Army Air Defense shelter configurations use automated data processing equipment, tactical communications, Common Hardware Systems, standard vehicles and tactical power to provide AMD unit commanders and staffs with the capabilities to plan missions, direct forces, and control the airspace.

Counter-Rocket, Artillery, Mortar (C-RAM) is an evolutionary, non-developmental program initiated by the Army Chief of Staff in response to the indirect fire (IDF) threat and a validated Operational Needs Statement (ONS). The primary mission of the C-RAM program is to develop, procure, field, and maintain a system-of-systems (SoS) that can detect RAM launches; provide localized warning to the defended area, with sufficient time for personnel to take appropriate action; intercept rounds in flight, thus preventing damage to ground forces or facilities; and enhance response to and defeat of enemy forces. The C-RAM capability is comprised of a combination of multi-service fielded and non-developmental item (NDI) sensors, command and control (C2) systems, warning systems, and a modified U.S. Navy intercept system (Land-based Phalanx Weapon System (LPWS)), with a commercial off-the-shelf (COTS) wireless local area network. The C-RAM SoS capability is currently deployed at multiple sites in two theaters of operation, providing correlated air and ground pictures, linking units to the Army Mission Command and the Joint Defense Network, and using various forms of communications to provide situ

B. Program Change Summary ($ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	82.932	73.333	23.008	-	23.008
Current President's Budget	57.050	73.333	18.294	-	18.294
Total Adjustments	-25.882	0.000	-4.714	-	-4.714
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-4.714	-	-4.714
• Other Adjustments 1	-25.882	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	PROJECT 126: *FAAD C2 ED*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
126: *FAAD C2 ED*	-	9.443	3.664	3.408	-	3.408	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Forward Area Air Defense Command and Control (FAAD C2) system collects, digitally processes, and disseminates real-time target cuing and tracking information. FAAD C2 provides the common tactical 3-dimensional air picture and command, control, and intelligence information to all Air and Missile Defense (AMD) weapon systems (Avenger and Man-Portable Air Defense System (MANPADS)), and joint and combined arms systems. The FAAD C2 system provides alerting data to air defense gunners, airspace battle management, and up-linking of mission operations, thereby enhancing force protection against air and missile attack. Situational awareness and targeting data is provided on threat aircraft, cruise missiles, and unmanned aerial systems (UAS). The FAAD C2 system provides this mission capability by integrating dynamic FAAD C2 engagement operations software with the Multifunctional Information Distribution System (MIDS), Single Channel Ground and Airborne Radio System (SINCGARS), Enhanced Position Location and Reporting System (EPLRS), Global Positioning System (GPS), Airborne Warning and Control Systems (AWACS), Sentinel radar, and the Mission Command architecture. In addition, FAAD C2 provides interoperability with Joint C2 systems and horizontal integration with PATRIOT, Theater High-Altitude Area Defense (THAAD), and the Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) by fusing sensor data to create a scalable and filterable Single Integrated Air Picture (SIAP) and common tactical picture. The system software is a key component of the Air Defense and Airspace Management (ADAM) Cell that is being fielded to Brigade Combat Teams (BCTs), Multi-Functional Support Brigades and Divisions/ Corps as part of the Army's modularity concept. System software is able to provide target data and engagement commands/status to AMD Battalions. FAAD C2 is also a principal air defense system within the Homeland Defense Program. Soldiers from activated ARNG (Army National Guard) AMD battalions operate the FAAD C2 systems in the National Capital Region and other locations.

Program funding provides a method to rapidly keep pace with leading edge technologies and maintain interoperability and backwards compatibility caused by improvement to other system components (upgrade from common hardware version 3 to 4 and EPLRS enhancements).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: FAAD C2 Software Development	9.443	3.664	3.408
Articles:	0	0	
Description: Support FAAD C2 software development including unique software enhancements in support of Homeland Defense (HLD), software solutions for Host-Based Software Security (HBSS) and Common Operating Environment (COE) mandates, and security accreditation updates. Integrate Improved Sentinel radar. Incorporate IFF modes 1, 2, 3 (active decode), 5/S capabilities, and self-reporting systems.			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	**PROJECT** 126: *FAAD C2 ED*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
FY 2012 Accomplishments: Supported FAAD C2 software development including unique software enhancements in support of Homeland Defense, software solutions for Host-Based Software Security (HBSS) and Common Operating Environment (COE) mandates, and security accreditation updates. Modified software to integrate Improved Sentinel. Continued development of IFF modes 1, 2, 3 (active decode), 5/S capabilities, and self-reporting systems. ***FY 2013 Plans:*** Continue FAAD C2 FY2013 software development including unique software enhancements in support of Homeland Defense. Supporting FAAD C2 software development including: 3-D Common Warfighter Machine Interface (CWMI), IBCS Virtualization Development/Environment and Enhance ABM Simulation. Continue to support implementation of HBSS and IPv6 address scheme. Continue to implement evolving COE requirements for real time systems. Continue security accreditation updates. ***FY 2014 Plans:*** Complete FAAD C2 software requirements for short range air defense capabilities in support of Homeland Defense. Supporting FAAD C2 software development including: Avenger Upgrades for HLD, CWMI 2D/3D Man Machine Interface Enhancements, Enhance the Battlefield Geometries passing between AMDWS & FAAD C2. Continue to support implementation of HBSS and IPv6 address scheme. Continue to implement evolving COE requirements for real time systems. Continue security accreditation updates.			
Accomplishments/Planned Programs Subtotals	9.443	3.664	3.408

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• AD5050: *FAAD C2*	5.030	5.031	4.607		4.607					0.000	14.668

Remarks

D. Acquisition Strategy

The FAAD C2 acquisition strategy relies on evolutionary software development to rapidly meet the demands of air defense battle management/command, control, communications, computers, and intelligence (BM/C4I) requirements, and to keep pace with automated information technologies. The concept of evolutionary software development was followed in Blocks I-IV fieldings. FAAD C2 software provides engagement operational capabilities for the Army's Active and Reserve components.

FAAD C2 is a core component of C-RAM C2. As C-RAM C2 is developed, the interoperability of Air Defense functionality of FAAD C2 must be maintained.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	PROJECT 126: *FAAD C2 ED*

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	PROJECT 126: *FAAD C2 ED*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various:Various	39.790	0.661	Dec 2011	0.292	Dec 2012	0.271	Dec 2013	-		0.271	0.000	41.014	0.000
		Subtotal	39.790	0.661		0.292		0.271		0.000		0.271	0.000	41.014	0.000

Remarks

Basic Air Defense functionality will be maintained under Counter-Rockets, Artillery & Mortar (C-RAM) Development.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development and Engineering	SS/CPIF	Northrop Grumman:Carson, CA	31.226	6.673	Dec 2011	2.554	Feb 2013	2.375	Feb 2014	-		2.375	0.000	42.828	0.000
Software Engineering	Various	Various:Various	22.191	0.654	Dec 2011	0.254	Dec 2012	0.236	Dec 2013	-		0.236	0.000	23.335	0.000
		Subtotal	53.417	7.327		2.808		2.611		0.000		2.611	0.000	66.163	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Certification/Testing	Various	YPG:Yuma, AZ	10.239	1.140	Feb 2012	0.442	Feb 2013	0.412	Feb 2014	-		0.412	0.000	12.233	0.000
Interoperability	Various	CTSF:Ft Hood, TX	2.827	0.315	Dec 2011	0.122	Dec 2012	0.114	Dec 2013	-		0.114	0.000	3.378	0.000
		Subtotal	13.066	1.455		0.564		0.526		0.000		0.526	0.000	15.611	0.000

	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	106.273	9.443		3.664		3.408		0.000		3.408	0.000	122.788	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	**PROJECT** 126: *FAAD C2 ED*

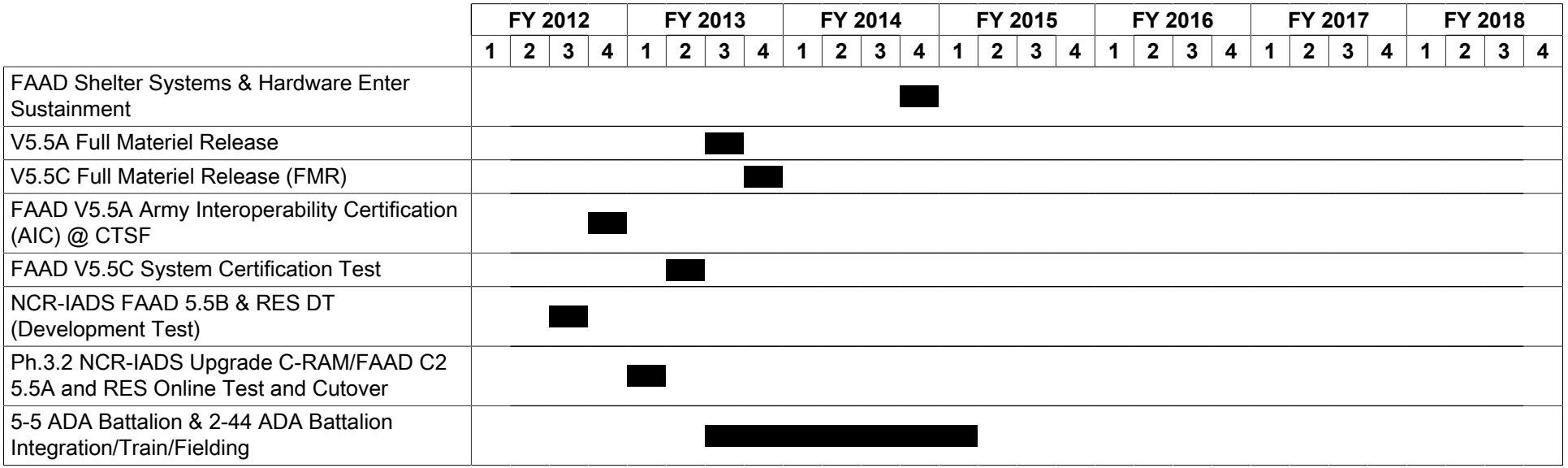

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	**PROJECT** 126: *FAAD C2 ED*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FAAD Shelter Systems & Hardware Enter Sustainment	4	2014	4	2014
V5.5A Full Materiel Release	3	2013	3	2013
V5.5C Full Materiel Release (FMR)	4	2013	4	2013
FAAD V5.5A Army Interoperability Certification (AIC) @ CTSF	4	2012	4	2012
FAAD V5.5C System Certification Test	2	2013	2	2013
NCR-IADS FAAD 5.5B & RES DT (Development Test)	3	2012	3	2012
Ph.3.2 NCR-IADS Upgrade C-RAM/FAAD C2 5.5A and RES Online Test and Cutover	1	2013	1	2013
5-5 ADA Battalion & 2-44 ADA Battalion Integration/Train/Fielding	3	2013	1	2015

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	PROJECT 146: *Air & Msl Defense Planning Control Sys*	

COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
146: *Air & Msl Defense Planning Control Sys*	-	15.174	15.381	13.310	-	13.310	16.084	16.114	14.409	7.315	Continuing	Continuing
Quantity of RDT&E Articles												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Air and Missile Defense Planning and Control System (AMDPCS) is an Army Objective Force System that provides integration of Air and Missile Defense (AMD) operations at all echelons. AMDPCS systems are deployed with Air Defense Artillery (ADA) brigades, Army Air and Missile Defense Commands (AAMDCs), and Air Defense and Airspace Management (ADAM) Cells at the Brigade Combat Teams (BCT's), Multi Functional Support Brigades and Divisions/Corps. AMDPCS systems also provide air defense capabilities to Homeland Defense systems. ADAM Cells provide the Commander at BCTs, Brigades and Divisions with air defense situational awareness and airspace management capabilities. They also provide the interoperability link with Joint, multinational and coalition forces. AMDPCS components are vital in the transformation of ADA units and the activation of the Air & Missile Defense (AMD) Battalions. AMDPCS has three major components: (1) The Air and Missile Defense Workstation (AMDWS) is an automated defense and staff planning tool that displays the common tactical and operational 3-dimensional air picture. AMDWS is the air picture provider for the Army, producing an integrated and correlated air picture at all tactical levels and locations. AMDWS is also an integral component of Integrated Base Defense. AMDWS provides an interoperability link to multinational air defense forces IAW Annex C to a Joint US/NATO Air Defense Agreement; (2) The Air Defense System Integrator (ADSI) is a communications data link processor and display system that provides near-real time, 3-dimensional, joint airspace situational awareness and fire direction command and control for Air and Missile Defense forces; (3) The Army Air Defense shelter configurations use automated data processing equipment, tactical communications, Common Hardware Systems, standard vehicles and tactical power to provide AMD unit commanders and staffs with the capabilities to plan missions, direct forces, and control the airspace.

FY14 funds the development, software engineering, testing and certification of the AMDWS, ADSI, and sheltered subsystem software as described below.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: AMDWS Software Development	10.728	10.870	10.235
Articles:	0	0	
Description: Continue AMDWS development and support of LandWarNet as well as various Common Operating Environments (COEs). Complete AMDWS software engineering and development consistent with Capability Set requirements, evolving the air and missile defense planning and control requirements to a net-centric environment, and fulfilling the air defense force operations capabilities identified in the AMD TRADOC capabilities requirement list. Virtualize AMDWS software development and rehost onto IBCS common hardware systems. Continue integration of the PATRIOT Tactical Planner (PTP), Theater High Altitude Air Defense (THAAD) Tactical Planner, Theater Battle Management Core Systems (TBMCS), and Command, Control, Battle			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	PROJECT 146: *Air & Msl Defense Planning Control Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Management, and Communications (C2BMC) Planner. Support the evolving development of the Force Operations portion of the Integrated Air and Missile Defense (IAMD) System of Systems. ***FY 2012 Accomplishments:*** Continued to develop AMDWS software consistent with Capability Set 13-14 requirements, to include greater net-centricity and AMD TRADOC requirements. Re-hosted AMDWS system on a new OS (Microsoft Windows 7) and improved hardware platform graphics. Developed software solutions for COE mandates. Continued to support interconnectivity with PATRIOT PBD-7 production. Continued to develop integration with C2BMC (replacing Joint Defense Planner (JDP)) and TBMCS. Continued support of JLENS, as well as the ever evolving developmental work with Integrated Air and Missile Defense (IAMD). Supported Tactical Mission Command system collapse effort with the design of thick and thin clients for hosting Air and Missile Defense planning and Engagement information on the Command Post of the Future (CPOF) client. Begin development efforts for CS 15-16/COE v2. ***FY 2013 Plans:*** Complete AMDWS software engineering consistent with Capability Set 13-14 requirements, to include COE, greater net-centricity, and AMD TRADOC requirements. Develop software solutions for COE mandates. Support interconnectivity with PATRIOT PDB-7 production. Finalize and test updated interfaces with C2BMC, THAAD, and PATRIOT. Continue support of JLENS. More fully integrated AMDWS and IBCS. Develop track display enhancements and 3 dimensional model views/modeling and simulation. Complete migration to the 64 bit Windows 7 Operating System. Support efforts for an AMDPCS /IBCS C2 Demo in FY14. Continue development efforts for CS 15-16/COE v2. ***FY 2014 Plans:*** Continue AMDWS software engineering consistent with Capability Set 15-16/COE v2 requirements. Implement evolving COE requirements for Command Post systems, and possibly Real-Time systems. Continue to develop interfaces with IAMD systems. Support AMDPCS / IBCS C2 Demo. Support testing of interfaces with C2BMC and THAAD. Maintain interconnectivity with PATRIOT and JLENS. Complete track display enhancements, 3D model views, and commercial aircraft de-confliction functions. Continue modeling and simulation efforts. Evaluate AMDWS graphics and system performance for the next generation of hardware platforms.			
Title: ADSI Software Engineering and Development	1.366	1.384	0.679
Articles:	0	0	
Description: Continue ADSI software engineering and development in software versions 15, including testing and certification of capabilities for TacView Situational Awareness, with air control support, scenario generation and 3-dimensional capability, Radio Frequency (RF) Link 16, Joint Range Extension Application Protocol (JREAP) A/B/C, Sat-J, Integrated Broadcast Service (IBS),			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	PROJECT 146: *Air & Msl Defense Planning Control Sys*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
External Time Reference (ETR), Situational Awareness Datalink (SADL), Link 11B, FAAD Data Link (FDL) and Serial J. The version 15 software upgrades the ADSI OS to use Windows 7 and Red Hat Linux. ***FY 2012 Accomplishments:*** Continued ADSI software engineering and development in software version 15. Capabilities for version 15 include RF Link 16, JREAP A/B/C, Sat-J, IBS, ETR, SADL, Link 11B, FDL and Serial J. In addition, version 15 software includes TacView, a 3-dimensional situational awareness graphic user interface (GUI). Prepared version 15 software baseline for LandWarNet/COE AIC activities, documentation update activities, and Authority-to-Operate (ATO) activities. ***FY 2013 Plans:*** Continue ADSI software engineering and development in software version 15. Conduct certification activities of version 15 software, including pursuit of ATO and AIC. Continue development/refinement of software in response to any anomalies discovered during certification. Implement updates and refinement in accordance with MIL-STD updates. ***FY 2014 Plans:*** Support testing of ADSI version 15 software. Resolve anomalies identified during test. Begin ADSI version 16 software development. Continue to implement updates in the ADSI baseline as a result of changes in interface systems and MIL-STDs.			
Title: Engineering, Development, Test and Evaluation	2.094	2.123	1.597
Articles:	0	0	
Description: Continue engineering, development, test and evaluation of the AMDPCS shelter subsystem Objective configurations; continue evaluation and definitization of the AMDPCS tactical communications, data processing and vehicle/ shelter/power generation/environmental system block upgrade program for fielded systems. ***FY 2012 Accomplishments:*** Continued engineering, development, test and evaluation of the AMDPCS shelter system Objective configuration; continued evaluation and definitization of the AMDPCS tactical communications, data processing and vehicle/shelter/power generation/ environmental system block upgrade program for fielded systems. Evaluated system modifications to incorporate new Mode 5 level 2 IFF capabilities for correlating aircraft systems. ***FY 2013 Plans:*** Continue engineering, development, test and evaluation of the AMDPCS shelter system Objective configuration; continue evaluation and definitization of the AMDPCS tactical communications upgrades for fielded systems. Support virtualization			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
of AMDPCS systems on other architectures. Incorporating some IBCS functions in an ADAM cell to support IAMD FY14 demonstration. Provide support for an ADAM shelter / IBCS C2 demonstration in FY14. ***FY 2014 Plans:*** Continue evaluation of AMDPCS shelter system configurations. Assess evolving technologies for providing system power and environmental. Evaluate communications, secure wireless, secure VTC and data processing technologies for potential system applications. Evaluate ADAM shelter / IBCS C2 capabilities during FY14 demo. Develop interfaces for demonstrating capabilities of ADAM / IAMD as a System Under Evaluation (SUE) at Network Integration Evaluation (NIE) 15.1.			
Title: Software System Certification Testing, Accreditation, and Approval of Authority-to-Operate (ATO) ***Articles:*** ***Description:*** Continue software system certification testing, accreditation, and approval of ATO for the various software systems; continue Army and Joint integration and interoperability assessments. ***FY 2012 Accomplishments:*** Continued software system certification testing, accreditation, and approval of ATO for the various software systems; continued Army and Joint integration and interoperability assessments. ***FY 2013 Plans:*** Continue software system certification testing, accreditation, and approval of ATO for the various software systems; continue Army and Joint integration and interoperability assessments. ***FY 2014 Plans:*** Continue software system certification testing, accreditation, and approval of ATO for the various software systems; continue Army and Joint integration and interoperability assessments.	0.986 0	1.004 0	0.799
Accomplishments/Planned Programs Subtotals	15.174	15.381	13.310

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• AD5070: *AMDPCS*	90.710	64.144	33.090		33.090	37.816	28.802	40.500	13.000	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	PROJECT 146: *Air & Msl Defense Planning Control Sys*

D. Acquisition Strategy

The acquisition strategy relies on non-development items (NDI) and evolutionary software development to rapidly meet the demands of air defense battle management command, control, communications, computers, and intelligence (BM/C4I) requirements and to keep pace with automated information technologies. The concept of evolutionary software development will be accomplished in a series of AMDWS and ADSI Block releases and upgrades. AMDPCS is being developed for both the Army's Active and Reserve components.

AMDWS is a prime component of C-RAM. It provides the Forward Operating Base (FOB) commander with clearance of fires display and enemy munitions flight paths.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	PROJECT 146: *Air & Msl Defense Planning Control Sys*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various:Various	24.876	2.037	Dec 2011	2.081	Dec 2012	1.685	Dec 2013	-		1.685	Continuing	Continuing	0.000
		Subtotal	24.876	2.037		2.081		1.685		0.000		1.685			0.000

Remarks

Not Applicable

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMDWS Software Development and Engineering	SS/CPFF	Northrop Grumman:Huntsville AL	96.247	9.263	Dec 2011	9.347	Dec 2012	10.134	Dec 2013	-		10.134	Continuing	Continuing	Continuing
ADSI Software Development and Engineering	SS/T&M	Ultra Electronics:Austin, TX	6.868	0.211	Feb 2012	0.219	Mar 2013	0.105	Mar 2014	-		0.105	Continuing	Continuing	Continuing
Developmental Engineering	Various	Various:Various	38.328	3.546	Dec 2011	3.615	Dec 2012	1.238	Dec 2013	-		1.238	Continuing	Continuing	Continuing
		Subtotal	141.443	13.020		13.181		11.477		0.000		11.477			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Certification/Testing	Various	JITC:Ft Huachuca, AZ	0.964	0.070	Feb 2012	0.071	Feb 2013	0.068	Feb 2014	-		0.068	Continuing	Continuing	Continuing
Interoperability Assessment	Various	CTSF:Ft Hood, TX	1.318	0.047	May 2012	0.048	May 2013	0.080	May 2014	-		0.080	Continuing	Continuing	Continuing
		Subtotal	2.282	0.117		0.119		0.148		0.000		0.148			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army			DATE: April 2013
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	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	168.601	15.174		15.381		13.310		0.000		13.310			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	R-1 ITEM NOMENCLATURE PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	PROJECT 146: *Air & Msl Defense Planning Control Sys*

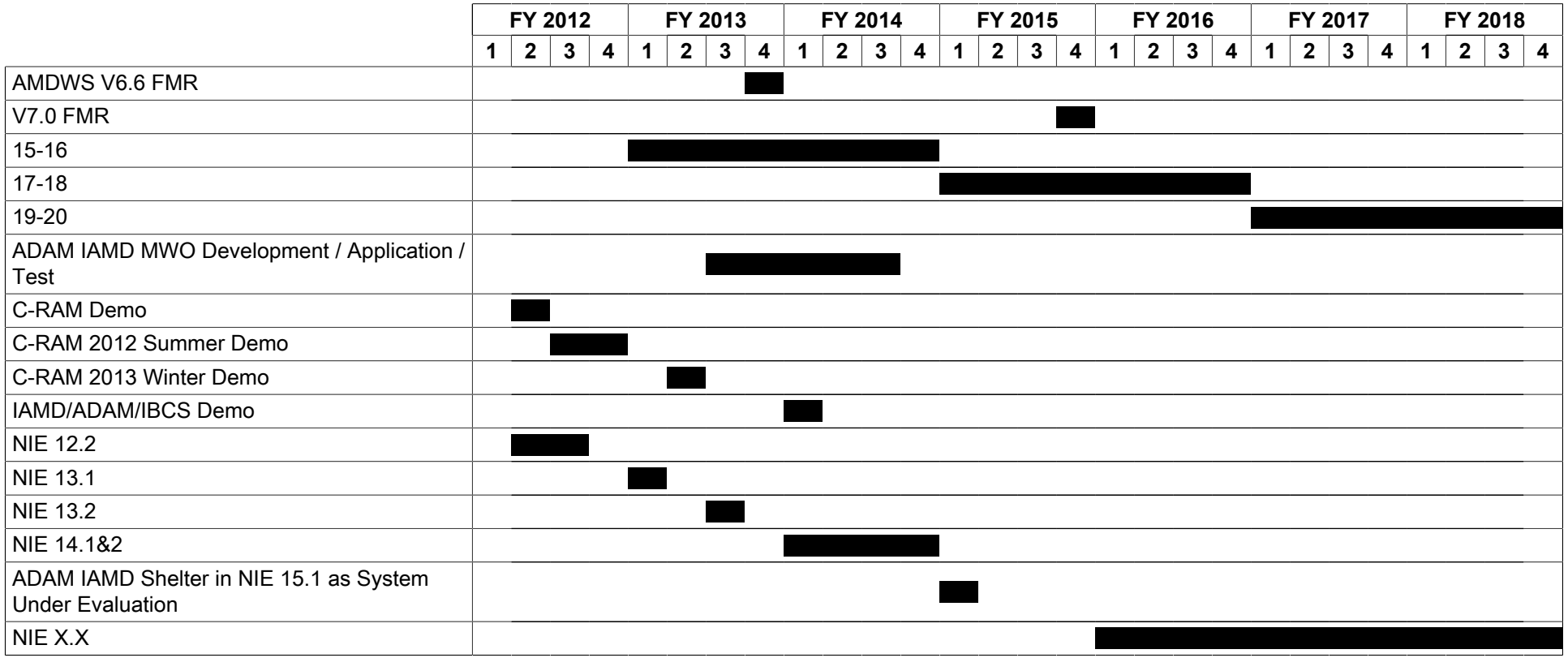

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	**PROJECT** 146: *Air & Msl Defense Planning Control Sys*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AMDWS V6.6 FMR	4	2013	4	2013
V7.0 FMR	4	2015	4	2015
15-16	1	2013	4	2014
17-18	1	2015	4	2016
19-20	1	2017	4	2018
ADAM IAMD MWO Development / Application / Test	3	2013	3	2014
C-RAM Demo	2	2012	2	2012
C-RAM 2012 Summer Demo	3	2012	4	2012
C-RAM 2013 Winter Demo	2	2013	2	2013
IAMD/ADAM/IBCS Demo	1	2014	1	2014
NIE 12.2	2	2012	3	2012
NIE 13.1	1	2013	1	2013
NIE 13.2	3	2013	3	2013
NIE 14.1&2	1	2014	4	2014
ADAM IAMD Shelter in NIE 15.1 as System Under Evaluation	1	2015	1	2015
NIE X.X	1	2016	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army			DATE: April 2013
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COST ($ in Millions)	All Prior Years	FY 2012	FY 2013#	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
149: *Counter-Rockets, Artillery & Mortar*	-	32.433	54.288	1.576	-	1.576	4.814	4.443	3.600	3.700	Continuing	Continuing
Quantity of RDT&E Articles												

FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Counter-Rocket, Artillery, Mortar (C-RAM) is an evolutionary, non-developmental program initiated by the Army Chief of Staff in response to the indirect fire (IDF) threat and a validated Operational Needs Statement (ONS). The primary mission of the C-RAM program is to develop, procure, field, and maintain a system-of-systems (SoS) that can detect RAM launches; provide localized warning to the defended area, with sufficient time for personnel to take appropriate action; intercept rounds in flight, thus preventing damage to ground forces or facilities; and enhance response to and defeat of enemy forces. The C-RAM capability is comprised of a combination of multi-service fielded and non-developmental item (NDI) sensors, command and control (C2) systems, warning systems, and a modified U.S. Navy intercept system (Land-based Phalanx Weapon System (LPWS)), with a commercial off-the-shelf (COTS) wireless local area network. The C-RAM SoS capability is currently deployed at multiple sites in two theaters of operation, providing correlated air and ground pictures, linking units to the Army Mission Command and the Joint Defense Network, and using various forms of communications to provide situational awareness and exchange of timely and accurate information in order to synchronize and optimize automated Shape, Sense, Warn, Intercept, Respond, and Protect decisions.

The deployment of the C-RAM SoS was accomplished through an incremental acquisition process driven by urgent operational needs, theater priorities, and emerging capability requirements to provide a counter-RAM capability to combat forces. The C-RAM SoS approach was initially validated by a Proof of Principle demonstration in December 2004 and has undergone more than 25 Army Test and Evaluation Command (ATEC)-supported operational assessments to incorporate multiple improvements in response to changes in threat tactics and lessons learned. The C-RAM Sense and Warn (S&W) capability is currently deployed to locations in Iraq in support of Department of State (DoS) and Office of Security Cooperation-Iraq (OSC-I) operations and in Afghanistan in support of Operation Enduring Freedom (OEF). In response to a theater requirement tasked to the Rapid Equipping Force (REF), C-RAM installed Mass Notification Systems (MNS) at multiple OEF sites to support base-wide alerts and announcements. Continuing C-RAM SoS improvement efforts, required to meet emerging theater requirements, include C2 software upgrades as well as integration and deployment of Ka and Ku band Multi-Function Radio Frequency System (MFRFS) radars for an enhanced detection capability against stressing threats. Base RDTE funding for FY 2015 and beyond supports maintenance of C2 basic Air Defense functionality. Support of the existing C-RAM SoS capability deployed in theater has been through the Overseas Contingency Operations (OCO) process.

Near-term directed enhancements to the C-RAM SoS capability include use of Army tactical communications rather than commercial systems; integration of Warn functionality into the C2 workstation to reduce complexity and footprint; integration with Unmanned Aircraft Systems (UAS) Universal Ground Control Station (UGCS) for enhanced situational awareness, combat identification, and response options; and dynamic clearance of unplanned fires (DCUF) in conjunction with the Advanced Field Artillery Tactical Data System (AFATDS) for rapid and enhanced response.

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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The C-RAM Program Directorate is also the Materiel Developer for the Accelerated Improved Intercept Initiative (AI3), a rapid development effort to provide an Intercept capability to defeat stressing threats. Current C-RAM Intercept assets (i.e., LPWS) are undergoing reset and will be fielded to composite Indirect Fire Protection Capability (IFPC)/Avenger battalions beginning in 1QFY14.

The Rocket, Artillery, Mortar (RAM) Warn program evolved from the C-RAM program and is a horizontal technology insertion, using current C-RAM warning equipment, to provide early, localized warning to all Maneuver Brigade Combat Teams (BCT). Prior year C-RAM RDTE funding was shared to conduct RAM Warn test activities in support of the Milestone C decision.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: C-RAM C2 Software Development and Enhancements	12.839	10.619	1.576
Articles:	0	0	
Description: Software development effort based on changes in threat, integration of emerging requirements from external PMs (e.g., upgraded sensors), technology insertions (e.g., new missile technologies), and interoperability requirements (e.g., IAMD, comms, and HBSS requirements), to ensure that enhancements to C-RAM C2 software do not negatively impact the performance of the other C-RAM pillars.			
FY 2012 Accomplishments: C-RAM C2 software development contract efforts.			
FY 2013 Plans: C-RAM C2 software development contract efforts.			
FY 2014 Plans: C-RAM C2 software development contract efforts.			
Title: C2 & Warn Improvements - Use of Tactical Radio and Integration of Warn into C2 Workstation	10.681	10.768	0.000
Articles:	0	0	
Description: Replaces commercial off-the-shelf (COTS) radios that link C-RAM C2 to sensors with Joint Tactical Radio System (JTRS) when available and replaces current Warn radios with military spectrum radios, providing enhanced reliability, sustainability, and supportability. Integrates/tests Warn function into current C-RAM C2, eliminating a COTS box.			
FY 2012 Accomplishments: C2 & Warn Improvements - Use of Tactical Radio and Integration of Warn into C2 Workstation			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
C2 & Warn Improvements - Use of Tactical Radio and Integration of Warn into C2 Workstation			
Title: UAS Universal Ground Control Station Integration ***Articles:*** ***Description:*** Integrates C-RAM C2 with the Army UAS Universal Ground Control Station, enabling direct tasking of Shadow, Hunter, and Warrior UAS to the indirect fire point of origin. ***FY 2012 Accomplishments:*** UAS Universal Ground Control Station Integration ***FY 2013 Plans:*** UAS Universal Ground Control Station Integration	4.691 0	3.988 0	0.000
Title: Dynamic Clearance of Fires ***Articles:*** ***Description:*** Provides an automated unplanned fires clearance capability, enabling the safe engagement of targets that would not be possible with current, manual procedures. Provides more rapid clearance of airspace and more effective engagements of unplanned targets. ***FY 2012 Accomplishments:*** Dynamic Clearance of Fires ***FY 2013 Plans:*** Dynamic Clearance of Fires	4.222 0	3.988 0	0.000
Title: Interceptor Enhancements ***Articles:*** ***Description:*** Provides directed enhancements to Intercept capability (e.g., improved tactical mobility, upgun for increased lethality/range, and/or alternative options to the current LPWS capability). ***FY 2013 Plans:*** Provides directed enhancements to Intercept capability (e.g., improved tactical mobility, upgun for increased lethality/range, and/or alternative options to the current LPWS capability).	0.000	24.925 0	0.000
Accomplishments/Planned Programs Subtotals	32.433	54.288	1.576

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• BZ0526: *Counter-Rocket, Artillery & Mortar (C-RAM)*	50.674									0.000	50.674
• H30503: *Rocket, Artillery, Mortar (RAM) Warn (Parent program is Indirect Fire Protection Family Of Systems: BZ0501)*		29.881	11.929		11.929	41.552	43.655	29.451		0.000	156.468
• H30504: *C-RAM Enhancements (Parent program is Indirect Fire Protection Family Of Systems: BZ0501)*			43.425		43.425	30.793	2.970			0.000	77.188

Remarks

D. Acquisition Strategy

The C-RAM program is following an evolutionary acquisition strategy for rapid fielding of mature technology to the user. The objective of the strategy is to balance needs, available technology, and resources to quickly provide a robust capability to engage rockets, artillery, and mortars. The Capability Production Document (CPD) for the LPWS is currently in Department of the Army 3-star staffing. Upon approval of the CPD, LPWS will transition to fielding and sustainment to Army units.

In parallel, the C-RAM Program Directorate is developing an enhanced interceptor, the AI3, which was initiated in response to a U.S. Forces-Iraq (USF-I) Joint Urgent Operational Needs (JUON) to counter slow moving, close-in, and irregular flight pattern rockets and munitions. On 6 March 2012, the Deputy Chief of Staff, G-3/5/7, approved a Directed Requirement (DR) for AI3, which validated the need to continue development of the AI3 capability to achieve a relatively near-term improved C-RAM intercept capability and provide a risk mitigation course of action to support defeat of the threat contained in the JUON. The approach selected for acquisition of the AI3 is to take full advantage of NDI and COTS items. The use of COTS and NDI allows the Government to realize the maximum advantage of continually evolving technologies.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army			DATE: April 2013
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration	Various	Various:Various	18.059	1.386		1.427		1.452		-		1.452	Continuing	Continuing	Continuing
		Subtotal	18.059	1.386		1.427		1.452		0.000		1.452			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Northrop Grumman	SS/CPIF	C-RAM C2 Software Development and Enhancements:Carson, CA	34.570	28.577		21.650	Aug 2013	0.124		-		0.124	Continuing	Continuing	Continuing
Raytheon Company	C/CPIF	Improved Interceptor:Tucson, AZ	77.675	-		23.743		-		-		-	0.000	101.418	0.000
		Subtotal	112.245	28.577		45.393		0.124		0.000		0.124			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	FY 2012 Cost	FY 2012 Award Date	FY 2013 Cost	FY 2013 Award Date	FY 2014 Base Cost	FY 2014 Base Award Date	FY 2014 OCO Cost	FY 2014 OCO Award Date	FY 2014 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OGA	Various	TBD:TBD	15.170	2.470		7.468		-		-		-	Continuing	Continuing	Continuing
		Subtotal	15.170	2.470		7.468		0.000		0.000		0.000			

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	145.474	32.433		54.288		1.576		0.000		1.576			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	**PROJECT** 149: *Counter-Rockets, Artillery & Mortar*

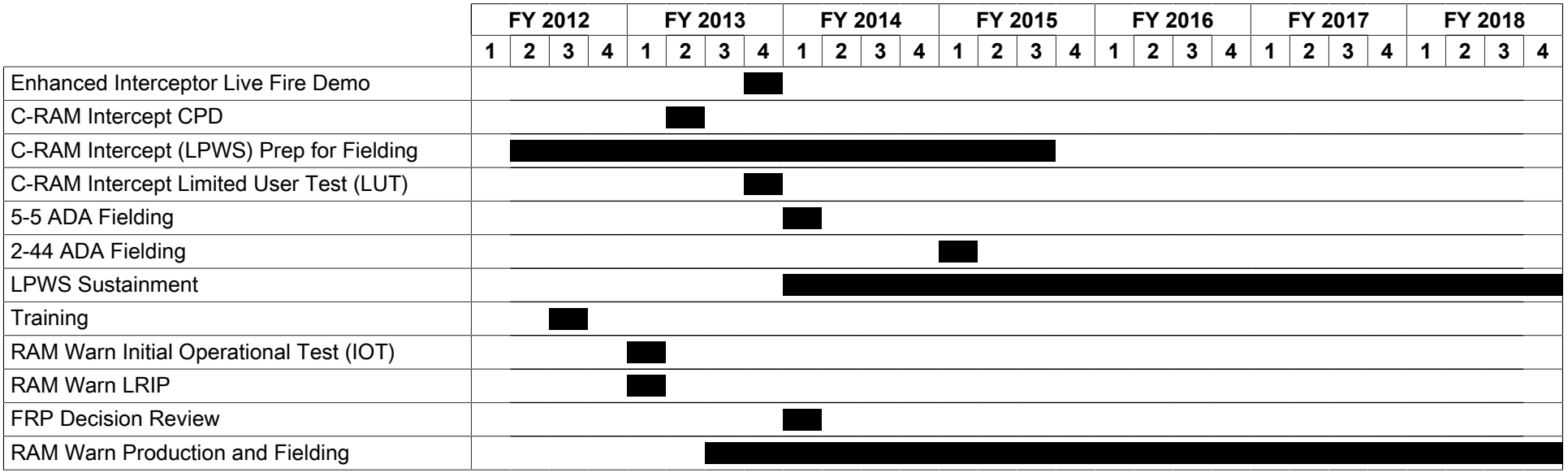

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 5: *System Development & Demonstration (SDD)*	**R-1 ITEM NOMENCLATURE** PE 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	**PROJECT** 149: *Counter-Rockets, Artillery & Mortar*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Enhanced Interceptor Live Fire Demo	4	2013	4	2013
C-RAM Intercept CPD	2	2013	2	2013
C-RAM Intercept (LPWS) Prep for Fielding	2	2012	3	2015
C-RAM Intercept Limited User Test (LUT)	4	2013	4	2013
5-5 ADA Fielding	1	2014	1	2014
2-44 ADA Fielding	1	2015	1	2015
LPWS Sustainment	1	2014	4	2018
Training	3	2012	3	2012
RAM Warn Initial Operational Test (IOT)	1	2013	1	2013
RAM Warn LRIP	1	2013	1	2013
FRP Decision Review	1	2014	1	2014
RAM Warn Production and Fielding	3	2013	4	2018