ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604741A - Air Defense Command, Control and Intel - Eng**

COST (In Thousands)		FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost		72052	41512	21757	21371	20648	23936	31065	0	287298
126	FAAD C2 ED	59491	28487	10465	10034	10054	12055	15882	0	172810
146	AIR & MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)	12561	13025	11292	11337	10594	11881	15183	0	114488

A. Mission Description and Budget Item Justification: The Air and Missile Defense Planning and Control System (AMDPCS) is an Army Objective Force System with Homeland Defense capabilities that allows for the integration of Air and Missile Defense (AMD)operations for Air Defense Artillery (ADA) Brigades at Corps and Echelons above Corps (EAC), the Army Air and Missile Defense Command (AAMDC) Headquarters, at Army, Joint, or Coalition level forces.

The Forward Area Air Defense Command, Control, and Intelligence (FAAD C2I) System provides continuously tailored situational awareness and situational understanding of the battlespace (including data on threat aircraft, cruise missiles and unmanned aerial vehicles (UAVs) to support the planning and decision process at various levels of command. The mission is to collect, digitally process and disseminate real time target cueing and tracking information, common tactical air picture, and C2I information to all Short Range Air Defense (SHORAD) weapons (Avenger, Bradley Linebacker, Manportable Air Defense System (MANPADS), joint and combined arms). Unique FAAD C2 software will provide this mission capability by integrating FAAD C2 engagement operations software with the Joint Digital Radio (JDR), Single Channel Ground and Airborne Radio System (SINCGARS), Enhanced Position Location Reporting System (EPLRS), Global Positioning System (GPS), Airborne Warning and Control System (AWACS), Sentinel and the Army Battle Command System (ABCS) architecture. Provides joint C2 interoperability and horizontal integration with PATRIOT, THAAD, MEADS, JLENS and SHORAD weapon systems by fusing sensor data to create a scalable and filterable single integrated air picture (SIAP) and common operating picture (COP) at Army divisions and below. System software will provide target data and engagement commands/status to the Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM) air defense system. A small portion of RDTE funding is dedicated to SLAMRAAM C2 threshold requirements. FAAD C2 is the first system to digitize for Army Transformation in the First Digitized Division (FDD), III (Digitized) Corps, the Joint Contingency Force (JCF) and the STRYKER Brigade Combat Teams (SBCTs). The FAAD C2 netted and distributed system architecture has been briefed as the basis for a potential BM/C4I Future Combat Ssytem (FCS).

AMDPCS is the backbone of Army Air Defense, operating through the Battle Management/Command, Control, Communications, Computers, and Intelligence (BM/C4I), and the common tactical and operational air picture, (2) Air Defense System Integrator (ADSI), a communications data link processor and display system, provides real time joint airspace situational awareness and fire direction Command and Control (C2) for AMD, and (3) shelter configurations using computer hardware and tactical communications equipment (e.g., JTIDS 2M Terminals, Commanders Tactical Terminal). The AMDPCS enables Active, Passive and Attack Operations coordination and a correlated Single Integrated Air Picture (SIAP) to Army AMD and Joint Forces. The AMDPCS provides the Army Battle Command System (ABCS) architecture and the Army AMD Task Forces (AMDTF) with Joint BM/C4I capability and the Army component of interoperabile Joint Theater Air and Missile Defense (JTAMD) BM/C4I.

In addition, the Air Missile Defense Work Station (AMDWS) supports the Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM) air defense system by providing an automated defense planning capability for deployed units.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604741A - Air Defense Command, Control and Intel - Eng**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	26343	29012	21028
Current BES/President's Budget (FY 2007)	72052	41512	21757
Total Adjustments	45709	12500	729
Congressional Program Reductions		-182	
Congressional Rescissions		-418	
Congressional Increases		13100	
Reprogrammings	45709		
SBIR/STTR Transfer			
Adjustments to Budget Years			729

Change Summary Explanation: Funding - FY 2005: $45.7M increase to support Counter-Rocket, Artillery and Mortar (C-RAM): $37.5M- to test one system in theatre; $8.2M for proof of principle testing.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604741A - Air Defense Command, Control and Intel - Eng**	**126**

COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
126 FAAD C2 ED	59491	28487	10465	10034	10054	12055	15882	0	172810

A. Mission Description and Budget Item Justification: The Forward Area Air Defense Command and Control (FAAD C2) System provides continuously tailored situational awareness and situational understanding of the battlespace (including data on threat aircraft, cruise missiles and unmanned aerial vehicles) to support the air defense planning and decision process at various levels of command. The FAAD C2 mission is to collect, digitally process and disseminate real time target cueing and tracking information, the common tactical air picture, and C2 information to all Maneuver Air and Missile Defense (MAMD) weapons (e.g. - Avenger, Man-Portable Air Defense System, joint and combined arms systems) and to the Air Defense Airspace Management (ADAM) Cells that are being fielded to Brigade Combat Teams (BCT), and Division Headquaters. Dynamic FAAD C2 software provides this mission capability by integrating FAAD C2 engagement operations software with the Multifunctional Information Distribution System (MIDS), the Joint Tactical Terminal (JTT), the Global Positioning System (GPS), the Airborne Warning and Control Systems (AWACS), and the evolving Joint Tactical Radio System (JTRS). FAAD C2 inputs data to the Army Battle Command System (ABCS) via the Air and Missile Defense Workstation (AMDWS), and is expanding linkage to the Net-centric architecture. By integrating with ABCS, FAAD C2 is able to provide the detailed local air picture to higher echelon Army Air Defense, joint and interagency forces. The FAAD C2 system provides joint C2 interoperability and horizontal integration with PATRIOT, THAAD, MEADS, and JLENS by fusing sensor data to create a scalable and filterable Single Integrated Air Picture (SIAP) for joint services and the common tactical air picture at the UEx and UA. The FAAD C2 also provides the interoperability link to multinational air defense forces IAW the Joint US/NATO Low Level Air Picture Interface (LLAPI).

C-RAM is a spiral Initiative Non Developmental program initiated by the Army Chief of Staff in response to Iraqi theatre threat and twice validated theater ONS.

C-RAM is transitioning from IED Task Force Initiative to a Program of Record and is currently in process of creating a formal acquisition strategy documentation support package.

With C-RAM not yet an official Program of Record, C-RAM supplemental funding is currently being provided via the FAADC2 Program Element (AD5050).

FAAD C2 software, which has been integrated into the NORAD Architecture, is the principal Army air defense system deployed in support of the Homeland Security Program in the National Capital Region and other locations. In support of the Global War on Terrorism, FAAD C2 systems are in MAMD units and ADAM Cells deployed to Iraq and Afghanistan. These FAAD systems are critical in providing the local air picture to supported units and higher headquarters. FAAD C2 is also the integrating software that provides target track data and weapon system control for the initial Counter-Rocket, Artillery and Mortar (C-RAM) capability being deployed to Iraq.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue FAAD C2 Block III software development and engineering, including external Beyond Line of Sight/Non Line of Sight BLOS/NLOS, SINCGARS Data Looping, IFF/SIF Mode 5/S development, and SIAP Block 0 & 1 implementation. Software is being fielded to active and reserve component MAMB Battalions, to units in support of Homeland Defense, and to ADAM Cells deployed in support modularity and of OIF/OEF.	8257	9528	7098

Support of FAAD C2 software development for the new AMD Composite Battalions; unique software enhancements in support of Homeland Defense, and security accreditation upgrades. As a complementary Future Combat System (FCS), continue FAADC2 integration and interoperability with FCS Mission Applications. Consistent with DA and DoD Guidance, migrate FAAD C2 Engagement Operations software modules to the Joint Command and Control (JC2) Mission Capability Packages (MCPs).	5481	5859	3367
Completes Proof of Principle Test for C-RAM. Operational test of C-RAM Sense and Warn and Follow-on Intercept test completed. Fields initial Sense, Warn, and Intercept capability (2 guns) to theater.	45753	0	0
Dvelopment of improvements/enhancements, a lower cost interceptor capability, enhancement of Shape and Respond options by integrating existing stovepipe systems.	0	13100	0
Total	59491	28487	10465

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA 2, AD5050 - FAAD C2	187305	39908	21095	28738	31236	33362	33737	CONT	CONT
Spares (BS9702) - FAAD C2	716	877	917	0	0	0	0	CONT	CONT

C. Acquisition Strategy The acquisition strategy relies heavily 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 is being followed and will be accomplished in Blocks I, II, III and IV. Blocks I and II have been completed. FAAD C2 Block III is currently being developed for both the Army's Active and Reserve components.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604741A - Air Defense Command, Control and Intel - Eng

PROJECT
126

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Northrop Grumman/TRW, BLK I	C/CPIF	Carson, CA	176461	0		0		0		0	176461	0
Northrop Grumman/TRW, BLK II	SS/CPIF	Carson, CA	32206	0		0		0		0	32206	0
Northrop Grumman/TRW, BLK III	SS/CPIF	Carson, CA	80975	9535	1Q	10963	1Q	6742	1Q	Continue	0	0
Northrop Grumman/TRW	SS/T&M	Carson, CA	7517	321	1Q	357	1Q	234	1Q	Continue	Continue	0
Program Management Administration	MIPR	Various	27219	2301	2Q	2637	2Q	2033	2Q	Continue	34190	0
Sentinel GBS	MIPR	Huntsville, AL	3791	0		0		0		0	0	0
JTIDS	MIPR	Ft. Monmouth, NJ	6000	0		0		0		Continue	Continue	0
ABCS SE&I	MIPR	Ft Monmouth, NJ	346	0		0		0		0	346	0
Software Engineering	Various	Various	13799	1294	1-4Q	1523		1234		Continue	0	0
C-RAM Sense, Warn & Intercept	Various	Various	0	45753		12688		0		0	0	0
Subtotal:			348314	59204		28168		10243		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
ADATD	MIPR	Ft Bliss, TX	10166	91		100		81		Continue	Continue	0
RTTC	MIPR	WSMR, NM	2710	196		219		141		Continue	Continue	0
Subtotal:			12876	287		319		222		Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604741A - Air Defense Command, Control and Intel - Eng**	**126**

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

Remarks: Not Applicable

Project Total Cost:	**361190**	**59491**		**28487**		**10465**		**0**	**243203**	**0**

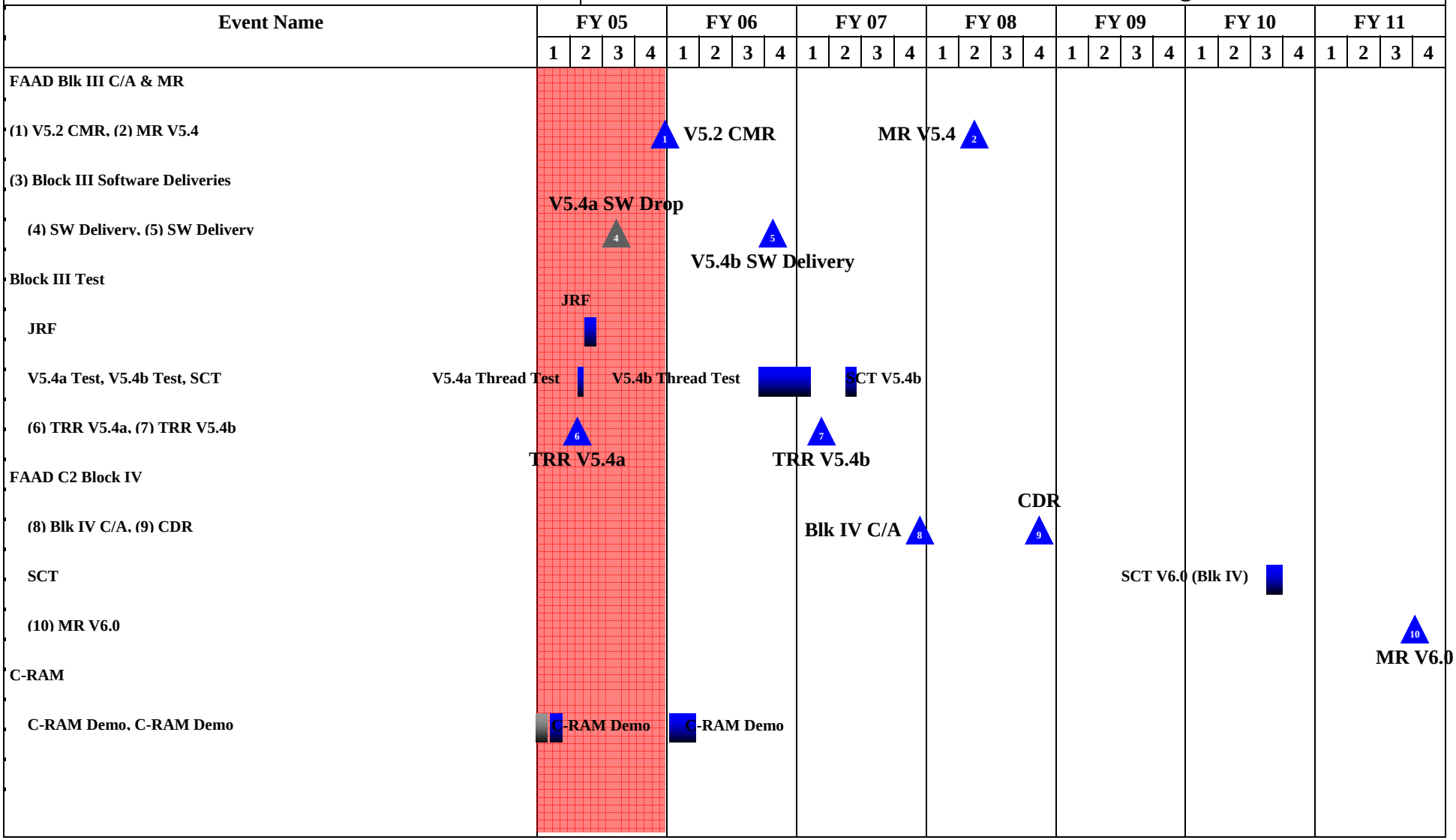
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604741A - Air Defense Command, Control and Intel - Eng

PROJECT
126



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604741A - Air Defense Command, Control and Intel - Eng**	**126**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Materiel Releases		3Q		2Q			4Q
Software Deliveries	3Q	4Q				1Q	
Testing	1-4Q	1-4Q	1-3Q			3Q	3Q
Test Readiness Reviews	2Q		1Q				
Critical Design Review					1Q		
Contract Award			2Q				
C-RAM Demo/Test	1Q	1-3Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604741A - Air Defense Command, Control and Intel - Eng**	**146**

COST (In Thousands)		FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
146	AIR & MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)	12561	13025	11292	11337	10594	11881	15183	0	114488

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), Fires Brigades and Divisions. AMDPCS systems also provide air defense capabilities to Homeland Defense systems.

The development 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 Maneuver Air & Missile Defense (MAMD) Composite 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 air picture. AMDWS provides the Battle Command (BC) capabilities embedded within the Warfighter Mission area. AMDWS is also the Net-centric interface to BC for all components of the AMD force. 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 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.

In support of the Global War on Terrorism (GWOT), AMDWS and ADSIs are vital components of the AMDPCS shelter systems fielded to ADA units, the AAMDC and ADAM Cells that have deployed to Iraq and Afghanistan. In addition, these components have also been integrated into non-ADA higher headquarters such as the Coalition Forces Land Component Command (CFLCC). AMDWS is a critical component in the integration and fielding of a Counter-Rocket, Artillery and Mortar (C-RAM) capability to Operating Bases in Iraq and elsewhere. In support of Homeland Defense missions, the AMDWS has been integrated as the Force Operations component into the Joint Service/Air Force architecture. These AMDPCS systems provide the common tactical air picture, a major component of the Common Operating Picture (COP), and are critical to the development and planning of offensive and defensive operations.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue AMDWS development in support of Software Blocking and Battle Command operational testing and release. Complete AMDWS software engineering and development consistent with Software Block II and III 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 "1 to n" requirements list. Continue AMDWS software development and rehost onto emerging light/laptop common hardware computers. Complete integration of the PATRIOT Air Defense system Tactical Planner, and initiate development of SLAMRAAM, JLENS and MEADS Tactical Planners, Theater Battle Management Core Systems (TBMCS), and Theater Battle	6904	7294	6567

Operations Net-Centric Environment (T-BONE). Continue supporting the Air Force Joint Tactical Air and Missile Defense (JTAMD), and support the evolving development of the Force Operations portion of the Air and Space Missile Defense (ASMD) System of Systems. As a complementary Future Combat System (FCS), initiate AMDWS integration and interoperability with FCS command and control system development. Begin migration of AMDWS software modules to the Joint Command and Control (JC2) Mission Capability Packages (MCPs).			
Continue ADSI software engineering and development in software version 12 upgrades and version 14, including development of capabilities for TAC View Situational Awareness, full TADIL-J, Joint Range Extension Application Protocols (JREAP) for link 16 messages, MIDS TADIL-J connectivity, and Windows XP Pro and LINUX Realtime.	1814	1659	1322
Continue software system certification testing, accreditation, and approval of Authority-to-Operate for the various software systems; continue Army and Joint integration and interoperability assessments.	1077	1247	1020
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.	2766	2825	2383
Total	12561	13025	11292

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA, AD 5070 - AMDPCS	11567	103622	69289	12700	33100	75500	9900	CONT	CONT

C. 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.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604741A - Air Defense Command, Control and Intel - Eng

PROJECT
146

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Northrop Grumman/TRW	SS/CPIF	Huntsville, AL	27557	6712	1Q	7100	1Q	6393	1Q	Continue	0	0
APC, ADSI	SS/CPIF	Austin, TX	4626	379	1Q	361	1Q	225	1Q	Continue	0	0
Program Management Administration	Various	Various	14879	3954	2Q	4023	2Q	3691	2Q	Continue	0	0
ABCS SE&I	MIPR	Ft Monmouth, NJ	619	0		0		0		0	0	0
Software Engineering	Various	Various	3321	1253	2-3Q	1284	2-3Q	847	2-3Q	Continue	0	0
Subtotal:			51002	12298		12768		11156		Continue	0	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Certification	MIPR	JITC, Ft Huachuca, AZ	432	85	1Q	81	1Q	45	1Q	Continue	0	0
Interoperability Assessment	MIPR	Various	618	178	1Q	176	1Q	91	1Q	Continue	0	0
Subtotal:			1050	263		257		136		Continue	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604741A - Air Defense Command, Control and Intel - Eng**	**146**

Remarks: Not Applicable

Project Total Cost:	**52052**	**12561**		**13025**		**11292**		**0**	**0**	**0**

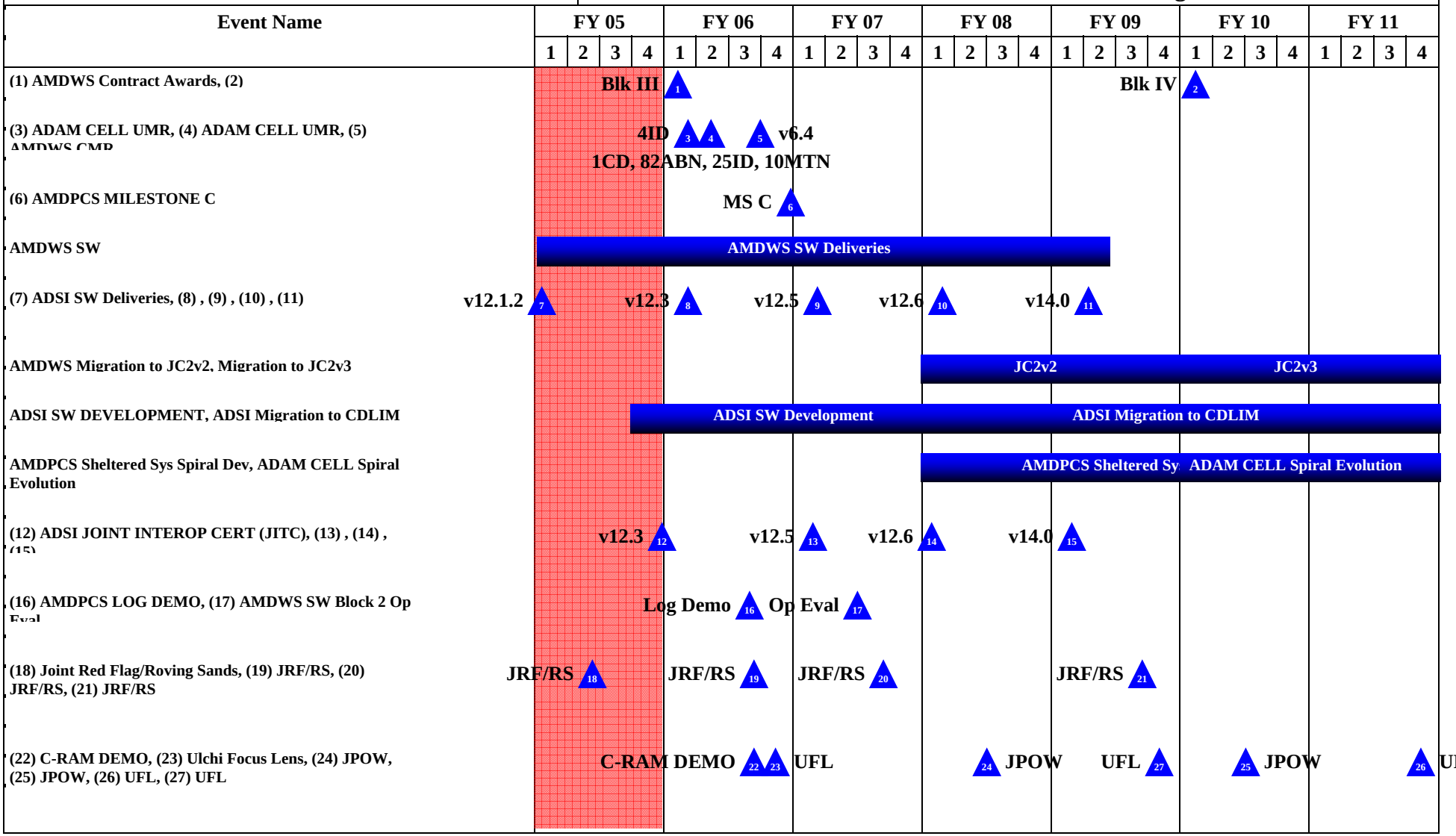
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604741A - Air Defense Command, Control and Intel - Eng

PROJECT
146



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604741A - Air Defense Command, Control and Intel - Eng**	**146**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
AMDWS Contract Awards		1Q				1Q	
ADAM Cell Urgent Materiel Release (4ID)		1Q					
ADAM Cell Urgent Materiel Release (1CD, 82ABN, 25ID, 10MTN)		2Q					
AMDWS v6.4 Conditional Materiel Release		4Q					
AMDPCS Milestone C		4Q					
AMDWS Software (SW) Deliveries	1Q	1Q	1Q	1Q	1Q	1Q	1Q
ADSI SW Deliveries (v12.1.2, 12.3, 12.5, 12.6, 14.0)	1Q	1Q	1Q	1Q	2Q		
AMDWS Migration to JC2v2				1-4Q	1-4Q		
AMDWS Migration to JC2v3						1-4Q	1-4Q
ADSI v12.5 Development	4Q	1-3Q					
ADSI v12.4 Development		1-2Q					
ADSI v12.6 Development		4Q	1-3Q				
ADSI v14.0 Development			4Q	1-2Q			
ADSI Migration to CDLIM				1-4Q	1-4Q	1-4Q	1-4Q
AMDPCS Sheltered Systems Spiral Development				1-4Q	1-4Q	1-4Q	1-4Q
ADAM Cell Spiral Evolution						1-4Q	1-4Q
ADSI Joint Interop Cert (v12.3, v12.5, v12.6, v14.0)		1Q	1Q	1Q	1Q		
AMDPCS Log Demo		3Q					
AMDWS SW Block 2 Operational Eval			3Q				
Joint Red Flag/Roving Sands (ADAM Cell, AMDWS)	2Q	3Q	3Q		3Q		3Q
Ulchi Focus Lens (AMDWS)	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Joint Project Optic Windmill (AMDWS)		3Q		3Q		3Q	
C-RAM Demo		3Q					