ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost		0	121489	91713	87400	116572	99998	71531	0	588703
E88	INTEGRATED FIRE CONTROL AIR MISSILE DEFENSE (CA)	0	42421	0	0	0	0	0	0	42421
S24	ARMY SIAP SYSTEMS ENGINEERING	0	14605	30285	35189	51996	57951	50192	0	240218
S25	ARMY SIAP OPERATIONAL INTEGRATION	0	2784	2859	2928	3006	2913	2910	0	17400
S26	ARMY SIAP IMPLEMENTATION	0	10709	15557	26181	40233	16508	873	0	110061
S27	JOINT DISTRIBUTED ENGINEERING PLANT (JDEP)	0	3652	3344	3416	3401	0	0	0	13813
S32	JOINT SIAP SYSTEM ENGINEERING	0	47318	39668	19686	17936	22626	17556	0	164790

A. Mission Description and Budget Item Justification: This Program Element provides funding for integration of Army Air,Space and Missile Defense (TAMD)System of systems. The Army System of Systems comprises a broad range of systems acquired individually to support complementary missions. To provide this integrated capability, the Program Executive Office, Air, Space and Missile Defense (PEO ASMD) must ensure that operational effectiveness and acquisition efficiency are achieved. Requirements must be integrated within the Army and also address joint needs. The Joint Distributed Engineering Plan (JDEP) will provide the capability to address Joint and Service system interoperability performance in a system-of-systems environment. The funding in this project provides for Army participation in this activity. The Single Integrated Air Picture (SIAP) is the culmination of four services SIAP developmental efforts into an objective joint capability. The engineering will fuse near real time and real time data to support situational awareness, battle management and target engagements across theater air and missile defense systems. The Cruise Missile Defense initiative was approved by the Vice Chief of Staff of the Army in 2003. This program will accelerate the fielding and development of systems to counter the threat of Land Attack Cruise Missiles. The Integrated Fire Control effort will provide for the engineering and development of the battle management algorithms necessary to support and Integrated Fire Control. IFC will provide the integrated capability necessary to counter emering CM threat, through the integration of ground based weapons with elevated sensors and the management of sensor, weapon and network resources. The IFC effort will begin in FY04. This Program Element will integrate requirements within the Army and address joint needs. This program supports the current to future transition path of the Transformation Campaign Plan (TCP).

B. Program Change Summary	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2004)	0	79959	71887
Current Budget (FY 2005 PB)	0	121489	91713
Total Adjustments	0	41530	19826
Congressional program reductions		-1155	
Congressional rescissions			
Congressional increases		42900	
Reprogrammings		-215	
SBIR/STTR Transfer			
Adjustments to Budget Years			19826

Increase in FY04 funding is a result of congressional adds for the following:

Future Army Attack and Missile Defense Systems (FAAMDS) - $3.0 million
Adaptive Integrated Fire Control (IFC) Technology - $1.8 million
Army Architecture Analysis (A3) Program - $5.0 million
Army Allen Airfield Upgrades - $ 33.1 million

Increase in FY05 is a result of Cruise Missile Defense (CMD) Initative. Funding supports the Integrated Fire Control (IFC) capability which is an integral part of CMD.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**E88**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
E88	INTEGRATED FIRE CONTROL AIR MISSILE DEFENSE (CA)	0	42421	0	0	0	0	0	0	42421

A. Mission Description and Budget Item Justification: Funding in this project supports the following efforts:

Science and Technology Analysis and Integration - This project will provide science and technology program development planning, programming and execution in support of air, space and missile defense system engineering. This will allow for development of technology roadmaps, technology insertion plans, schedules and supporting documentation; develop and coordinate technology transition agreements; and facilitate technology transfer from government to industry.

Cruise Missile Defense/Integrated Fire Control - This project will provide for development of Integrated Fire Control Architecture. IFC will provide network centric air defense protection of high value assets, operational flexibility through wide area battle coordination and counters stressing threats at extended ranges.

Army Space Architectural Analysis - PEO ASMD will conduct activities that will define the Army Space Architecture through exploration of alternatives in an integrated simulation environment. An additional activity will develop functions for the exploitation and further integration of Space assets and information with other AMD missions and Army missions.

Arny Allen Airfield Upgrades - This project is required to improve existing airfield facilities at AAAF to provide MDA with improved runway capabilities to enable the safe transport of GBI interceptors and other critical equipment to Fort Greely using C-17, 747 and/or C-5 aircraft. *Note: The Army is initiating a reprogramming request to move funds to Defense-Wide RDTE for proper execution of this effort.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
Science and Technology Analysis and Integration Project	0	2880	0
Cruise Missile Defense – Integrated Fire Control	0	1720	0
Army Space Architectural Analysis	0	4880	0
Army Allen Airfield (AAAF) Upgrades	0	31693	0
SBIR/STTR	0	1248	0

Accomplishments/Planned Program (continued)	FY 2003	FY 2004	FY 2005
Totals	0	42421	0

B. Other Program Funding Summary: Not applicable for this item.

C. Acquisition Strategy: Not applicable for this item.

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
E88

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Science and Technology Analysis and Integration Project	Various		0	0	1-4Q	2980		0		0	2980	0
b . Cruise Missile Defense – Integrated Fire Control	Various		0	0	1-4Q	1780		0		0	1780	0
c . Army Space Architectural Analysis	Various		0	0	1-4Q	4950		0		0	4950	0
d . Army Allen Airfield (AAAF) Upgrades	Various		0	0	1-4Q	32711		0		0	32711	0
Subtotal:			0	0		42421		0		0	42421	0

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
E88

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0
Project Total Cost:			0	0		42421		0		0	42421	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S24**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
S24	ARMY SIAP SYSTEMS ENGINEERING	0	14605	30285	35189	51996	57951	50192	0	240218

A. Mission Description and Budget Item Justification: The establishment of a Single Integrated Air Picture (SIAP) capability is a critical enabler for many Army and Joint mission areas. Army execution of the SIAP effort requires the establishment and maintenance of an Army Air and Missile Defense (AMD) integrated engineering structure, the management and coordination of Army SIAP activities with numerous Army stakeholders and technical management of Army SIAP tasks. SIAP requires the development of Army integration engineering infrastructure to effectively support joint integration engineering activities. Army Systems Engineering effort has three main elements: 1) ensure persistent critical interoperability deficiencies are identified and fixed; 2) support the development and evaluation of the Joint SIAP System Engineering Organization's (JSSEO) SIAP Integrated Architecture Behavior Model; and 3) provide management, staffing and infrastructure for the JSSEO and Army SIAP programs.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
Program Management / Systems Engineering (SIAP)	0	4812	3335
Identify and Fix Critical Interoperability Deficiencies (SIAP)	0	2212	1362
Development and Evaluation of SIAP Integrated Architecture Behavior Model (SIAP)	0	7172	5562
Integrated Fire Control for CMD	0	0	20026
Small Business Innovative Research/Small Business Technology Transfer	0	409	0
Totals	0	14605	30285

B. Other Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
PE 643327, Project S25, SIAP Operational Integration	0	2784	2859	2928	3006	2913	2910	0	17400
PE 643327, Project S26, SIAP Implementation	0	10709	15557	26181	40233	16508	873	0	110061
PE 643327, Project 32, Joint SIAP Systems Engineering	0	47318	39668	19686	17936	22626	17556	0	164790

FY03 funding for this effort in PE 0603308A, Project 99A.

C. Acquisition Strategy: Not applicable for this item.

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S24

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Systems Engineering support for the development and evaluation of the SIAP IABM	Various	Varioius	0	0		7771	1-4Q	5562	1-4Q	Continue	13333	0
b . Identification and development of fixes for critical interoperability deficiencies	Various		0	0		2169	1-4Q	1362	1-4Q	Continue	3531	0
c . Begin development of Integrated Fire Control Capability in support of Cruise Missile Defense	Various	Various	0	0		0		20276	1-4Q	Continue	20276	0
Subtotal:			0	0		9940		27200		Continue	37140	0

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S24

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Program Management, Army JSSEO Staff and Modeling and Simulation	Various	various	0	0		4665	1-4Q	3085	1-4Q	Continue	7750	0
Subtotal:			0	0		4665		3085		Continue	7750	0

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S24

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0
Project Total Cost:			0	0		14605		30285		Continue	44890	0

Schedule Detail (R4a Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S24**

Schedule Detail	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Coordinate and integrate SIAP requirements into Army and Joint systems.		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S25**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
S25	ARMY SIAP OPERATIONAL INTEGRATION	0	2784	2859	2928	3006	2913	2910	0	17400

A. Mission Description and Budget Item Justification: This project funds the coordination of Single Integrated Air Picture (SIAP) requirements with the operational community: verification that operational requirements exist to support technical specifications and any subsequent changes; integration and coordination of army operational requirements for SIAP with the user community; determination of which implementation options/roadmaps provide the maximum warfighting benefits; development of the operational view within the Theater Air and Missile Defense (TAMD) integrated architecture; identification of existing and/or required modeling and simulation capabilities to support SIAP; and integration of hardware-in-the-loop and associated assessments and analysis. These products/tasks are required to ensure a specific, focused effort that integrates SIAP with weapons, sensors, BMC3 and concepts of operations. This program also supports Aviation and Artillery attack operation systems and passive missile defense materiel solutions. This project supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
Continue efforts for coordinating SIAP requirements with TRADOC Directorates of Combat Developments (DCDs) to consolidate SIAP operational requirements across all four pillars, integrating SIAP requirements into current and evolving doctrine, identifying SIAP demonstrations and experiments that showcase Army interoperability, coordinating Army participation in TAMD joint interoperability exercises/demonstrations, assessing the models and simulations that support SIAP and developing the Army position on SIAP-related tools and supporting SIAP Task Force initiatives in resolving Joint Data Network (JDN) fixes. Continue working Blue Force Laydowns for Common Reference Scenarios for analysis. This project was funded in PE 0603305A TR 4 in FY03.	0	2706	2859
Small Business Innovative Research/Small Business Technology Transfer	0	78	0
Totals	0	2784	2859

B. Other Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
PE 603305A/TR4, Army Missile Defense Systems Integration	18562	0	0	0	0	0	0	0	18562
PE 643327, Project S24, Army SIAP Systems Engineering	0	14605	30285	35189	51996	57951	50192	0	240218
PE 643327, Project S26, Army SIAP Implementation	0	10709	15557	26181	40233	16508	873	0	110061
PE 643327, Project S32, Joint SIAP Systems Engineering	0	47318	39668	19686	17936	22626	17556	0	164790

C. Acquisition Strategy: Not applicable for this item.

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S25

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Government support & support contracts	Various	Huntsville, AL	0	0		2784	1-4Q	2859	1-4Q	Continue	5643	0
Subtotal:			0	0		2784		2859		Continue	5643	0

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S25

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0
Project Total Cost:			0	0		2784		2859		Continue	5643	0

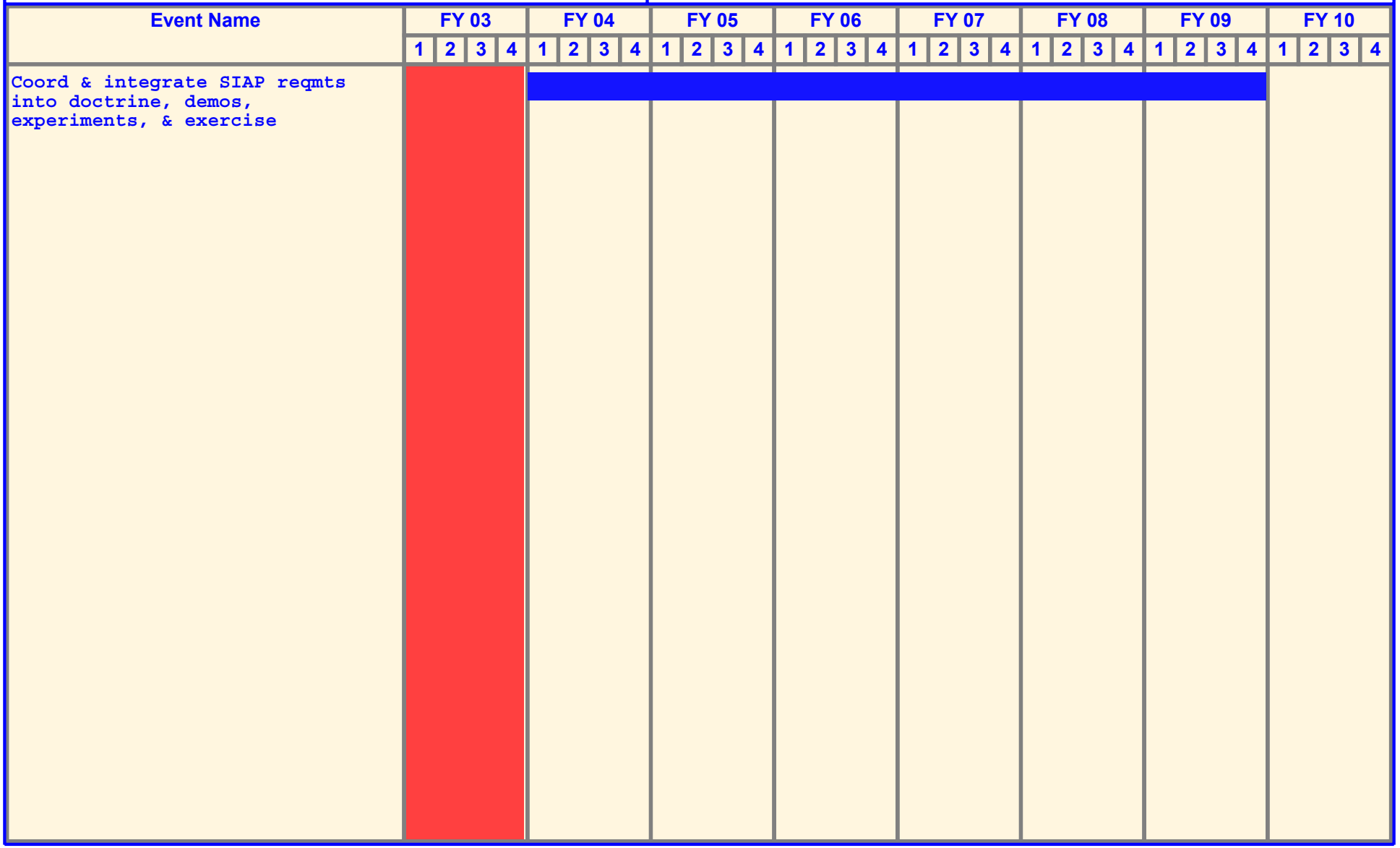
Schedule Profile (R4 Exhibit)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S25



Schedule Detail (R4a Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S25**

Schedule Detail	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Coordinate and integrate SIAP requirements into doctrine, demonstrations, experiments and exercises.		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S26**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
S26	ARMY SIAP IMPLEMENTATION	0	10709	15557	26181	40233	16508	873	0	110061

A. Mission Description and Budget Item Justification: The establishment of a Single Integrated Air Picture (SIAP) capability is a critical enabler for many Army and Joint mission areas. The Joint SIAP System Engineering Organization (JSSEO) has adopted a business model focused on the development of an Integrated Architecture Behavior Model (IABM) as the solution for fixing interoperability deficiencies and delivering future SIAP capabilities. The IABM is being jointly developed by the JSSEO and the Services, with the first delivery scheduled for FY05. Initial deliveries will be implemented in selected Army systems to evaluate the emerging IABM. Additionally, until the high risk in the IABM approach has been adequately mitigated, the identification and implementation of near-term fixes to critical interoperability deficiencies (such as those observed during Operation Iraqi Freedom) will continue to be maintained as a risk mitigation program.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
Perform engineering and analysis to identify and prioritize critical interoperability deficiencies, design and develop engineering fixes for high priority deficiencies, and begin implementation of those fixes.	0	4654	7289
Support the development, evaluation and implementation of the JSSEO IABM. Prepare selected Army system for implementation of IABM Configuration 05.	0	5755	8268
Small Business Innovative Research/Small Business Technology Transfer	0	300	0
Totals	0	10709	15557

B. Other Program Funding Summary	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	To Compl	Total Cost
Army SIAP Systems Engineering (S24)	0	14605	30285	35189	51996	57951	50192	0	240218
Army Operational Integration (S25)	0	2	2859	2928	3006	2913	2910	0	14618
Joint SIAP Systems Engineering (S32)	0	47318	39668	19686	17936	22626	17556	0	164790

C. Acquisition Strategy: Not applicable to this item.

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S26

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Army Critical Interoperability Deficiencies Engineering and Implementation	Various	Various Army Organizations	0	0		5508	1-4Q	7289	1-4Q	0	12797	0
b . SIAP IABM Engineering and Implementation	Various		0	0		5201	1-4Q	8268	4Q	0	13469	0
Subtotal:			0	0		10709		15557		0	26266	0

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S26

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0
Project Total Cost:			0	0		10709		15557		0	26266	0

Schedule Detail (R4a Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S26**

Schedule Detail	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Implement Block Changes in Army Platforms		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S27**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
S27	JOINT DISTRIBUTED ENGINEERING PLANT (JDEP)	0	3652	3344	3416	3401	0	0	0	13813

A. Mission Description and Budget Item Justification: The Joint Distributed Engineering Plant (JDEP) is a Navy concept expanding their land-based Distributed Engineering Plant (DEP) which assesses integration and interoperability problems (air and missile defense) of the fleet. This program will be used to evaluate interoperability of joint forces, test and evaluate interoperability of new acquisition systems, and engineering hardware and software to correct deficiencies and develop new capabilities. The initial focus of this program is directed toward integrated air defense. The program consists of individual combat systems distributed throughout the US connected with ATM telecommunication network(s) and High Level Architecture (HLA) protocols. The JDEP management structure consists of service execution cells. This funding provides for the Army involvement in the overall JDEP program. This effort supports the Current to Future transition path of the Transformation Campaign Plan (TCP).

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
JDPE Test Event Participation	0	1004	1370
Communication Equipment	0	623	696
Operational Center Support: Support during JDEP testing and pre-event simulations.	0	1923	1278
Small Business Innovative Research/Small Business Technology Transfer	0	102	0
Totals	0	3652	3344

B. Other Program Funding Summary: Not applicable for this item.

C. Acquisition Strategy: Not applicable for this item.

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S27

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Development of Sim/Stim for JDEP	Various	Various Army Organizations	0	0		1537	1-4Q	1000	1-4Q	0	2537	0
Subtotal:			0	0		1537		1000		0	2537	0

Remarks: FY02/FY03 costs are reflected in PE 0603305A, TR6

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . DISN/LES and equipment			0	0		685	1-4Q	696	1-4Q	Continue	1381	0
Subtotal:			0	0		685		696		Continue	1381	0

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S27

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . JDEP Test Event Support			0	0		1150	1-4Q	1348	1-4Q	Continue	2498	0
Subtotal:			0	0		1150		1348		Continue	2498	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Army management of JDEP activity	ELMCO	PEO ASMD	0	0	1-4Q	280		300	2-4Q	0	580	0
Subtotal:			0	0		280		300		0	580	0
Project Total Cost:			0	0		3652		3344		Continue	6996	0

Schedule Detail (R4a Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S27**

Schedule Detail	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Provide Army interface into the JDEP initiative.		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S32**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
S32	JOINT SIAP SYSTEM ENGINEERING	0	47318	39668	19686	17936	22626	17556	0	164790

A. Mission Description and Budget Item Justification: A Single Integrated Air Picture (SIAP) is the product of fused, near-real-time data from multiple sensors to allow development of common, continuous, and unambiguous tracks of all airborne objects in the surveillance area. All airborne objects must be detected, tracked, and reported. Each object must have one and only one track identifier and associated characteristics to be incorporated into SIAP. Current systems do not provide this capability.

The Joint SIAP System Engineering Organization (JSSEO) is developing the tools and processes and performing the system engineering that is identifying cost effective fixes to tactical data link systems. Each block will identify specific changes to be implemented in specific systems to improve the Joint Theater Air and Missile Defense Family of Systems SIAP capability. The resulting prioritized fixes will be addressed in incremental engineering blocks and integrated into design architecture for an improved SIAP. These blocks will identify the engineering specifications, supporting rationale (test results and analysis), and acquisition estimate expected to implement the changes. Once approved by the JROC, implementation of these recommended changes are the responsibility of the affected Service programs. Products are the blocks engineering and the integrated architecture that provides the framework for service implementation.

Block 0 addressed the four joint warfighting shortfalls selected for their impact on the JDN, their applicability across the Services, and the engineering maturity reflected by interface change proposals already on record with the Joint Interoperability for Tactical Command and Control system process. The change proposals addressed were: improved correlelation/decorrelation, formation tracking/correlation, identification taxonomy and symbology, and an ID conflict resolution matrix.

Block 1 is addressing a set of Joint Data Net (JDN) deficiencies approved by United States Joint Forces Command to provide warfighter benefits that can be implemented in the near- to mid-term. The capabilities being addressed are: further reduction of dual tracks, improved combat ID capability, improved data sharing (network capacity), and improved air picture for theater ballistic missile defense performance.

Block 2 is targeted at improving efficiency and throughput, and improving line-of-sight capability. The capabilities being addressed are host computer implementation consistency, distributed database consistency improvement, network latency reduction, interface with ground systems, and improving single and multi-unit missile defense performance.

The integrated architecture is captured in an Integrated Architecture Behavior Model (IABM) to give engineers a tool (with operations context and supporting engineering detail) to make decisions about what design functions produce the most cost effective solution in meeting Joint Battle Management Command and Control requirements. By using modern software development techniques, we can specify the performance within nodes and between nodes of a tactical network in a way that will increase machine-to-machine precision and reduce integration costs in current and future combat systems.

Starting in FY04, Joint SIAP funding was transitioned from a Navy Program Element to the Army. The Navy provided funds for the effort during Fiscal Years 2000-2003.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
Block 1 - (FY04) Implementation of Block 1 recommendation in Service systems begins. Monitor and assist the Services in the implementation of Block 1 fixes (Further reduce dual tracks, Improve combat identification capabilities, Improve TBMD performance, complete residual engineering, help with service implementation and Improve data sharing). Monitor technical configuration management of JROC approved solutions for Joint and NATO application. Conduct technical design review with affected weapon systems. (FY05) Implementation of Block 1 fixes in Service systems continues, monitor and assist the Services in the implementation of Block 1 fixes. Establish technical configuration management of JROC approved solutions for Joint and NATO application. Conduct technical design reviews with affected weapon systems. The math and analysis developed under Block 1 feeds into the Integrated Architecture Behavior Model (IABM).	0	5299	1741
Block 2 - (FY04) Refine planning and requirements, and begin engineering analysis for block 2. Translate JROC validated requirements into equipment and computer programs with the Services and JFCOM. Coordinate design and solution development with the Services and Agencies. (FY05) Continue detailed engineering of Block 2 SIAP improvements. Monitor technical configuration management of JROC approved solutions for Joint and NATO application. Conduct technical design reviews with affected weapon systems. The math and analysis developed under Block 1 feeds into the Integrated Architecture Behavior Model (IABM). Products include Host implementation consistency, Database consistency. Network Latency Reduction, Ground System interfaces and Missile Defense performances enhances.	0	10685	12191
Architecture - (FY04) Continue development of the SIAP Integrated Architecture. Expand engineering detail to capture additional tactical functionality and updated Joint TAMD requirements. Ensure that the Integrated Architecture functions as a Joint requirements engineering structure and decision making tool. Continue to update the IABM to increase functional scope and begin aligning with other tactical data functions. (FY05) Complete critical development items of the SIAP Integrated Architecture. Expand engineering detail to capture additional tactical functionality and updated Joint TAMD requirements. Ensure that the Integrated Architecture functions as a Joint requirements engineering structure and decision making tool. Continue to update the behavior models to increase functional scope and begin aligning with other tactical data links. Configuration 05 of the IABM will be delivered in Sept. 2005	0	16639	15672

Accomplishments/Planned Program (continued)	FY 2003	FY 2004	FY 2005
Systems Engineering Tools and Analysis - (FY04) Continue to evaluate the technical and warfighting benefits of the SIAP Block engineering. Update analysis tools to support modeling and simulation capabilities, hardware in the loop laboratories and data reduction of open-air live exercises. Coordinate with Joint Tactical Data Link Certification Agency for SIAP Block architecture conformance certification. Analyze and synchronize implementation opportunities with respect to individual Services and weapon systems. Plot predicted and fielded Joint Tactical Data Line performance capabilities and timelines. (FY05) Continue to evaluate the technical and warfighting benefits of the SIAP block improvements. Update analysis tools to support modeling and simulation capabilities, hardware in the loop laboratories and data reduction of open-air live exercises. Coordinate with Joint Tactical Data Link Certification Agency for SIAP Block performance compliance with appropriate levels of approval. Analyze and synchronize implementation opportunities. Prioritized products include improving Common Time Reference, Data Registration, Tracking Management, Combat identification capabilities, TBMD Debris Reporting, TBMD Data Correlation, TBMD Impact Point Prediction, LINK 16 Throughput and Multi-ink Translation to engage on remote and coordinate engagement data.	0	8850	6366
Program Management - Continue to support SIAP TF infrastructure requirements such as rent, LAN (local area network), telephone, computers, VTC (video teleconferences) center rooms, office equipment, facilities management.	0	4520	3698
Small Business Innovative Research/Small Business Technology Transfer	0	1325	0
Totals	0	47318	39668

B. Other Program Funding Summary: Not applicable for this item.

C. Acquisition Strategy: Not applicable to this project.

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Block 1	MIPR	Army - PEO AMD - Huntsville	0	0		795	1-4Q	261	1-4Q	Continue	1056	0
b . Block 1	MIPR	Navy, Arlington, Virigina	0	0		795	1-4Q	261	1-4Q	Continue	1056	0
c . Block 1	MIPR	Air Force ESC, Boston, MA	0	0		795	1-4Q	261	1-4Q	Continue	1056	0
d . Block 1	MIPR	Marine MARCOR, Quantico, Virginia	0	0		265	1-4Q	87	1-4Q	Continue	352	0
e . Block 1	Various	Various	0	0		4025	1-4Q	871	1-4Q	Continue	4896	0
f . Block 2	MIPR	Army - PEO AMD - Huntsville, Alabama	0	0		1595	1-4Q	1828	1-4Q	Continue	3423	0
g . Block 2	MIPR	Navy, Arlington, Virginia	0	0		1595	1-4Q	1828	1-4Q	Continue	3423	0
h . Block 2	MIPR	Air Force ESC, Boston, MA	0	0		1595	1-4Q	1828	1-4Q	Continue	3423	0
i . Block 2	MIPR	Marine MARCOR, Quanitico, VA	0	0		532	1-4Q	611	1-4Q	Continue	1143	0

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603327A - Air and Missile Defense Systems Engineering

PROJECT
S32

I. Product Development (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
j . Block 2	Various	Various	0	0		5317	1-4Q	6096	1-4Q	Continue	11413	0
k . Architecture	MIPR	Army - PEO AMD, Huntsville, AL	0	0		2496	1-4Q	2351	1-4Q	Continue	4847	0
l . Architecture	MIPR	Navy, Arlington, VA	0	0		2496	1-4Q	2351	1-4Q	Continue	4847	0
m . Architecture	MIPR	Air Force ESC, Boston, MA	0	0		2496	1-4Q	2351	1-4Q	Continue	4847	0
n . Architecture	MIPR	Marine MARCOR, Quantico, VA	0	0		831	1-4Q	784	1-4Q	Continue	1615	0
o . Architecture	Various	Various	0	0		8320	1-4Q	7835	1-4Q	Continue	16155	0
p . Block Development Engineering	MIPR	Army - PEO AMD, Huntsville, AL	0	0		1273	1-4Q	784		Continue	2057	0
q . Block Development Engineering	MIPR	Navy, Arlington, VA	0	0		1273	1-4Q	784		Continue	2057	0
r . Block Development Engineering	MIPR	Air Force ESC, Boston, MA	0	0		1273	1-4Q	784		Continue	2057	0
s . Block Development Engineering	MIPR	Marine MARCOR, Quantico, VA	0	0		424	1-4Q	261		Continue	685	0

ARMY RDT&E COST ANALYSIS(R3)

February 2004

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
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I. Product Development (continued)	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
t . Block Development Engineering	Various	Various	0	0		4534	1-4Q	3753		Continue	8287	0
Subtotal:			0	0		42725		35970		Continue	78695	0

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

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BUDGET ACTIVITY
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0	0		0		0		0	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2003 Cost	FY 2003 Award Date	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Program Management Support	Various		0	0	1-4Q	4593	1-4Q	3698		Continue	8291	0
Subtotal:			0	0		4593		3698		Continue	8291	0
Project Total Cost:			0	0		47318		39668		Continue	86986	0

Schedule Detail (R4a Exhibit)

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S32**

Schedule Detail	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Conduct SIAP Program		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q