ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

COST (In Thousands)		FY 2004 Actual	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		209197	218402	393062	320725	79362	32215	20388	19118	0	Continuing
097	INTEROP & STANDARDS COMPLIANCE EXPERIMENT & TEST	2241	61	0	0	0	0	0	0	0	3950
485	INFO STANDARDS INTEROP ENG/JOINT INTEROP CERT	5422	2479	5236	5495	5106	5023	5111	5414	0	Continuing
589	ARMY SYS ENGINEERING & WARFIGHTING TECH SUP	3223	5777	5442	5819	5498	5309	5516	5511	0	Continuing
591	WPN SYS TECH ARCH (WSTA)	646	561	0	0	0	0	0	0	0	3436
615	JTRS-GROUND DOMAIN INTEGRATION	195047	97570	230330	197878	14465	2590	0	0	0	Continuing
61A	JTRS CLUSTER 5 DEVELOPMENT	0	96378	144654	111533	54293	19293	9761	8193	0	Continuing
629	TACTICAL COMMUNICATIONS SYSTEM - ENGINEERING DEVEL	2618	0	0	0	0	0	0	0	0	15296
F99	NUCLEAR ARMS CTRL TECH - SENSORE NETWORK MONIT	0	15576	7400	0	0	0	0	0	0	22976

A. Mission Description and Budget Item Justification: This Program Element (PE) supports efforts to develop interoperability of Army programs and products, horizontally and vertically for the digitized battlefield. Project D485 supports Information Standards Interoperability Engineering and Joint Interoperability Certification. It provides the critical elements of the Army/Joint Technical Architecture, the mandated standards and communication protocols for Army/Joint ground and air operations, and crucial certification test tools to evaluate systems' interoperability for the Warfighter in support of the Vice Chief of Staff of the Army (VCSA) and Army Acquisition Executive (AAE). It also provides Joint certification testing and certification recommendations to the Joint Chiefs of Staff (JCS) for Army systems. This Army-wide effort directly supports the management, oversight, development, maintenance, and interoperability at the Army enterprise level C4I/IT (Command, Control, Communications, Computers, and Intelligence/Information Technology) architecture efforts required to implement Unit Set Fielding (USF), Software Blocking (SWB) Policy and Army Knowledge Management. Project D589 Army Systems Engineering (ASE) & Warfighter Technical Support provides essential technology expertise on all Systems Engineering and Technical Architecture (SE/TA) matters critical to gain Information Dominance and foster interoperability among all Army systems. The Weapons Systems Technical Architecture (WSTA), Project D591, supports the Army's development and employment of a Real-Time and Embedded Weapon Systems Common Operation Environment (COE). The WSTA Working Group also defines the Defense Information Standards Repository (DISR) specific Weapons Domain profiles and standards (mandatory and emerging) that provide the Department of Defense "building code" which is the foundation for

designing, building, fielding, and supporting interoperable systems in an expedient and cost-effective manner. Project D615 supports the JTRS Cluster 1 program. This project provides for the development of Army Ground Vehicular and Rotary Wing Aircraft platforms. Project D61A supports JTRS Cluster 5 program. This project provides for the development of three radio form factors: Handheld; Manpack (including vehicular mounted); and a family of Small Form Fit (SFF) embedded applications. Project D629, Tactical Communications System - Demonstration Validation, provides for insertion of selected proven communications technology from program elements 0602782A, Project AH92 applied research and 0603008A, advanced technology development, into the next phase of development. The Protocol Investigation for the Next Generation (PING) program evaluates and assesses emerging network protocols, concentrating on the assessment and evaluation of the next generation of Internet Protocol (IPv6) and its protocol dependencies affecting the Army Enterprise Architecture. The Applied Communications and Information Networking (ACIN) project provides for the evaluation and capitalization of emerging commercial communications and networking technologies by leveraging advances, influencing development efforts, influencing standards and delivering technical solutions in support of emerging architectures (JTA-A).

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2005)	219790	173555	135195
Current Budget (FY 2006/2007 PB)	218402	393062	320725
Total Adjustments	-1388	219507	185530
Net of Program/Database Changes			
Congressional Program Reductions	-3312		
Congressional Rescissions			
Congressional Increases	8000		
Reprogrammings			
SBIR/STTR Transfer	-6076		
Adjustments to Budget Years		219507	185530

FY2004 Adjustments: FY 2004 reprogrammings $-6751 JTRS Cluster 1.
FY2005: Congressional increase to project F99.
FY2006 and FY2007: Project 615 - Program increase fully funds JTRS Cluster 1 to the Operational Requirements Document (ORD) 2.3 baseline. Project

F99: ($7331) in FY 2007 to higher priority requirements.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**0□□**

COST (In Thousands)		FY 2004 Actual	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
097	INTEROP & STANDARDS COMPLIANCE EXPERIMENT & TEST	2241	61	0	0	0	0	0	0	0	3950

A. Mission Description and Budget Item Justification: This project within MDEP MU17 was re-aligned begining FY2004 to better support the mission of developing the Army Enterprise Architectures for Information Technology based Command, Control, Computers & Communications (C4/IT) systems. Accordingly in FY2003 all remaining funds in this project were transfered to PE 432612.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
Evaluate and certify IT/C4ISR systems interoperability for FDD, Future Force, Joint experiments to assure compliance with the Technical and System Architectures.	458	0	0	0
Provide systems engineering, integrated support & field support for identification and resolution of systems' discrepancies and inconsistencies identified during evaluations.	979	61	0	0
Evaluate and develop transition plan for the Transport Layer of the Army IT infostructure.	168	0	0	0
Funds not received/ not expected	636	0	0	0
Totals	2241	61	0	0

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

C. Acquisition Strategy: The efforts funded in this project are non-system specific, supporting interoperability across multiple systems. The contractual efforts/services are obtained from existing competitive omnibus support services contracts.

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
0□□

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
a . Labor (Outsourced)	In House	USACECOM, Fort Monmouth, NJ	5290	61		0		0		Continue	5351	0
b . Funds not received			636	0		0		0		0	636	0
Subtotal:			5926	61		0		0		Continue	5987	0

Remarks: All remaining program funds transferred to MU17 PE 432612.
In FY2004, due to Army withholds, this project funding was reduced to $1605K.

II. Support Cost	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
a . System Engineering	C/CPFF	Arinc, Fort Monmouth, NJ	3403	0		0		0		Continue	3403	0
b . Development Support	C/CPFF	CSC, Fort Monmouth, NJ	607	0		0		0		Continue	607	0
c . Development Support	C/CPFF	C3I, Fort Monmouth, NJ	1001	0		0		0		Continue	1001	0
d . Security Engineering	C/CPFF	Nations, Fort Monmouth, NJ	111	0		0		0		Continue	111	0
e . Equipment	FFP	USA CECOM, NJ	753	0		0		0		Continue	753	0
f . Development Support	C/CPFF	BAH, Fort Monmouth, NJ	40	0		0		0		Continue	40	0

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February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
0□□

II. Support Cost (continued)	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
g . Development Support	C/FP	Binary Consulting Inc. Bethesda, MD	887	0		0		0		0	887	0
h . Funds not received			0	0		0		0		0	0	0
Subtotal:			6802	0		0		0		Continue	6802	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
a . Interoperability			0	0		0		0		0	0	0
b . Funds not received			0	0		0		0		0	0	0
Subtotal:			0	0		0		0		0	0	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
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
a . Interoperability			0	0		0		0		0	0	0
b . Funds not received			0	0		0		0		0	0	0
Subtotal:			0	0		0		0		0	0	0
Project Total Cost:			12728	61		0		0		Continue	12789	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**4□5**

	COST (In Thousands)	FY 2004 Actual	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
485	INFO STANDARDS INTEROP ENG/JOINT INTEROP CERT	5422	2479	5236	5495	5106	5023	5111	5414	0	Continuing

A. Mission Description and Budget Item Justification: Focus for this project is to support the engineering or evaluation of commercially-available information technology (IT) tools to develop architecture products Information Technology based Command, Control, Computers, and Communications (C4/IT) systems such as Applications Program Interfaces for Weapons Systems. A significant effort will be on building Army (consistent with DoD) C4/IT technical standards-compliant Army data repositories that are web-accessible but secure. These repositories will be consistent with DoD standards and policies and virtually appear to be a single repository for Army C4/IT architecture products. FY2004-2006 are "transitioning" periods for the Army to incorporate DoD policies, procedures, and constraints.

What follows below is the retention of the original objectives of this project (modified effective FY2006):
To support the Army Vice Chief of Staff (VCSA) and the ARmy Chief Information Officer/G6
as cited in the AEA Master Plan, this initiative fulfills the Clinger-Cohen Act's mandate of developing sound integrated Information Technology (IT) architectures and the Army's Software Blocking Policy. The increased combat power of the Future Force will be dependent on the information superiority of network & knowledge centric warfare and the ability of systems to be fully "interoperable as a member of the joint, multinational, interagency team as well as emerging Future Force (FF) C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) Systems." It identifies and reduces interoperability issues earlier in the life cycle by intra-Army/FF/Joint/combined experiments, certifications, and assessments and through the establishment & sustainment of common standards. This Army wide effort directly supports the management, oversight, development, maintenance, and interoperability of the Army enterprise level C4I/IT architecture efforts required to implement Unit Set Fielding, Software Blocking and Army Knowledge Enterprise Architecture (AKEA). Specifically, this project resources the Army's messaging standards conformance authority in assessing compliance with the Joint Technical Architecture - Army (JTA-A), in meeting the war fighter information exchange requirements and in facilitating their interoperability. Also it resources, in accordance with the JTA-A, the development and maintenance of the following information standards: Variable Message Format (VMF) & Combat Net Radio (CNR) protocol, which support Army/Joint ground operations; Tactical Digital Information Links (TADILs), which support Air Defense operations; and US Message Text Format (USMTF), which support Intel and Commanders operations. It provides the Army's lead for configuration management functions of these standards and test tools at both Army and Joint levels. This project resources the Army participation in joint/allied messaging certification testing & configuration management processes. This project also resources the development and fielding of a suite of four (4) crucial tools which are used throughout the entire Army. These tools which are currently under development will provide the ideal means to: a) validate JTA-A critical messaging and protocol standards; b) improve systems interoperability; c) verify/certify correct system implementations and interpretation to JTA-A; d) sustain/support digitization and transition of fielded systems; e) support Software Blocking and interoperability testing; f) provide Legacy AEA interoperability with Future Combat System (FCS) command and control systems. These crucial tools are critical to the JTA-A Compliance, Certification Testing mission & Interoperability programs.

The task also supports the Army's transformation campaign while mitigating interoperability issues resulting in reducing cost & program slippages. This project also provides the Configuration Management & Control for the Software Blocking (SWB)/USF (Unit Set Fielding).

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
Develop and update architecture standards and protocols necessary to ensure C4ISR systems interoperabilty.	2274	1285	1500	1750
Conduct, chair & manage at multiple Army CCBs (Configuration Control Boards) and represent the Army at multiple Army/Joint CCBs to support existing and evolving warfighter interoperability.	500	500	0	0
Prepare for and Conduct 10 Joint certification testings to include 30 operational systems, and develop over 500 interoperability problem reports for analysis by Joint services	500	0	0	0
Engineer, develop & publish Army Warfighter Information Standards (i.e. XML-USMTF/VMF,Wireless XML, database exchange, etc...) incorporating DoD standards requirements.	23	0	600	600
Identify, analyze, and provide solutions to gaps in technical architecture standards requirements.	158	200	800	945
Develop, publish and execute the SWB CM (Software Blocking Configuration Management) function to include all the configuration items developed by the Requirements WG (Working Group), Architecture WG, Block Execution Management WG and the IPT/SUB-IPTs for all SW Blocks, ISCCB SOP development, & SWB architecture CM web site development.	344	0	0	0
Develop and engineer Army Net-Centric Enterprise Service standards and protocols supporting OSD Global Information Grid messaging requirements and serve as Army focal point for messaging working group.	0	0	1136	1200
Knowledge Center Development - Build & update as necessary access to website repositories for key policies, directives, and architecture products.	857	486	1200	1000
Funds not received	766	8	0	0
Totals	5422	2479	5236	5495

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

C. Acquisition Strategy: The efforts funded in this project are non-system specific, interoperability experimentation, evaluation and certification across multiple systems. The contractual efforts/services are obtained from existing competitive omnibus support service contracts.

ARMY RDT&E COST ANALYSIS(R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
4□5

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
a . Labor (internal Govt)	In House	USACECOM , Fort Monmouth, NJ	11459	1215	1-4Q	0		0		Continue	12674	0
b . Travel	In House	USACECOM, Fort Monmouth, NJ	346	111	1-4Q	0		0		Continue	457	0
Subtotal:			11805	1326		0		0		Continue	13131	0

II. Support Cost	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
a . Development Support	C/CPFF	Arinc, Fort Monmouth, NJ	5699	0		0		0		0	5699	0
b . Development Support	C/CPAF	Telos, Fort Monmouth, NJ	4581	0		0		0		0	4581	0
c . Development Support	C/CPFF	CSC, Fort Monmouth, NJ	1963	0		0		0		0	1963	0
d . Development Support	C/CPFF	C3I, Fort Monmouth, NJ	1374	0		0		0		0	1374	0
e . Development Support	SS/CPFF	Mitre, Fort Monmouth, NJ	280	0		0		0		0	280	0
f . Development Support/ Army Enterprise Applications Architecture	C/T&M	Binary, Ft. Belvoir, VA	46	0		0		0		0	46	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
4□5

II. Support Cost (continued)	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
g . Development Support-Knowledge Center	C/T&M	ITEL, Ft Monmouth, NJ	1198	0		0		0		0	1198	0
h . Development Support	C/T&M	ITEL, Ft Monmouth, NJ	2018	622	2Q	0		0		Continue	2640	0
i . Development Support	C/T&M	Northrop Grumman (SEC SSES), Ft Monmouth, NJ	1973	606	2Q	0		0		Continue	2579	0
j . Technical Support	C/CPFF	TFE, Fort Monmouth, NJ	65	30	2-3Q	0		0		Continue	95	0
k . Technical Support	C/CPFF	Marconi, Fort Monmouth, NJ	183	0		0		0		0	183	0
l . Equipment	In House	USACECOM, NJ	455	30	4Q	0		0		Continue	485	0
m . Equipment (Development Support)	C/FFP	GTE, Tauton, MA	106	0		0		0		0	106	0
n . Telecommunications	MIPR	USASC, Fort Huachuca, AZ	1145	0		0		0		Continue	1145	0
Subtotal:			21086	1288		0		0		Continue	22374	0

Remarks: *Contracts/awards cited are 5 year (1 base + 4 option years). Future award dates imply future competitive award, contractor TBD.

ARMY RDT&E COST ANALYSIS(R3)

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BUDGET ACTIVITY
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PE NUMBER AND TITLE
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PROJECT
4□5

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
Subtotal:			0	0		0		0		0	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	0		0		0		0	0	0

Project Total Cost:			32891	2614		0		0		Continue	35505	0

Schedule Detail (R4a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**4□5**

Schedule Detail	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Knowledge Center Development	1-4Q	1-4Q	1-4Q	1-4Q				
Army Enterprise Architecture Policy Development			1-4Q	1-4Q				
Develop Comfiguration Management Processes		1-4Q	1-4Q	1-4Q				
Engineer Warfighter C4/IT Standards			1-4Q	1-4Q				
Evaluate, experiment, and provide systems integration for testing of ACTD, ATD, & STO's	1-4Q							
Experiment/Evaluate Joint Interoperability in conjunction with CIPO initiatives	1-4Q	1-4Q	1-4Q	1-4Q				
Conduct Joint/Coalition Experiments	1-4Q	1-4Q	1-4Q	1-4Q				
Evaluate, certify systems for and support SDD								
Evaluate, certify systems for and support FDC								
DOTE/JDEP Initial Concept/Evaluation/Experiments								
Develop and maintain Combat Net Radio (CNR)	1-4Q	1-4Q						
Develop and maintain Variable Message Format (VMF) application header standards	1-4Q	1-4Q						
Develop and maintain Variable Message Format (VMF) Standards & standard databases	1-4Q	1-4Q						
Configuration Management and control of TADIL(A,B,J) and USMTF standards	1-4Q	1-4Q						
Represent Army on Army/DOD forums	1-4Q	1-4Q						
Test and promulgate Defense Collaborative Tools Set within the Army	1-4Q	1-4Q						

This project has been realigned in POM FY06-11 to primarily develop Architecture Tools & Repositories.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

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5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**5□□**

	COST (In Thousands)	FY 2004 Actual	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
589	ARMY SYS ENGINEERING & WARFIGHTING TECH SUP	3223	5777	5442	5819	5498	5309	5516	5511	0	Continuing

A. Mission Description and Budget Item Justification: This project has been re-aligned to better support the mission of Army Chief of Staff (CSA) santioned Army Architecture Integration Cell (AAIC) for developing and, implementing and maintianing the Army Enterprise Architecture for Information Technology based Command, Control, Computers & Communications (C4/IT) systems. AAIC mission is to develop standards-based architecture products that are inter-operable within the Army as well as the with Joint, Interagency, and Multinational systems.

Through FY2005, this project funded the Army Systems Engineering Office (ASEO) with the primary mission of developing technical architecture standards without compromising DoD-mandated standards but ensuring Amry C4/IT systems under development are interoperable with legacy systems still utilized by the Army warfighter, which extend from tactical levels up through operational and strategic components of the Army Battle Command Architecture (ABCA), as well as, the institutional portions of the Enterprise to include the Army's Business Enterprise Architecture (BEA). The ASEO supports the Army CIO/G6 Architecture Integration Cell (AIC) in establishing an integrated AEA framework that complements, and is a natural extension of, the GIG-Enterprise Services (GIG-ES). In addition, the ASEO is an essential contributor in the development of the JBMC2 integrated architecture, the Battle Command Architecture, and emerging Cross-Service Integrated Architecture efforts. Each of these architecture definition and integration efforts is elemental to achieving the Army's goal of a NetCentric Future Force.

Previously, the Joint Technical Architecture (JTA) and JTA-Army (JTA-A) have provided the foundation for designing, building, fielding and supporting Joint interoperable Army systems in an expedient and cost-effective manner. With the revision to the standardization process as implemented by the Defense Information Systems Agency (DISA), technical architecture standards are encompassed in the new Defense Information Systems Repository (DISR) program. The Army must participate in DISR to ensure Army requirements are adequately captured and reflected in any new baseline developed by DISA. The ASEO identifies emerging standards in support of the integration of new technologies into existing Army systems and Advanced Technology Demonstrations/Advanced Concept Technology Demonstrations (ATD/ACTDs), enabling the Army transformation to the Future Force. The ASEO's work efforts in the development and maintenance of Army IT standards within the context of DISR guidelines are critical path elements to achieve transformation, increase joint interoperability and to provide the future Army with the ability to fight and win on tomorrow's battlefields. However, the Technical Architecture (TA) alone only provides the foundation for interoperability. Integrated Army Enterprise Architectures (e.g., ABCA, BEA, etc.) fuse Operational, Systems and Technical views of the Army Enterprise into cohesive and manageable information sets that allow the Army to make consequent decisions regarding the Army's inventory of present and future systems and their associated funding. In this area the ASEO specializes in defining and exploiting (through analysis) the relationships between architectural views to provide quantitative answers to complex questions regarding the Army's future capabilities and the roadmap the Army will pursue in realizing them.

The allocated resources fund two support efforts for CIO/G6. First, subsequent to the development of the AKEA (Army Knowledge Enterprise Architecture) Guidance Document, V1.1, the effort has shifted to development of the Army Technical Reference Model (TRM) for information broker/mediation services, and mapping the Army's architecture requirements to DOD Net-Centric Operations and Warfare Reference Model, including NCES (Net-Centric Enterprise Services). Second, support of the design, development, deployment and maintenance of the AAIC (Army Architecture Integration Cell) Web-based Knowledge Center continues with increased development requirements and functionality, including the consolidation of architectural repositories, design of the DARS-A (Defense Architecture Repository-Army) database, and acting as the Army's agent for DARS/DARS-A.

Actual availability for FY2005 was $5759K due to Army withholds.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
Analyze and provide Systems Engineering solutions to fill in gaps identified in C4ISR systems under development as welll as fielded systems.	1240	1480	1850	1989
Identify unique Army requirements to influence Army/DoD Architecture Technical standards under new Defense Inforamtion Systems Repository developed under Defense Information Systems Agency (DISA) oversight. Prior years: Technically influence the development/implementation of Joint Technical Architecture (JTA). FY03 accomplishements: JTA Versions 5.x, 6.0 restructured and aligned with Net-Centric Philosophy and redefined scope and standards applicability. Planned activities: JTA-A version 7.0, 7.5 to include major revision of Information Security Section, to include results of Tactical Imagery Transport Study	183	209	222	185
Investigate information technical standards for inclusion in DSR, Defense Standards Repository. Global Information Grid (GIG) Technologies (XML, JPEG 2000, MPEG 4, IPV6)	90	0	185	185
Research and incorporate applicable emerging open standards-based commercial technologies to influence future force systems. Ensure that open commercial standards adopted by Future Force enabling systems are reflected in the DISR baseline. Maintain subject matter expertise on DISR, Defense Standards Repository Information Technology (IT) standards' mandates to ensure current and future force systems remain interoperable. Ensure a logical and cost-effective evolution of TA baselines while maximizing Joint interoperability.	385	740	740	740
DISR Compliance Requirements -Ensure Program Managers have an executable and effective strategy for implementing the Army/DoD Technical Architecture standards.	0	390	370	555
Validate/Integrate Army Enterprise Technical Views to enable the Army Technical and Systems Architect (CIO/G6) to monitor, assess and control the inherent risks associated with leveraging continuously changing technologies across all Army Enterprise Functionals/PEO/Communities.	370	740	835	925

Accomplishments/Planned Program (continued)	FY 2004	FY 2005	FY 2006	FY 2007
Provide systems analysis for implementing IPv6 protocol across Army to ensure communications/data-sharing/data-exchange between systems. Prior Years: As a result of the decision agreed to at the 19 Dec 02 AKEA, GOSC, direction of MU17 funding was realigned to support the Protocols Investigation for the Next Generation (PING) program. The PING supported current technology agreements with various technology developers such as HP, Cisco, Microsoft and Telecordia. In addition, PING represented the ARMY CIO/G6 office at various ASD (NII)/DoD CIO meetings discussing DoD IPv6 policy and Transisition Planning, participated with JITC at DISA's Def Interop Comm Exercise 2003 (DICE 2003) demonstrating IPv6 interoperability, active member of DoD IPv6 Test Bed evaluating and testing IPv6 benefits and trade-offs, first Army lab participating with North American IPv6 Task Forces MoonV6 initiative, drafted ARmy's Phase I IPv6 Transition plan and initial transition strategy to migrate Army systems and networks to native IPv6 by FY08 in compliance with DoD policy,prepared evaluation criteria for selecting early IPv6 adopter candidates in support of the Army GIO/G6 office, hosted first Army IPv6 data call to collect systems impact information and baseline on Army IPv6 transition plan, provided IPv6 technical guidance and knowledge to the Army acquisition community.	0	370	370	370
Define and exploit (through analysis) the relationships between architectural views to provide quantitative answers to complex questions regarding the Army's future capabilities and the roadmap the Army will pursue in realizing them.	135	370	370	370
Provide systems engineering solutions including techincal architectures for Army systems supporting Joint Blue Force Situational Awareness (JBFSA)initiative	820	1478	500	500
Totals	3223	5777	5442	5819

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 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
5□□

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
a . Government Systems Engineering Support	In House	ASEO, DCTS, PING/03 only, Fort Monmouth, NJ	11755	1978	1-4Q	1978		1978		Continue	17689	0
b . Contract Support	C & T&M-R	C3ISGI, Tinton Falls, NJ	3080	0		0		0		0	3080	0
c . Contract Support	C & FP	TRW, Domingues Hills, CA	1281	0		0		0		0	1281	0
d . Overhead		ASEO/WTS CECOM, Fort Monmouth, NJ	1422	0		0		0		0	1422	0
e . Contract Systems Engineering Support	C & FP	Battelle, Alexandria, VA	354	0		0		0		0	354	0
f . System Development and Integration	MIPR	PEO C3S, PM TOCS, Fort Monmouth, NJ	25	0		0		0		0	25	0
g . Travel	In House	SEC, USACECOM, Ft. Monmouth, NJ	0	20	1-4Q	25		25		0	70	0
h . Development Support	C/T&M	Northrop Grummon (SEC SSES), Ft. Monmouth, NJ	0	50	2Q	50		50		0	150	0
i . Contract Systems Engineering Support	C & FP	SRI, Menlo Park, CA	199	0		0		0		0	199	0
j . Labor (Internal Government)	In House	SEC, USACECOM, Ft. Monmouth, NJ	0	867	1-4Q	867		867		0	2601	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
5□□

I. Product Development (continued)	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
k . Equipment	In House	USACECOM, NJ	0	5	4Q	5		5		0	15	0
l . Development Support	C & TM	ITEL, Mays Landing, NJ	0	50	2Q	50		50		0	150	0
m . Contract Support	C & FP	Lockheed Martin, Eatontown, NJ	545	0		0		0		0	545	0
n . Development Support - Army Enterprise Applications Architecture	C/T&M	Binary, Ft. Belvoir, VA	0	0	3-4Q	0		0		0	0	0
o . Contract Support	C & T&M	SAIC, Falls Church, VA	1811	0		0		0		0	1811	0
p . Contract Systems Engineering Support	C & FP	SRC, Atlanta, GA	612	0		0		0		0	612	0
q . Contract Systems Engineering Support	SS & FP	MITRE, Tinton Falls, NJ	7457	507	1-2Q	167	1Q	299		0	8430	0
r . Systems Engineering and Integration	MIPR	WTS - ISIO CECOM, Fort Monmouth, NJ	2341	0		0		0		Continue	2341	0
s . Contract Support	C & T&M	Datron, Simi Valley, CA	305	0		0		0		0	305	0
t . Contract Systems Engineering Support	C & FP	Gemini, Billerica, MA	137	0	2Q	0		0		0	137	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
5□□

I. Product Development (continued)	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
u . Development Support-Knowledge Center	C & TM	ITEL, Mays Landing, NJ	849	0	2Q	0		0		0	849	0
v . Contract Support	IPA Agreement	Rutgers University, New Brunswick, NJ	528	0		0		0		0	528	0
w . Contract Systems Engineering Support	C & FP	Suntek Systems, Eatontown, NJ	460	0		0		0		0	460	0
x . Contract Systems Engineering Support	C & FP	HTPi, Shrewsbury, NJ	145	0		0		0		0	145	0
y . Contract Support	C & TM	Telos, Eatontown, NJ	24	0		0		0		0	24	0
z . Engineering Support	MIPR	ISEC, Fort Huachuca, AZ	1357	0	1-2Q	0		0		Continue	1357	0
aa. Contract Support	C & TM	PTG/CACI, Eatontown, NJ	26	0		0		0		0	26	0
bb. Contract Systems Engineering Support	C & FP	Litton, Reading, MA	245	0		0	1Q	245		0	490	0
cc. Contract Support	C & FP	CSC, Eatontown, NJ	1746	0		0	1-2Q	0		0	1746	0
dd. Contract Support	C & FP	Janus Research Group, Appling GA	72	0		0		0		0	72	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
5□□

I. Product Development (continued)	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
dd. Contract Support	C & T&M	BAE, Tinton Falls, NJ	139	0		0		0		0	139	0
ee. Contract Systems Engineering Support	C & FPI	CSC, Eatontown, NJ	9883	2220	1-4Q	2220		2220		0	16543	0
ee. Contract Systems Engineering Support	C & FP	GTE/BBN, Cambridge, MA	960	0		0		0		0	960	0
ff. Travel	In House	ASEO/WTS CECOM, Fort Monmouth, NJ	1376	80	1-4Q	80		80		Continue	1616	0
Subtotal:			49134	5777		5442		5819		Continue	66172	0

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
5□□

II. Support Cost	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	0		0		0		0	0	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
Subtotal:			0	0		0		0		0	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	0		0		0		0	0	0

Project Total Cost:			49134	5777		5442		5819		Continue	66172	0

Schedule Detail (R4a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**5□□**

Schedule Detail	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
TA - JTA-A 7.5								
TA - JTA-A 7.0	2Q							
TA - JTA 5.0								
TA - JTA 6.0	1-4Q							
SWB Shortfall Analysis	2Q							
AS-IS, AS-IS Plus Comms Analysis	1-2Q							
SA - 2DFSA (3BDE/1CAV)								
BCT 3 - (172nd Inf Bde) S=STRYKER								
Corps Warfighter								
75 Ranger Reg								
AECP/Homeland Security Support								
Joint /HLS Architecture Development								
04 Joint/HLS Architecture Support								
Juice 03								
Joint Blue Force System Analysis (JBFSA) Technical Views	1-4Q	1-4Q	1-4Q	1-4Q				
TA-JTA-A 8.0		2-4Q						
TA-JTA 7.0		1-3Q						
TRADOC BCBL DCTS Assessment								
DCTS Version 2 Phase 2 Testbed								
Develop C4/IT Architecture Standards			1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

This project has been realigned to primarily develop C4/IT architecture standards.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**5□1**

COST (In Thousands)	FY 2004 Actual	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
591 WPN SYS TECH ARCH (WSTA)	646	561	0	0	0	0	0	0	0	3436

A. Mission Description and Budget Item Justification: Starting FY06, the work in this project will be re-aligned in MDEP MU17 PE 432612 to support the operatonal requirements of implementing Application Program Interfaces (APIs) for C4/IT information exchange between/among weapons systems. This modification was made to better realized with the mission better link with the mission support for the development of the Army Enterprise Architecture as sanctioned by the Army Chief of Staff (CSA) when the Army Architecture Integration Cell (AAIC) was established in January 2004.

Weapons Systems Technical Architecture (WSTA): The Joint Technical Architecture (JTA) and JTA-Army (JTA-A) provides the "building code" foundation for designing, building, fielding, and supporting interoperable systems in an expedient and cost-effective manner. The WSTA identifies new and emerging standards for integration of new technologies into new and existing Army Weapons Systems in support of Army transformation efforts. WSTA defines JTA and JTA-A Weapon Systems domain specific mandatory and emerging standards which are required for these embedded, real-time computing systems use of electronic data and information. It has and will continue to refine the Common Operation Environment (COE) concept insuring that the Army's hard-real-time and embedded requirements for systems are acknowledged.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
Update the WSTA Framework and Define DII COE to WS COE Interfaces	142	150	0	0
Interface Standards Analysis for WS Core Operating Environment (COE)	300	300	0	0
Develop and Test Real-Time Computing WS COE API	0	0	0	0
Develop and Test Real-Time WS COE Mapping Services API	0	0	0	0
Modify and Test Embedded Battle Command (EBC) Software in WS COE	0	0	0	0
Develop, Test, and Certify a WSTA Security Architecture for WS COE	0	0	0	0
Support WS COE Family of API's Transistion to Industry and COTS	0	0	0	0
Develop updates to MIL-STD-2525B (Symbology)	0	0	0	0
Research, Define, and Input Unmanned WS Standards in JTA/JTA-A	0	0	0	0
FY05: Modify support per new Defense Information Systems Repository (DISR) requirements promulated by Defense Information Systems Agency (DISA).Maintain and support update of WS Domain of the JTA/JTA-A	0	109	0	0

Accomplishments/Planned Program (continued)	FY 2004	FY 2005	FY 2006	FY 2007
Engineering and Program Development Infrastructure	0	0	0	0
Funding not received	204	2	0	0
Totals	646	561	0	0

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

This activity receives an intermediate level of support from participation by Program Executive Offices, Program Managers, Commodity Commands, Academia and Industry. This support significantly supplements the overall WSTA activity at an estimated level of three for one in the near term and five or more to one in the out years.

C. Acquisition Strategy: The efforts funded in this project are non-system specific, interoperability experimentation, evaluation and certification across multiple systems. The contractual efforts/services are obtained from existing competitive Omnibus support services contracts.

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
5□1

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
a . USAISSC	MIPR	Fort Belvoir, VA	261	70	2Q	0		0		Continue	331	0
b . TACOM-ARDEC	MIPR	Picatinny Arsenal, NJ	2127	162	1-4Q	0		0		Continue	2289	0
c . TACOM-TARDEC	MIPR	Warren, MI	3588	143	1-4Q	0		0		Continue	3731	0
d . GSA	MIPR	Huntsville, AL	1554	0		0		0		0	1554	0
e . AMCOM-AMRDEC	MIPR	Redstone Arsenal, AL	375	169	1-4Q	0		0		Continue	544	0
f . CSC (Nichols Research Corp)	C/CPFF	Huntsville, AL	171	0		0		0		0	171	0
g . PEO AVN	MIP	Redstone Arsenal, AL	25	0		0		0		0	25	0
Subtotal:			8101	544		0		0		Continue	8645	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
5□1

II. Support Cost	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	0		0		0		0	0	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
Subtotal:			0	0		0		0		0	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
a . AMCOM-AMRDEC	In House	Redstone Arsenal, AL	780	41	1-4Q	0		0		Continue	821	Continue
b . Funding not received at AMCOM			1040	0		0		0		0	1040	0
Subtotal:			1820	41		0		0		Continue	1861	Continue
Project Total Cost:			9921	585		0		0		Continue	10506	Continue

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**615**

COST (In Thousands)		FY 2004 Actual	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
615	JTRS-GROUND DOMAIN INTEGRATION	195047	97570	230330	197878	14465	2590	0	0	0	Continuing

A. Mission Description and Budget Item Justification: Project D615 supports the Joint Tactical Radio System (JTRS)- Cluster 1 and Cluster 5 RDTE development efforts. The Cluster 1 JTRS-Army RDTE program will enable the Army to acquire and field a family of affordable, scaleable, high capacity, interoperable radio sets based on a common JTRS Software Communications Architecture (SCA). The JTRS is a key enabler of the Army Transformation and will provide critical communications capabilities across the spectrum of operations in a Joint environment. The Cluster 1 JTRS is a Joint program encompassing the incorporation of the JTRS Joint Program Office (JPO) developed waveforms (porting), US Army Ground Vehicular and Rotary Wing Aircraft, US Air Force Tactical Control Party (TACP), and US Marine Corps applications. This project supports RDT&E efforts for the JTRS Cluster 1 program while the Services provide funding for their unique requirements. In FY04, funding is shared with the Cluster 5 program. Cluster 5 encompasses the development and design of three form factors: Handheld, Manpack (including vehicular mounted), and a family of Small Form Fit (SFF) embedded applications to support PM UA (Future Combat System) and Land Warrior program capabilities and timelines. Beginning in FY05, all Cluster 5 funding is contained within PE 0604805A, Project D61A.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
JTRS Product Development (JTRS Cluster 1 Vehicular and Airborne Hardware Design and Development of Prototypes and technical engineering support)	149009	76080	203683	162176
JTRS Test and Evaluation (JTRS EPG Testbed and Test Planning/Test Support/Electronic and Information Warfare Test and Evaluation/Labor)	7466	8794	9336	18066
JTRS Management Services (JTRS Program Management Office Support)	10557	9427	14337	14483
JTRS Support Costs (Systems Engineering and Technical Support)	2801	3009	2974	3153
Initiate the development and design of an embeddable and dismountable form factor identified as Cluster 5	21974	0	0	0
Data Base Adjustement to Balance	3240	260	0	0
Totals	195047	97570	230330	197878

B. Other Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA, Army, JTRS Cluster 1, B90100*	0	109222	0	0	107241	183204	242909	283479	Continuing	Continuing
RDTE, JTRS, 0604280A/D162**	128611	117259	156665	110951	80991	35304	0	0	0	629781
RDTE, PEO AVN, JTRS A-Kit PE 64201/C97	44783	24232	10773	19537	35965	23541	10908	13241	Continuing	Continuing
APA, PEO AVN, JTRS A-Kit Procurement AA0702/AA0700***	1535	0	0	0	0	15391	43018	48946	Continuing	Continuing
Future Combat System (FCS), RDTE 60465A/F56/F61****	4500	34858	0	0	0	0	0	0	0	39358

Note: *This funding represents Cluster 1 only. ** Funding represents all Clusters. ***Other Procurement, Army funding is JTRS Cluster 1 only. Funding in line AA0702 for FY 2004 only. Funding is contained within AA0700 in FY 2005 and out. ****FCS funding reflects relevant Cluster 1 funding only and does not reflect entire FCS program funds. FCS JTRS Cluster 1 relevant funding is contained within Project F56 in FY 2004 and Project F61 in FY 2005.

C. Acquisition Strategy: Joint Tactical Radio System (JTRS): Beginning in FY05, Project D615 supports the JTRS Cluster 1 Army System Development and Demonstration efforts only. In FY04, Cluster 5 shares the funding contained in Project D615 but has its own line, Project D61A, beginning in FY05. The Army Project Manager Warfighter Information Network-Tactical (PM WIN-T) is the lead for the Cluster 1 effort. Under Cluster 1, a software reprogrammable radio providing the warfighter with a multi-band and multi-mode capability, networkable radio system which provides simultaneous voice, data and video communications to increase interoperability, flexibility and adaptability in support of varied mission requirements is being developed. The JTRS Joint Program Office (JPO) is responsible for common core activities including developing, maintaining, and evolving the JTRS open standards architecture, providing re-coded versions of legacy waveforms to operate on JTRS architecture compliant hardware, and provides a certifying infrastructure for hardware/software compliance. After a successful Milestone B Decision in 3QFY02, the Cluster 1 development effort was awarded to develop multi-channel ground and airborne configurations. The JTRS Cluster 1 supports an evolutionary acquisition strategy and was based on an aggressive acquisition schedule. In June 2002, a cost plus award fee contract was competitively awarded to a Prime Systems Engineering Contractor (The Boeing Company) who is responsible for developing and/or acquiring numerous Software Communications Architecture compliant waveforms, defining common form-fit-function configurations for vehicular and aviation versions of the JTRS hardware, and successfully porting the waveforms to JTRS hardware produced by two different developers. In FY05, the program is undergoing a schedule replan effort resulting from required hardware changes to address security related issues and contract cost growth which materialized in early FY 05. The impacts of the replan are still being assessed. The FY05 budget supports continued development and support for the Cluster 1 Ground and Airborne sets, design of ground vehicular A-kits for

platforms required for testing, and supports an Early Operational Assessment in 1QFY05-3QFY05. A rebaselining Defense Acquisition Board (DAB) is planned for 4QFY05. The FY06 and out budget supports continued development and support for the Cluster 1 Ground and Airborne sets, design of ground vehicular A-kits (installation kits) for platforms required for testing for System Integration Test (SIT)/Limited User Test (LUT) and Multi-Service Operational Test and Evaluation (MOT&E) testing for Cluster 1.

The JTRS Cluster 5 program has been structured to satisfy requirements for handheld, manpack, and small form fit embedded radios. Technical requirements are met over time, using spiral development.

A successful Milestone B was achieved on 26 April 2004 to begin the development of the Cluster 5 systems. Following full and open competition, a single cost plus award fee contract was awarded on 16 July 2004 for the development of the Cluster 5 systems. The Cluster 5 program has been designated an ACAT 1C program. In FY04, Cluster 5 funding is contained in PE 0604805A, Project D615. Beginning in FY05, Cluster 5 funding transitions to PE 0604805A, Project D61A.

ARMY RDT&E COST ANALYSIS(R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

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
a . NTDRS CPIF/T&M/FFP/Ancillary Equip,NMT, and MISC Efforts*	C/T&M/CPIF/FFP/MISC	ITT, Fort. Wayne, IN/MISC	10145	0		0		0		0	10145	10145
b . JTRS Army Step 2C Hardware Development & Prototypes, Anc Equip/Log & Engrg	C/OTA/T&M/Various	BAE Systems, Wayne, NJ/Various	7492	0		0		0		0	7492	7492
c . JTRS Cluster 1 GFE	Various	Various	75	0		0		0		0	75	0
d . JTRS Cluster 1 (EPLRS Data Rights)	SS/FFP	Raytheon, Fullerton, CA	5000	0		0		0		0	5000	0
e . JTRS Cluster 1 SDD Development	C/CPAF	BOEING, Annaheim, CA	253602	70922	1-2Q	199463	1-2Q	160672	1-2Q	Continue	Continue	0
f . Tactical Internet Integration	T&M	ITT, Ft. Wayne,IN	1792	0		0		0		0	1792	0
g . JTRS Development - System Engrg Spt	various	MISC	3798	1339	1-2Q	1420	1-2Q	1504	1-2Q	Continue	Continue	0
h . ABCS System Engineering and Integration Efforts	Various	MISC	1227	0		0		0		0	1227	0
i . Cluster 5 Design and Development**	C/CPAF	TBD	21974	0		0		0		Continue	Continue	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

I. Product Development (continued)	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
j . Technology Development Strategy Efforts	Various	Various	3214	3819	1-3Q	0		0		Continue	Continue	0
k . Institutional Web Development	TBD	TBD	0	0		2800	1Q	0		0	2800	0
Subtotal:			308319	76080		203683		162176		Continue	Continue	17637

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370
**Cluster 5 efforts in FY05 and out are funded in PE 0604805A, Proj D61A

II. Support Cost	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
a . *NTDRS Test/Training/Logistics/Technical /Exercise Support	Various	Various	7562	0		0		0		0	7562	0
b . JTRS Antenna Studies	PWD	ARINC, Annapolis, MD	504	0		0		0		0	504	0
c . JTRS Technical Support	Various	Miscellaneous	10098	3009	1-2Q	2974	1-2Q	3153	1-2Q	Continue	Continue	0
d . ABCS SE&I Effort			1633	0		0		0		0	1633	0
Subtotal:			19797	3009		2974		3153		Continue	Continue	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

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
a . *NTDRS Field Testing	MIPR	EPG, Fort Huachuca, AZ	95	0		0		0		0	95	0
b . JTRS Step 2C EPG Qual Testing/Customer Testing	MIPR	EPG, Fort Huachuca, AZ	2450	0		0		0		0	2450	0
c . JTRS EPG Testbed and Test Planning	MIPR	EPG, Fort Huachuca, AZ	3476	1336	1Q	1336	1Q	2985	1Q	Continue	Continue	0
d . JTRS Modeling & Simulation	MIPR	USAIC	1588	2329	1-2Q	2665	1-3Q	2076	1-2Q	Continue	Continue	0
e . JTRS Test Inhouse Spt & Govt Activities	Various	Various	2873	2054	1Q	1871	1Q	2052	1Q	Continue	Continue	0
f . JTRS EOA/SIT/LUT/MOTE Test Activity			4190	3075	1-3Q	3464	1-3Q	10953	1-3Q	Continue	Continue	0
Subtotal:			14672	8794		9336		18066		Continue	Continue	0

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

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
a . *NTDRS Program Support	MIPR	Fort Monmouth, NJ	655	0		0		0		0	655	0
b . JTRS Business/Engineering Management	Various	Various	14991	3751	1-4Q	3497	1-4Q	4697	1-4Q	Continue	Continue	0
c . Project Management Office Support	Various	Various	12922	4728	1-4Q	9835	1-4Q	8721	1-4Q	Continue	Continue	0
d . JTRS MITRE Support	PWD	MITRE Corp., Mclean, VA	3062	948	1Q	1005	1Q	1065	1Q	Continue	Continue	0
e . Data Base Correction Action			3240	260		0		0		0	3500	0
Subtotal:			34870	9687		14337		14483		Continue	Continue	0

Remarks: *NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

Project Total Cost:			377658	97570		230330		197878		Continue	Continue	17637

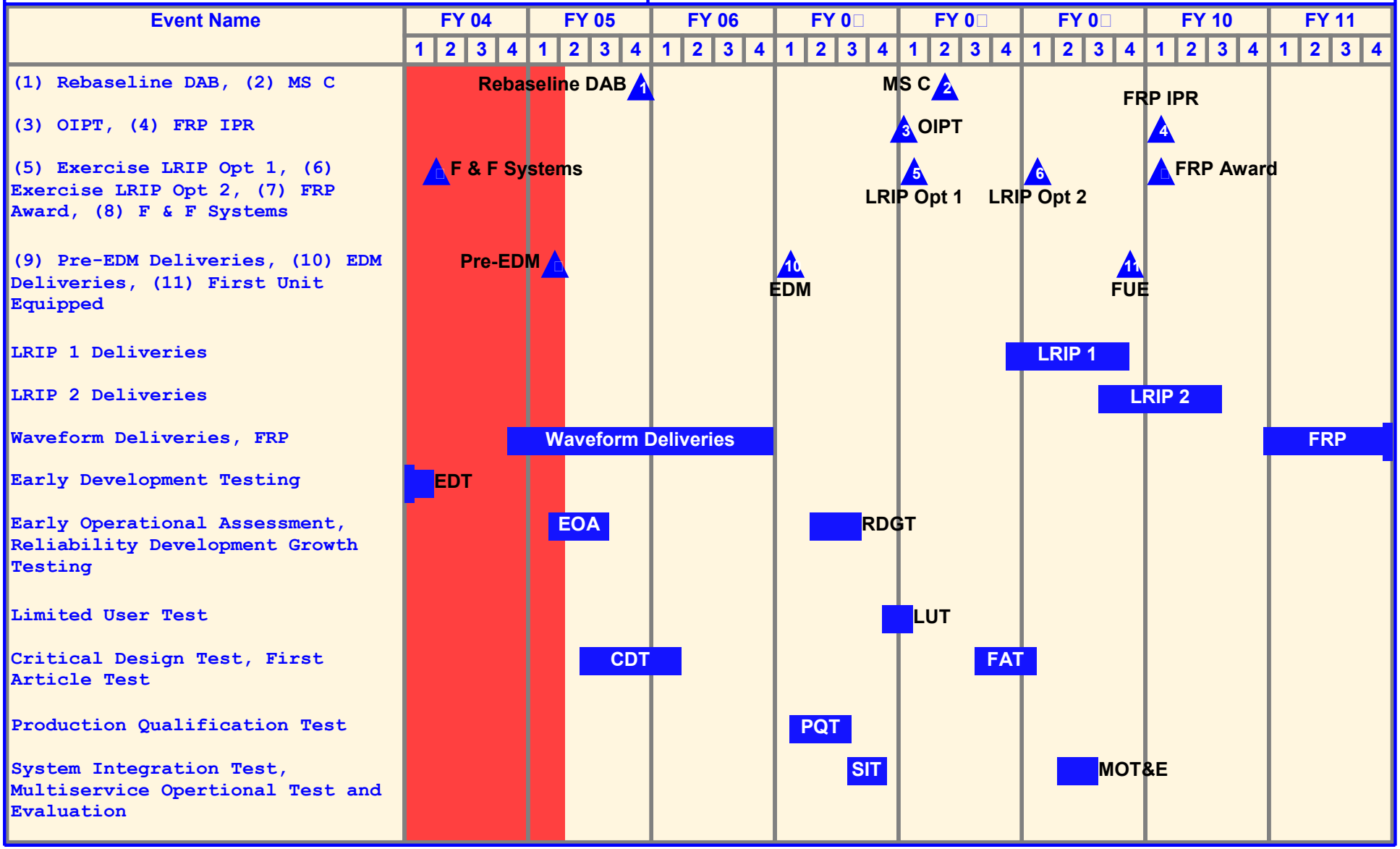
Schedule Profile (R4 Exhibit)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
615



Schedule Detail (R4a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**615**

Schedule Detail	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
JTRS-Early Operational Assessment		1-3Q						
JTRS Cluster 1 OIPT Approval to Exercise Option 1					1Q			
JTRS-Army Cluster 1 LRIP Option 1 Contract Award					1Q			
JTRS-Army Cluster 1 Ground & Airborne System Integration Test/Limited User Test (LUT)				3-4Q	1Q			
JTRS Cluster 1 Milestone C					2Q			
JTRS-Army Cluster 1 Ground & Airborne MOT&E						2-3Q		
JTRS-Army Cluster 1 LRIP Option 2 Award						1Q		
LRIP Option 1 Deliveries Begin					4Q			
Full Rate Production In Process Review							1Q	
Full Rate Production Contract Award							1Q	
LRIP Option 2 Deliveries Begin						3Q		
Full Rate Production Deliveries							3Q	
Product Improvements					1-4Q	1-4Q	1-4Q	2-4Q
Rebaseline DAB		4Q						
Cluster 5 Milestone B	3Q							
Cluster 5 Contract Award	4Q							

Cluster 5 schedule profile detail for FY05-11 is contained within PE 0604805A Project D61A.

Schedule Milestones reflect the draft replan acquisition strategy. The full impacts of the replan are still being assessed.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**61A**

COST (In Thousands)		FY 2004 Actual	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
61A	JTRS CLUSTER 5 DEVELOPMENT	0	96378	144654	111533	54293	19293	9761	8193	0	Continuing

A. Mission Description and Budget Item Justification: Project 61A supports the Joint Tactical Radio (JTRS) Cluster 5 RDT&E development effort. JTRS is the Department of Defense (DOD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. JTRS will ultimately replace all existing tactical radios through the Services' migration plans and introduce new capabilities to the Warfighter. Cluster 5 provides the Warfighter with a software re-programmable, networkable, multi-band, multi-mode system capable of simultaneous voice, data and video communication, and the JTRS Joint Program Office (JPO) is responsible for certifying that all JTRS waveforms are Software Communications Architecture (SCA) compliant. The JTRS Cluster 5 program consists of three form factors: Handheld, Manpack (including vehicular mounted), and a family of Small Form Fit (SFF) embedded applications. It is structured in two spirals. Spiral 1 provides early delivery of two channel Manpack radios to meet immediate user requirements in accordance with JTRS Operational Requirements Document (ORD) 2.3 with specific waveforms. Spiral 2 provides more enhanced capability for Cluster 5 variants for delivery of Handheld, Manpack, and Small Form Fit factors in accordance with ORD 3.2. JTRS Cluster 5 is working with PM UA (Future Combat Systems) and Land Warrior programs to support their capabilities and timelines.

This is not a new start. Prior to FY05 the Cluster 5 program funding was captured within PE 0604805A, Project 615 (JTRS Cluster 1).

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
JTRS Cluster 5 Product Development of both spiral 1 and spiral 2 radios.	0	84257	124209	89468
JTRS Cluster 5 Test and Evaluation	0	5957	7565	10381
JTRS Cluster 5 Management Services (JTRS Program Management Office Support)	0	3314	9683	9342
JTRS Cluster 5 Support Costs (Technical Support)	0	2850	3197	2342
Totals	0	96378	144654	111533

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**61A**

B. Other Program Funding Summary	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, JTRS JPO Waveform Certification, 0604280A/162	128611	117259	156665	110951	80991	35304	0	0	Continuing	Continuing
RDTE, FCS, 654645/F61	0	13000	0	0	0	0	0	0	0	13000
OPA, JTRS Cluster 5, B90210	0	0	0	0	45397	82164	128907	158277	Continuing	Continuing
OPA, JTRS Cluster 1, B90100	0	0	0	0	442	1004	6274	8665	0	16385

C. Acquisition Strategy: This program satisfies requirements for Handheld, Manpack and Small Form Fit embedded radios. Cluster 5 technical performance requirements are met over time, using spiral development. JTRS Cluster 5 will use JPO certified waveforms. The JTRS JPO has responsibility to acquire required waveforms for all Clusters.

A successful Milestone B was achieved on 26 April 2004 to begin the development of the Cluster 5 system. Following full and open competition, a single Cost Plus Award Fee contract was awarded on 16 July 2004. The contract is structured to address the two spirals, including options to purchase hardware for each spiral. Spiral 1 is structured to meet the need for expeditious delivery of Manpack systems. A two-channel Manpack Engineering Development Model (EDM) with specified waveforms will be delivered by 1QFY06. Spiral 2 will meet JRS ORD 3.2 requirements developing all form factors including Handheld, Manpack and Small Form Fit variants.

The program is entering the acquisition lifecycle at Milestone (MS) B, System Development and Demonstration (SDD).

There will be two Production Option Awards for Spiral 1 Limited Production, in FY06 and FY07. After Milestone C, there will be two LRIP Option Awards for Spiral 2 in FY08 and FY09. A competitive full rate production (FRP) contract award is scheduled for FY10.

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
61A

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
a . JTRS Cluster 5 Design, Development and Manufacture of Engineering Development Models (EDMs)	C/CPAF	General Dynamics Decision Systems, Scottsdale, AZ	0	81559	2Q	115900	1Q	84700	1Q	Continue	282159	0
b . JTRS Cluster 5 Development System Engineering Support	Various	Various	0	2698	1-2Q	8309	1-2Q	4768	1-2Q	Continue	15775	0
Subtotal:			0	84257		124209		89468		Continue	297934	0

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).

II. Support Cost	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
a . JTRS Technical Support	Various	Various	0	2850	1-3Q	3197	1-3Q	2342	1-3Q	Continue	8389	0
Subtotal:			0	2850		3197		2342		Continue	8389	0

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
61A

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
a . JTRS EPG test bed and planning	MIPR	EPG, Ft. Huachuca, AZ	0	115	1-2Q	582	1Q	591	1Q	Continue	1288	0
b . JTRS Modeling & Simulation	MIPR	USAIC, Ft. Huachuca, AZ	0	299	1Q	89	1Q	92	1Q	Continue	480	0
c . JTRS Test Inhouse Support & Goverment Activities	Various	Various	0	1350	1-3Q	1379	1-3Q	1562	1-3Q	Continue	4291	0
d . Field Test/LUT and OT	Various	Various	0	4193	1-3Q	5515	1-3Q	8136	1-3Q	Continue	17844	0
Subtotal:			0	5957		7565		10381		Continue	23903	0

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).

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
a . Project Management Office Support	Various	Various	0	1911	1-4Q	8108	1-4Q	7396	1-4Q	Continue	17415	0
b . JTRS Business/Engineering Management	Various	Various	0	1403	1-4Q	1575	1-4Q	1946	1-4Q	Continue	4924	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
61A

IV. Management Services (continued)	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	3314		9683		9342		Continue	22339	0

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).

Project Total Cost:			0	96378		144654		111533		Continue	352565	0

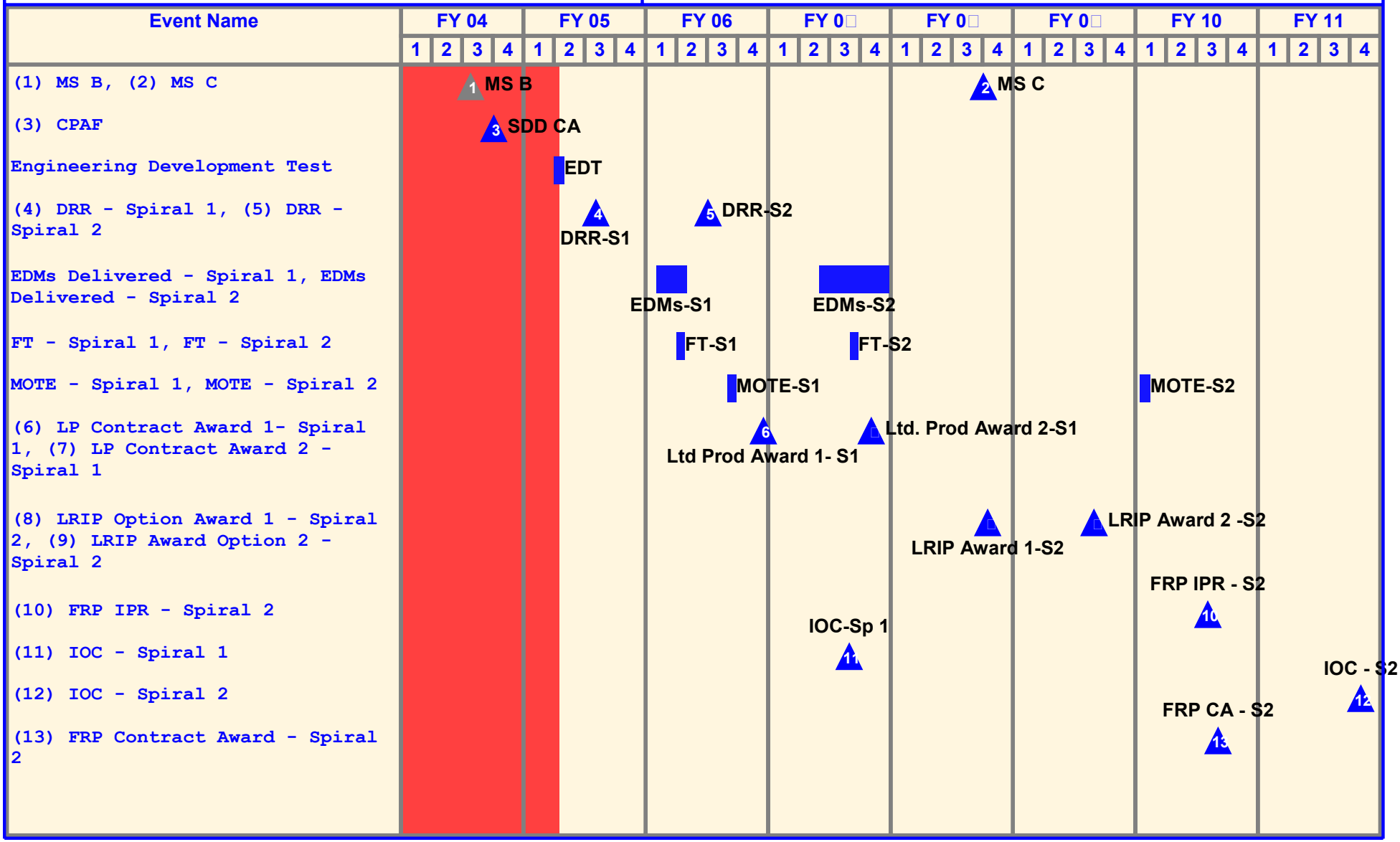
Schedule Profile (R4 Exhibit)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
61A



Schedule Detail (R4a Exhibit)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
61A

Schedule Detail	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Milestone B Decision	3Q							
SDD Contract Award	4Q							
Engineering Development Test - Spiral 1		2Q						
Design Readiness Review - Spiral 1		3Q						
Design Readiness Review - Spiral 2			3Q					
Engineering Development Models (EDMs) Delivery - Spiral 1			1Q					
Field Test - Spiral 1			2Q					
MOTE - Spiral 1			3Q					
Engineering Development Models (EDMs) Delivery - Spiral 2				2-4Q				
Government Tests and Field Test - Spiral 2				3Q				
MOTE - Spiral 2							1Q	
Limited Production Award 1 - Spiral 1			4Q					
Limited Production Award 2 - Spiral 1				4Q				
LRIP Award 1 - Spiral 2					4Q			
LRIP Award 2 - Spiral 2						3Q		
Limited User Test (LUT)					2Q			
Milestone C Decision					3Q			
FRP Award							3Q	
Initial Operational Capability (IOC) - Spiral 1				3Q				
Initial Operational Capability (IOC) - Spiral 2								4Q

Spiral 1 - two-channel manpack systems.
Spiral 2 - all form factors including Handheld, Manpack, and Small Form Fit variants.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**62□**

COST (In Thousands)		FY 2004 Actual	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
629	TACTICAL COMMUNICATIONS SYSTEM - ENGINEERING DEVEL	2618	0	0	0	0	0	0	0	0	15296

A. Mission Description and Budget Item Justification: The work in this project has been re-aligned in MDEP MU17 PE 432612 to better link with the mission support for the development of the Army Enterprise Architecture as sanctioned by the Army Chief of Staff (CSA) when the Army Architecture Integration Cell (AAIC) was established in January 2003.

The Protocol for Investigation Next Generation (PING) Program's objectives are to identify network and communication architecture gaps, validate emerging network technologies, assess proposed network solutions, ensure system of systems network communications interoperability among tactical and sustaining Army assets, as well as, with Joint, Interagency, and Multinational systems, and verify compliance to Army Knowledge Enterprise Architecture (AKEA) System and Technical Views that will make possible the Army's Objective Force. The PING analyze emerging commercial network communication protocols assessing their benefits and suitability to satisfy Army requirements, mitigate risks associated with implementing them across the AKEA and future combat systems, and to assist system developers in incorporating emerging technologies across Army communication systems accelerating Army Transformation goals.

The PING Program is the Army's principal organization evaluating and testing the Next Generation of Internet Protocol, Version 6, or IPv6. While IPv6 is being implemented globally, the PING will determine a coordinated approach for Army adaptation of IPv6 that will meet current network communication requirements, maintain interoperability across Army, Joint, Interagency, and Multinational systems, and provide the enhancements necessary to make the Objective Force possible.

The PING program supports the Army Chief Information Office (CIO/G6), the Future Force Task Force (OFTF), and maintain close cooperation with the Army System Engineering Office (ASEO); helping identify technologies suitable for consideration in future versions of the Joint Technical Architecture - Army (JTA-A), and various PEOs/PMs by participating at Working Groups involved with System Views (SVs) and Technical Views (TVs). The PING will analyze or develop SVs and TVs.

The PING Program's mission is critical for mitigating risks associated in the evolution and maturation of communications networks within the AKEA.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
Applied Communications and Information Networking (ACIN) FY03: - The objective of this one year Congressional add is to investigate specific emerging commercial communication technologies in the areas of Information Assurance, Subterranean Communications, Software Defined Radio and SATCOM On-The-Move. No additional funding is required to cmplete this project.	0	0	0	0
Develop systems architecture products for current, legacy, and future force units whose operational views have been completed and validated.	2298	0	0	0
Funds not received	320	0	0	0
Totals	2618	0	0	0

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

C. Acquisition Strategy:NA

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
62□

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
a . Systems Engineering	In House	CECOM RDEC, Fort Monmouth, NJ	10967	0		0		0		Continue	10967	0
b . 1)		MITRE, Eatontown, NJ	1226	0		0		0		0	1226	0
c . 2)		SRI, Eatontown, NJ	840	0		0		0		0	840	0
d . ACIN	OTA (Other Transactions)	Drexel Univ, Philadelphia, Pa	27388	0		0		0		0	27388	0
e . Funds not received			320	0		0		0		0	320	0
Subtotal:			40741	0		0		0		Continue	40741	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
62□

II. Support Cost	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	0		0		0		0	0	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
Subtotal:			0	0		0		0		0	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	0		0		0		0	0	0

Remarks: Not Applicable

Project Total Cost:			40741	0		0		0		Continue	40741	0

Schedule Detail (R4a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**62□**

Schedule Detail	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Evaluate Architecture Issues	1-4Q							
Assessment and Analysis of Technology Impacts	1-4Q							
Policy and Implementation Plan Development	1-4Q							

Efforts in this project are no longer required beyond FY2005. Implementation of develped products are funded in PE 432612.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**F□□**

COST (In Thousands)		FY 2004 Actual	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
F99	NUCLEAR ARMS CTRL TECH - SENSORE NETWORK MONIT	0	15576	7400	0	0	0	0	0	0	22976

A. Mission Description and Budget Item Justification: This project provides Research, Development, Testing & Evaluation (RDT&E) to meet technology requirements in support of implementation, compliance, monitoring and inspection for existing and emerging nuclear arms control activities and dual use technology for missile defense integration activities. The project addresses requirements validated by the Office of the Under Secretary of Defense, Acquisition, Technology & Logistics (OUSD AT&L). This project conforms to the administration's research and development priorities as related to nuclear weapons of mass destruction arms control and disarmament. Technical assessments are made to provide the basis for sound project development, evaluate existing programs and provide the data required to make compliance judgments and support U.S. policy, decision-makers and negotiating teams. Technology developments and system improvement projects are conducted to ensure that capabilities for monitoring systems are available when required.

Primary emphasis is on improved sensor capabilities and improved detection and assessment capabilities against a wide range of threat origins.

The program includes development of equipment and procedures for data exchanges, inspections and monitoring capability and analysis. The technologies and procedures developed in the arms control technology program provide an invaluable source of information on equipment and procedures that is extensively used by U.S. and international agencies.

This project element also supports the JCS warfighting capability area of counterproliferation.

Accomplishments/Planned Program	FY 2004	FY 2005	FY 2006	FY 2007
Conduct analyses as required to support the OSD manager	0	400	350	0
Development of prototype sensor	0	1500	1400	0
Development of radionuclide particle and noble gas detectors	0	850	825	0
Information system enhancements	0	850	825	0
Continue the R&D support system	0	600	500	0
Research on location calibration for seismic events	0	1712	1600	0
Development of techniques to identify signals from sensor systems	0	2000	1900	0

Accomplishments/Planned Program (continued)	FY 2004	FY 2005	FY 2006	FY 2007
Development of Standoff Sensor for Radionuclide Identification	0	7664	0	0
Totals	0	15576	7400	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 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
F□□

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
a . Product Development			0	3100	1-2Q	2100	1-2Q	0		0	5200	0
Subtotal:			0	3100		2100		0		0	5200	0

II. Support Cost	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
a . Monitoring Sensor Systems, Program Data Analysis, Verification Systems Concept Demo		SAIC, General Dynamics, VA	0	4653	1-4Q	2800	1-4Q	0		0	7453	0
b . Support Contracts & Government Support	Various	FL, NM, VA, AL	0	2323	1-4Q	1000	1-4Q	0		0	3323	0
c . SMDC		Huntsville, AL	0	1500	1-4Q	500	1-4Q	0		0	2000	0
Subtotal:			0	8476		4300		0		0	12776	0

ARMY RDT&E COST ANALYSIS(R3)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
F□□

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
a . Test and Eval	Huntsville, AL		0	2000	2-3Q	500	2-3Q	0		0	2500	0
Subtotal:			0	2000		500		0		0	2500	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
a . SMDC		Huntsville, AL	0	2000	1-4Q	500	1-4Q	0		0	2500	0
Subtotal:			0	2000		500		0		0	2500	0

Project Total Cost:			0	15576		7400		0		0	22976	0

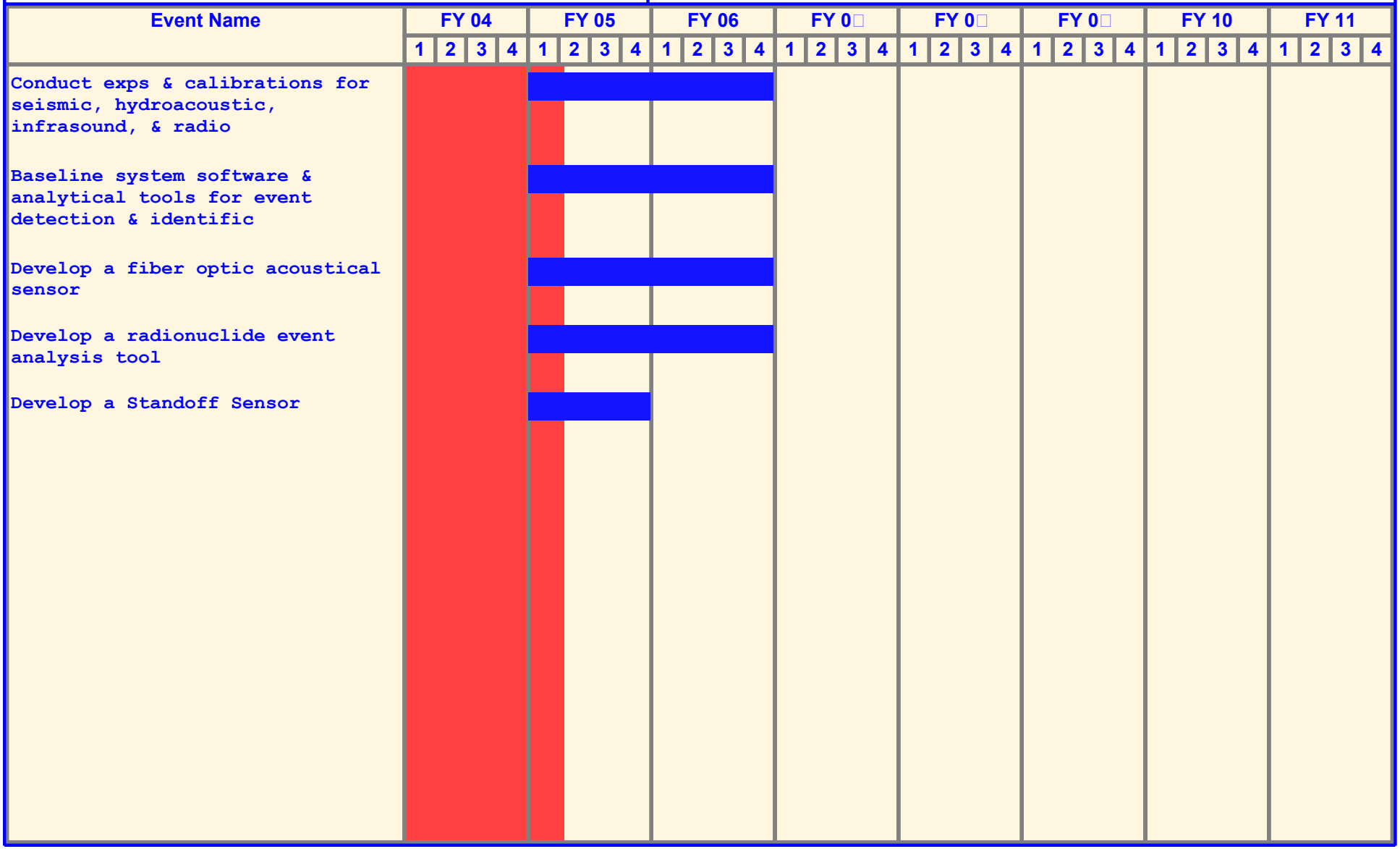
Schedule Profile (R4 Exhibit)

February 2005

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604□05A - Command, Control, Communications Systems - Eng Dev

PROJECT
F□□



Schedule Detail (R4a Exhibit)

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604□05A - Command, Control, Communications Systems - Eng Dev**	**F□□**

Schedule Detail	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Conduct experiments and calibrations for seismic, hydroacoustic, infrasound, and radionuclide sensor		1-4Q	1-4Q					
Baseline system software and analytical tools for event detection and identification		1-4Q	1-4Q					
Develop a fiber optic acoustical sensor		1-4Q	1-4Q					
Development a radionuclide event analysis tool		1-4Q	1-4Q					
Develop a Standoff Sensor		1-4Q						

This program transferred from the Defense Threat Reduction Agency (DTRA) to SMDC in FY03 IAW PBD 289 (FY04). In FY03, DTRA re-allocated funds to SMDC for management of the program. During the FY04 BES, the program was transferred to the Army and placed in PE 0603782A, Project #F98. During PB 05, the program was transferred to PE 0604805A, Project #F99. This is an on-going program; not a new program start.