ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**

COST (In Thousands)		FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost		51759	57822	41336	73380	97740	122520	106717	Continuing	Continuing
253	DSCS-DCS (PHASE II)	8965	11384	12083	8658	8705	8017	7448	0	89936
384	SMART-T	15454	5186	5573	0	0	0	0	0	68169
456	MILSATCOM SYSTEM ENGINEERING	14076	8805	8111	9574	9389	7833	7902	Continuing	152285
562	MBAND INT SAT TERM MIST	13264	32447	15569	55148	79646	106670	91367	0	389667

A. Mission Description and Budget Item Justification: Military Satellite Communication (MILSATCOM) systems are joint program/project efforts to satisfy ground mobile requirements for each Service, the Joint Chiefs of Staff (JCS), the National Command Authority, the combatant commanders, the National Security Agency, the Office of the Secretary of Defense, and other governmental, non-DoD users. The worldwide MILSATCOM systems are: Ultra High Frequency (UHF) Follow-On Satellite System; Air Force Satellite (FLTSAT/AFSAT) system; the Mobile User Objective System (MUOS); the Super High Frequency (SHF) Defense Satellite Communications System (DSCS); the Wideband Gapfiller System (WGS), the Extremely High Frequency (EHF) and Advanced Extremely High Frequency (AEHF) Mission Planning Element (AMPE); the Joint SATCOM Planning and Tools; and the Transformation Communication System (TCS), all of these systems are required to support legacy, interim and emerging communication space architectures and Objective Force requirements. The Army is responsible for developing and procuring satellite terminals, satellite control subsystems, communication subsystems, and all related equipment. This responsibility also includes maintaining the life cycle logistics support required to achieve end-to-end connectivity and interoperability, satisfying JCS Command, Control, Communications and Intelligence (C3I) in support of the President, JCS, combatant commanders, Military Departments, Department of State, and other government Departments and Agencies.

This program is designated as a DoD Space Program.

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7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	51829	58659	55882
Current BES/President's Budget (FY 2007)	51759	57822	41336
Total Adjustments	-70	-837	-14546
Congressional Program Reductions		-254	
Congressional Rescissions		-583	
Congressional Increases			
Reprogrammings	-70		
SBIR/STTR Transfer			
Adjustments to Budget Years			-14546

Change Summary Explanation:
FY07: D384 $5.6M increase to SMART-T to complete the Advanced EHF (AEHF) development.
FY07: D456 $.7M decrease from MILSATCOM SYSTEM ENGINEERING realigned to higher priority Army Requirements.
FY07: D562 $19.7M decrease from MBAND INT SAT TERM MIST realigned to higher priority Army Requirements.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**	**253**

COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
253 DSCS-DCS (PHASE II)	8965	11384	12083	8658	8705	8017	7448	0	89936

A. Mission Description and Budget Item Justification: This project provides funds to develop strategic and tactical Ground Subsystem equipment in support of Joint Chiefs of Staff (JCS) validated Command, Control, Communications and Intelligence (C3I) requirements for the worldwide Defense Enterprise Wideband SATCOM Systems. It is composed of the Super High Frequency (SHF) Defense Satellite Communications System (DSCS) and Wideband Gapfiller System (WGS) SATCOM programs. Continuing upgrades for the DSCS and WGS are vital to support the emerging power projection and rapid deployment role of the Armed Forces. DSCS and WGS provide warfighters multiple channels of tactical connectivity as well as interfaces with strategic networks and national decision-makers.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue the development of the DSCS Integrated Management System (DIMS) Interface Software program	2967	3760	4465
Continue the development of the Common Network Planning Software (CNPS) program	3358	4062	4056
Multiband Enterprise Terminal (MET)	369	0	0
Netcentic Systems Engineering	0	1572	1552
Continue SATCOM Engineering Lab (SEL), PM Admin, and Systems Engineering Technical Assistance (SETA) efforts	2271	1990	2010
Total	8965	11384	12083

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
DSCS Other Procurement Army	92167	64142	53616	87277	96129	166969	127128	CONT	CONT

C. Acquisition Strategy The DSCS Integrated Management System (DIMS) and Common Network Planning Software (CNPS) are software programs. DIMS provides the capability to electronically disseminate network plans to the monitoring and controlling DSCS Operations Control System (DOCS) subsystems, and retrieve and display subsystem monitoring data. It also provides a comprehensive view of network operations at Wideband Operations Centers and DISA management sites. CNPS will plan strategic and Ground Mobile Forces (GMF) satellite communication networks for DSCS, Wideband Gapfiller, and commercial satellites. DIMS and CNPS will be installed at Wideband Operations Centers and DISA Management Sites at worldwide locations. PM DCATS will employ Netcentric Systems Engineering to develop the technology for new ground segment equipments which will include paper studies, Simple Management Network Protocol (SMNP), system integration and demonstration to accomodate a multi-cast environment, technology insertion, and use of commercial technology to conform to Department of Defense (DoD) requirements.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0303142A - SATCOM Ground Environment (SPACE)

PROJECT
253

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
DIMS Software	C / CPFF	JHU/APL, Laurel, MD	23553	2641	1-2Q	3346	1-2Q	3840	1-2Q	Continue	0	Continue
CNPS	C / FFP	Logicon, Winter Park, FL	22710	2250	1-2Q	3183	1-2Q	2906	1-2Q	Continue	0	Continue
MET	S/CPFF	Hypres, Elmsford, NY	700	369		0	1-2Q	0		0	0	0
Subtotal:			46963	5260		6529		6746		Continue	0	Continue

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	Fort Monmouth, NJ	4217	1049	1-2Q	930	1-2Q	1100	1-2Q	Continue	0	Continue
SETA Support	C / CPFF	Fort Monmouth, NJ	1923	511	1-2Q	363	1-2Q	700	1-2Q	Continue	0	Continue
Engineering Support	C / CPFF	Fort Monmouth, NJ	350	208	1-2Q	1572	1-2Q	1527	1-2Q	Continue	0	Continue
Core Support	Various	Fort Monmouth, NJ	2509	219	1-4Q	630	1-4Q	650	1-4Q	Continue	0	Continue
Subtotal:			8999	1987		3495		3977		Continue	0	Continue

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
SEL	MIPR	Fort Monmouth, NJ	5359	1118	2Q	760	2Q	760	2Q	Continue	0	Continue
Subtotal:			5359	1118		760		760		Continue	0	Continue

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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**	**253**

PM Admin	Various	Fort Monmouth, NJ	3584	600	1-4Q	600	1-4Q	600	1-4Q	Continue	Continue	Continue
Subtotal:			3584	600		600		600		Continue	Continue	Continue
Project Total Cost:			**64905**	**8965**		**11384**		**12083**		**Continue**	**Continue**	**Continue**

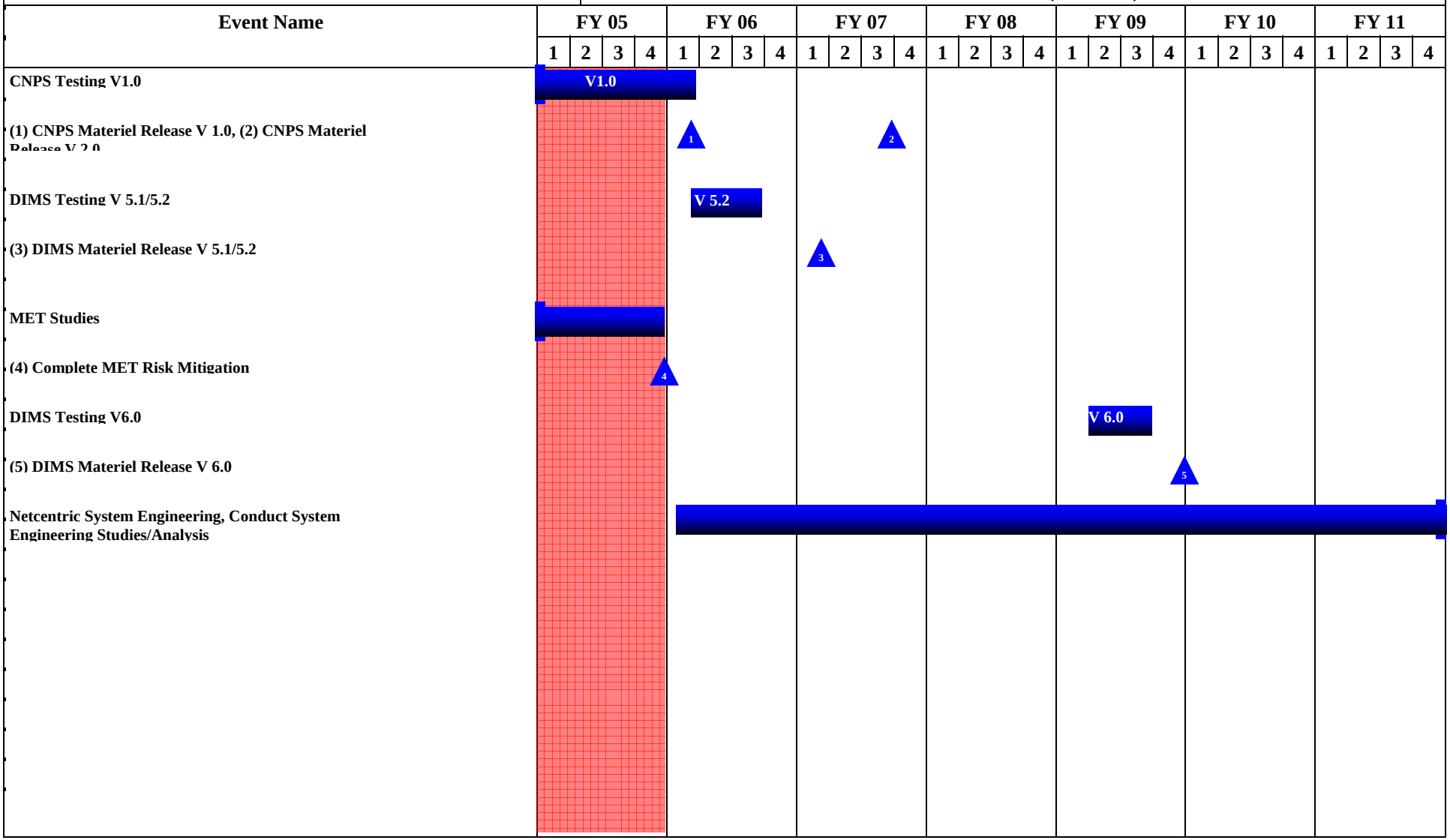
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0303142A - SATCOM Ground Environment (SPACE)

PROJECT
253



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**	**253**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
DIMS Version 5.1/5.2 Merged Software Testing - Beginning		1Q					
DIMS Version 5.1/5.2 MergedSoftware Testing - Ending		3Q					
DIMS Version 5.1/5.2 Merged Materiel Release			1Q				
DIMS Version 6.0 Testing					2-3Q		
DIMS Version 6.0 Materiel Release					4Q		
CNPS V1.0 Testing - Beginning							
CNPS V1.0 Testing - Ending		1Q					
CNPS V1.0 Materiel Release		3Q					
CNPS V2.0 Materiel Release			3Q				
Start MET Risk Component Studies							
Complete MET Risk Mitigation	4Q						
Conduct Netcentric Systems Engineering Studies / Analysis and Technology Insertion		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**	**384**

COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
384 SMART-T	15454	5186	5573	0	0	0	0	0	68169

A. Mission Description and Budget Item Justification: The Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T) provides a range extension capability to the Army's current and future tactical communications networks. Specifically, the SMART-T provides a satellite interface to permit uninterrupted communications as our advancing forces move beyond the line-of-sight of terrestrial systems. The SMART-T communicates at both Low and Medium Data Rates (LDR/MDR) over the Milstar satellite constellation. It is compatible with the Milstar, Ultra High Frequency (UHF) Follow-On (UFO), the Navy Fleet SATCOM Extremely High Frequency (EHF) satellite packages, and MIL-STD-1582D and MIL-STD-188-136 compatible payloads. SMART-T provides the security, mobility, and anti-jam capability required to defeat the threat to assured communications and satisfy the critical need for robust, secure, beyond line of sight communications. The SMART-T provides Low Probability of Interception and Low Probability of Detection (LPI/LPD), avoiding being targeted for destruction, jamming, or intercept. The prime mover is a High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) configured with all the electronics and the self-erectable antenna.

This program is the developmental effort to allow SMART-T to operate over the Advanced Extremely High Frequency (AEHF) satellite constellation. The upgrade from EHF to AEHF provides a four-fold increase in communication capacity over the current SMART-T. Three satellite payload simulators were developed to support the AEHF RDT&E activities.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Payload specification change development	2720	941	267
AEHF development efforts	12734	4245	5306
Total	15454	5186	5573

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
BC4002 - SMART-T	69616	14426	62342	69312	97798	18259	10888	CONT	CONT
BS9720 - Spares	3010	4618	6334	10561	16511	13673	0	0	54707

C. Acquisition Strategy The Army's SMART-T Advanced Extremely High Frequency (AEHF) development effort must be synchronized with the Air Force's AEHF satellite development effort. The Army procured 326 Extremely High Frequency (EHF) SMART-T terminals (239 Army, 29 Air Force, 40 Marine Corps 4 JCSE and 14 other DoD agencies). The Army must now develop an upgrade for all of the EHF terminals to AEHF to ensure that each will be compatible with the Air Force's AEHF satellites when

operationally available. Completion of the SMART-T AEHF development effort in FY07 will support AEHF upgrade kit production scheduled to begin in FY07. Other services and DoD agencies will fund production of their own AEHF upgade kits.

As part of the Army's AEHF upgrade, a Federally Funded Research and Development Center, MIT Lincoln Labs, developed three satellite simulators for testing the AEHF waveform and terminal integration efforts. This effort is critical for keeping the Army's AEHF development efforts synchronized with the joint system acquisition strategy for AEHF.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0303142A - SATCOM Ground Environment (SPACE)

PROJECT
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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
Dual Development Contracts	C / CPIF	Rockwell - Richardson, TX / Raytheon - Marlborough, MA	117173	0		0		0		0	117173	0
Baseline Mods	SS / CPFF	Raytheon - Marlborough, MA	120113	12701	1-3Q	4073	1-3Q	3920	1-2Q	0	0	0
Transmitter Development	SS / CPFF	Raytheon - Marlborough, MA	2044	2100	1-2Q	0		0		0	4144	0
Govt Support	MIPR	Various	14646	173	1Q	189	2Q	126	1Q	0	15134	0
GFE	MIPR	Various	149	0		0		0		0	149	0
Subtotal:			254125	14974		4262		4046		0	136600	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Other Contracts	MIPR	Various	11290	0		0		0		0	11290	0
Engineering Services	N/A	Fort Monmouth, NJ	5565	104	1Q	129	2Q	67	1Q	0	5865	0
Lab Activities	MIPR	Various	7767	245	1Q	269	2Q	132	1Q	0	8413	0
Subtotal:			24622	349		398		199		0	25568	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
Simulator Development	MIPR	MIT Lincoln Labs - Lexington, MA	24859	0		0		0		0	24859	0
DT & OT Test Support	MIPR	Various	6700	131	3Q	526	1-4Q	1328	1-2Q	0	8685	0
Test Bed Development	MIPR	MIT Lincoln Labs	2980	0		0		0		0	2980	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**	**384**

		Lexington, MA										
Subtotal:			34539	131		526		1328		0	36524	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
Tech Support of SMART-T Development	MIPR	MIT Lincoln Labs Lexington, MA	7900	0		0		0		0	7900	0
Subtotal:			7900	0		0		0		0	7900	0
Project Total Cost:			**321186**	**15454**		**5186**		**5573**		**0**	**206592**	**0**

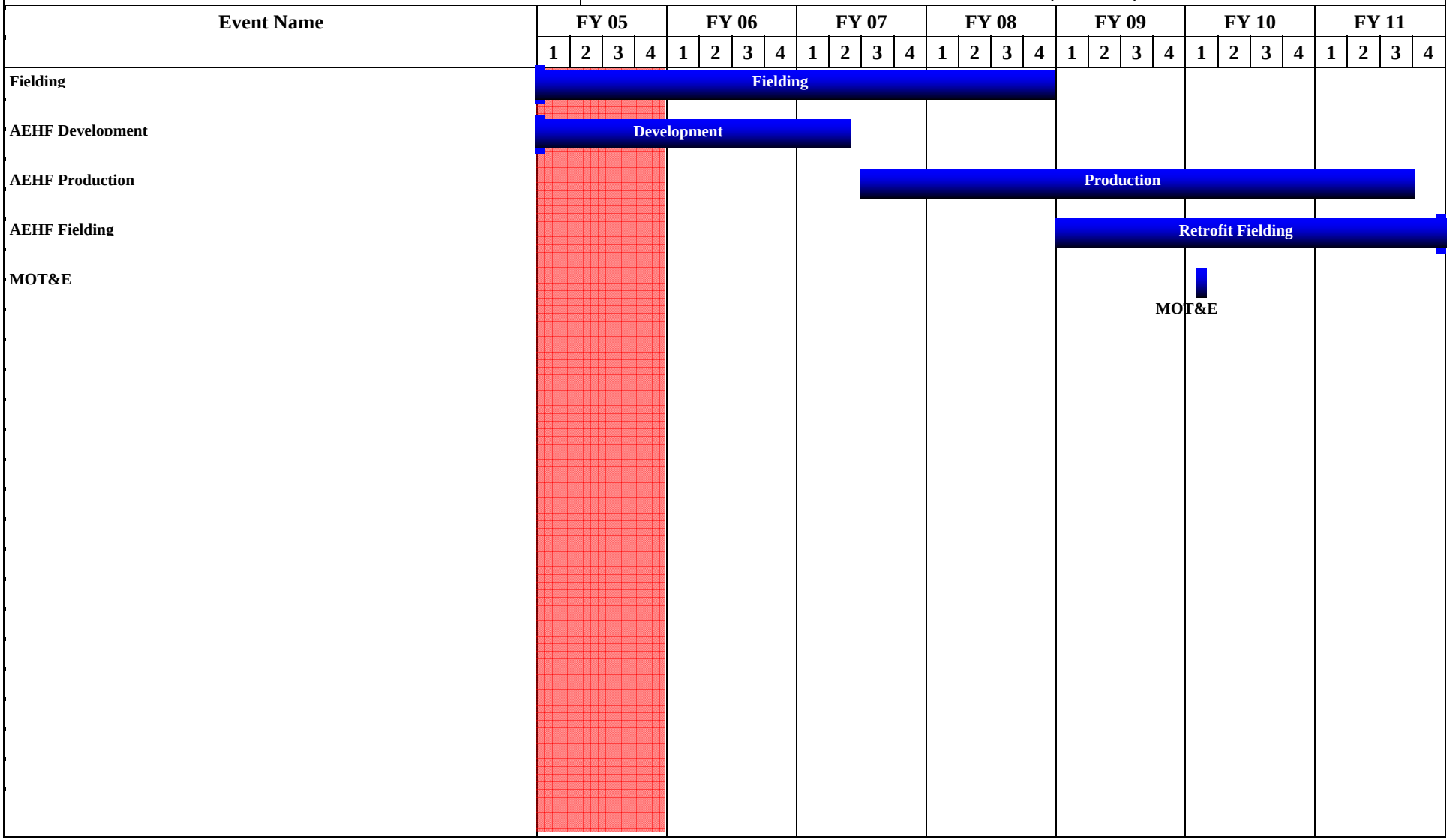
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0303142A - SATCOM Ground Environment (SPACE)

PROJECT
384



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**	**384**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Continue AEHF Development	1-4Q	1-4Q	1Q				
AEHF Development Completed			2Q				
Developmental Testing Completed			2Q				
Interoperability Test Events		3Q	1-4Q	1-4Q	1-4Q		
Award Production AEHF Mod Contract			2Q				
Procure AEHF Retrofit Kits			2Q	2Q	2Q		
Field AEHF Retrofit Kits					1-4Q	1-4Q	1-4Q
Multi Service Operational Test & Evaluation (MOT&E)						1Q	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**	**456**

COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
456 MILSATCOM SYSTEM ENGINEERING	14076	8805	8111	9574	9389	7833	7902	Continuing	152285

A. Mission Description and Budget Item Justification: MILSATCOM System Engineering provides centralized funding for advanced systems engineering, product support and analysis, and experimentation of new and emerging communication / network architectures and technologies. It also supports the end to end system engineering and technology assessment efforts associated with the integration of network systems (WIN-T) with the SATCOM Roadmap in support of Transformational Communications for Army Land WarNet and the Joint Warfighter. Supporting documentation and requirements are SATCOM CRD, GIG CRD, TSAT CDD/ICDs/TRDs, WIN-T, AEHF, MUOS and WGS ORDs/CDDs.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Conduct various developmental efforts or analysis and trades to protect Army interests and enhanced system/network capability and joint interoperability in support of Transformational Communications and Joint Interoperability	3129	2889	2467
System Engineering in support of technology assessment and transistion for WIN-T network / communication systems	1481	1283	1351
Experimentation and prototyping of critical communication and network technologies	3131	2439	2269
AEHF, WGS, TC, MUOS System Engineering in support of network system / terminal acquisition and joint interoperability	2532	2194	2024
Continued Development of SHF Ka band augmentation (KaSAT)	3803	0	0
Total	14076	8805	8111

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
373142/562 MIST/HC3 (RDTE)	13264	32447	15569	55148	79646	106670	91367	CONT	CONT
BB8417 - MOD OF IN-SVC (TAC SAT)	194	7603	9113	2442	1015	0	0	0	20367
BC4002 - SMART-T	69616	14426	62342	69312	97798	18259	10888	CONT	CONT

C. Acquisition Strategy This project funds advanced systems engineering, research, development, test and evaluation of new and emerging technologies to optimize terminal performance and communications control. Once the technologies are mature and deemed feasible, funding and management responsibility for implementation of the technology will transition to cognizant SATCOM programs managed by PMO WIN-T.

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
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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
Terminal Upgrades	Various	Various	1524	0		0		0		0	1524	0
Ka Band Integration	C/CPFF	L-3 Communications - West - Salt Lake City, UT	20000	0		0		0		0	20000	0
Ka Band Augmentation	C/CPAF/T&M	Titan Corporation - San Diego, CA	29700	3803	2Q	0		0		0	33503	0
Advanced Wideband/TCS	Various	Various	19351	0		0		0		0	19351	0
ABCS SE&I	MIPR	Various	1288	0		0		0		0	1288	0
Subtotal:			71863	3803		0		0		0	75666	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Engineering (In-House)	MIPR	Various	10819	1400	2Q	1226	2Q	1181	2Q	Continue	14626	0
Engineering (Contract)	Various	Various	11341	2802	2Q	3226	2Q	2719	2Q	Continue	0	0
System Architecture & Analysis	Various	MIT Lincoln Labs, Lexington, MA; MITRE	6382	2121	2Q	1530	2Q	1500	2Q	Continue	0	0
Subtotal:			28542	6323		5982		5400		Continue	14626	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
Test Support	MIPR	MIT Lincoln Labs, Lexington, MA	3169	700	2Q	600	2Q	578	2Q	Continue	Continue	Continue
Test Support	Various	Various	7486	1400	1Q	1213	1Q	1189	1Q	Continue	Continue	Continue
Subtotal:			10655	2100		1813		1767		Continue	Continue	Continue

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
Advanced Architecture	MIPR	MIT Lincoln Labs Lexington, MA	6190	500	1Q	450	2Q	434	2Q	Continue	Continue	0
Advanced Wideband System Architecture	MIPR	Various	1650	1350	1Q	560	2Q	510	2Q	Continue	Continue	0
Subtotal:			7840	1850		1010		944		Continue	Continue	0
Project Total Cost:			**118900**	**14076**		**8805**		**8111**		**Continue**	**Continue**	**0**

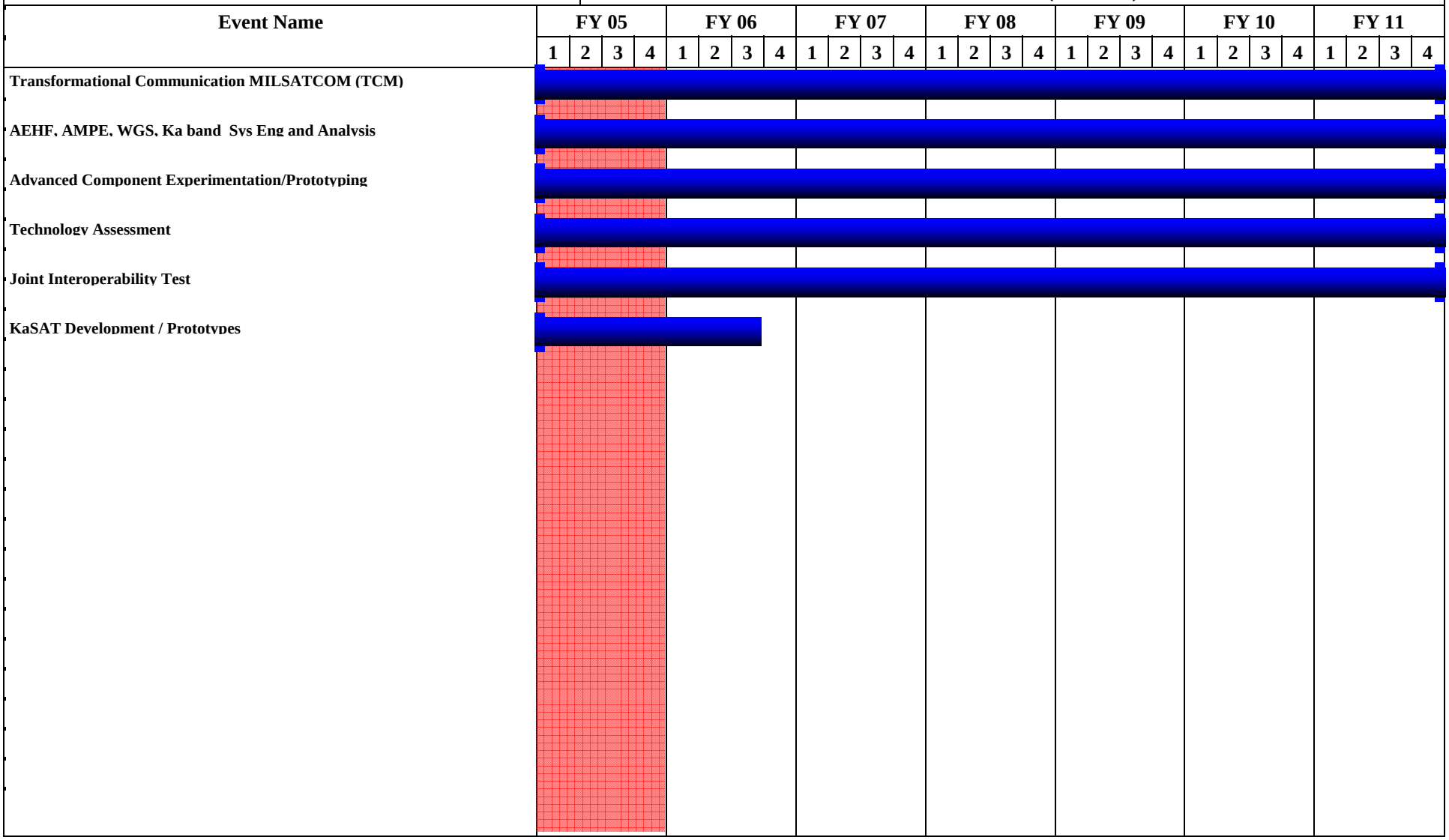
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0303142A - SATCOM Ground Environment (SPACE)

PROJECT
456



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**	**456**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Transformational Communication MILSATCOM (TCM)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
AEHF System Engineering and Analysis	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
AEHF Mission Planning Element (AMPE)	1-4Q	1-3Q	1-4Q	1-4Q	1-2Q	1-4Q	1-4Q
Wideband Gapfiller and Ka Band System Engineering	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Advanced Component Experimentation / prototyping	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Technology Assessment /MUOS	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Joint Interoperability Tests	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Support AEHF AEST 8000 (System Test)				4Q	1Q		
Conduct Transformational Communication (TC) System Engineering Studies/Analysis	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
TC Technical Requirement Document / Interface Control Document Development	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
TC Design Review SDR / PDR / CDR		1-3Q	1Q	1Q	1Q		
KaSAT development / prototypes	1-4Q	1-3Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**	**562**

COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
562 MBAND INT SAT TERM MIST	13264	32447	15569	55148	79646	106670	91367	0	389667

A. Mission Description and Budget Item Justification: Multi-band Integrated Satellite Terminal (MIST) funds will develop the high capacity communications capability (HC3).

The HC3 will provide high data rate communications capabilities that will be pervasively integrated into the Army's Future Force communication architecture, as well as other Service and Joint communication architectures. HC3 will break traditional terminal architecture paradigms by developing a modular, open systems architecture that supports hardware and software module reuse across HC3 platforms, as well as other Joint Service applications. HC3 will leverage Software Communications Architecture (SCA) principles in the software architecture design. HC3 will be a family of tactical Multi-band, modular, communications terminals that will provide inter-network and reach back communications services across the Army's Future Force tactical networks.

HC3 will develop high capacity, multi-band, protected comm-on-the-halt (COTH) satellite communication solutions to replace end-of-life AN/TSC-85/93 terminals in the 2014 timeframe. In addition, HC3 will develop a Joint, high capacity transit case solution in accordance with Army and Air Force requirements. These initial HC3 capabilities satisfy Army and Air Force high capacity communication requirements that are separable from the Transformational Communications MILSATCOM Architecture (TCM/TCA). In addition, the Warfighter Information Network-Tactical (WIN-T) will leverage Transformational Communications MILSATCOM/Architecture (TCM/TCA). HC3 will be developing the TCM/TCA technology insertion for WIN-T. This upgrade will provide higher capacity, as well as low, near zero, probability of detection, interception (LPD/LPI) and exploitation capabilities. This technology insertion will be integrated into WIN-T on the move and at the quick halt platforms. HC3 will also develop a TCM/TCA compatible manpack capability for the Army and Air Force.

The high capacity communications capability System Development and Demonstration (SDD) phase will commence in FY08. Various risk mitigation studies will be executed with tri-service participation in order to mature critical technologies prior to SDD. The program will be structured to allow for increment and spiral enhancements, and to introduce enhanced capabilities and configurations that will support these evolving architectures.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
High capacity communications capability studies/efforts that include Waveform integration/porting issues for Multi-band SCA compatible terminals and Modular, open systems investigations.	7958	7684	4196
Antenna/RF and Architecture design efforts and risk mitigation efforts	5306	14321	6599
Milestone B preparation and PRE-SDD contract efforts to include RFP and SSEB	0	2522	4774
Special Studies/Collaboration Efforts	0	7920	0
Total	13264	32447	15569

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0303142A D456 - MILSATCOM SYSTEM ENG	14076	8805	8111	9574	9389	7833	7902	CONT	CONT

C. Acquisition Strategy A competitive high capacity communications capability SDD contract will be awarded in FY08, following comprehensive studies currently being performed and further supported by extensive risk mitigation efforts to enhance Technology Readiness Levels of critical higher risk technologies. The SDD phase will be structured to maximize competitive opportunities throughout Low Rate Initial Production and Full Rate Production. The SDD phase will also ensure synchronization with the Transformational Communications MILSATCOM (TCM)and the Warfighter Information Network-Tactical (WIN-T).

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0303142A - SATCOM Ground Environment (SPACE)

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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
System Development	MIPR	MIT Lincoln Labs, Lexington MA	0	2843	1-2Q	3834	1Q	2222	1Q	Continue	0	0
Pre-SDD Study Contracts	T&M	Raytheon, Marlborough, Mass and Boeing, Anaheim, Ca.	0	5079	1-2Q	3067	1-2Q	0		0	0	0
Government Engineering Support	Various	PM WIN-T, Fort Monmouth, NJ	0	2105	1-2Q	2331	1-2Q	1917	1-2Q	Continue	0	0
Risk Mitigation Efforts	Various	Various	0	1193	1-2Q	10835	1-2Q	5052	1Q	Continue	0	0
Subtotal:			0	11220		20067		9191		Continue	0	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Engineering Services	N/A	Fort Monmouth, NJ	0	1309	1-2Q	2833	1-2Q	2533	1-2Q	Continue	0	0
Other Contracts	Various	Various	0	0	1Q	45	1-2Q	778	1-2Q	Continue	0	0
Special Studies/Collaboration Efforts	Various		0	0		7920	2Q	0		0	0	0
Subtotal:			0	1309		10798		3311		Continue	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
Engineering (In-House)	N/A	PM WIN-T, Fort Monmouth, NJ	0	0	1-2Q	244	1-2Q	233	1-2Q	Continue	0	0
Subtotal:			0	0		244		233		Continue	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

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7 - Operational system development

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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
Core Support	N/A	PM WIN-T, Fort Monmouth, NJ	0	735	1-2Q	1338	1-2Q	2834	1-2Q	Continue	0	0
Subtotal:			0	735		1338		2834		Continue	0	0
Project Total Cost:			**0**	**13264**		**32447**		**15569**		**Continue**	**0**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
7 - Operational system development

PE NUMBER AND TITLE
0303142A - SATCOM Ground Environment (SPACE)

PROJECT
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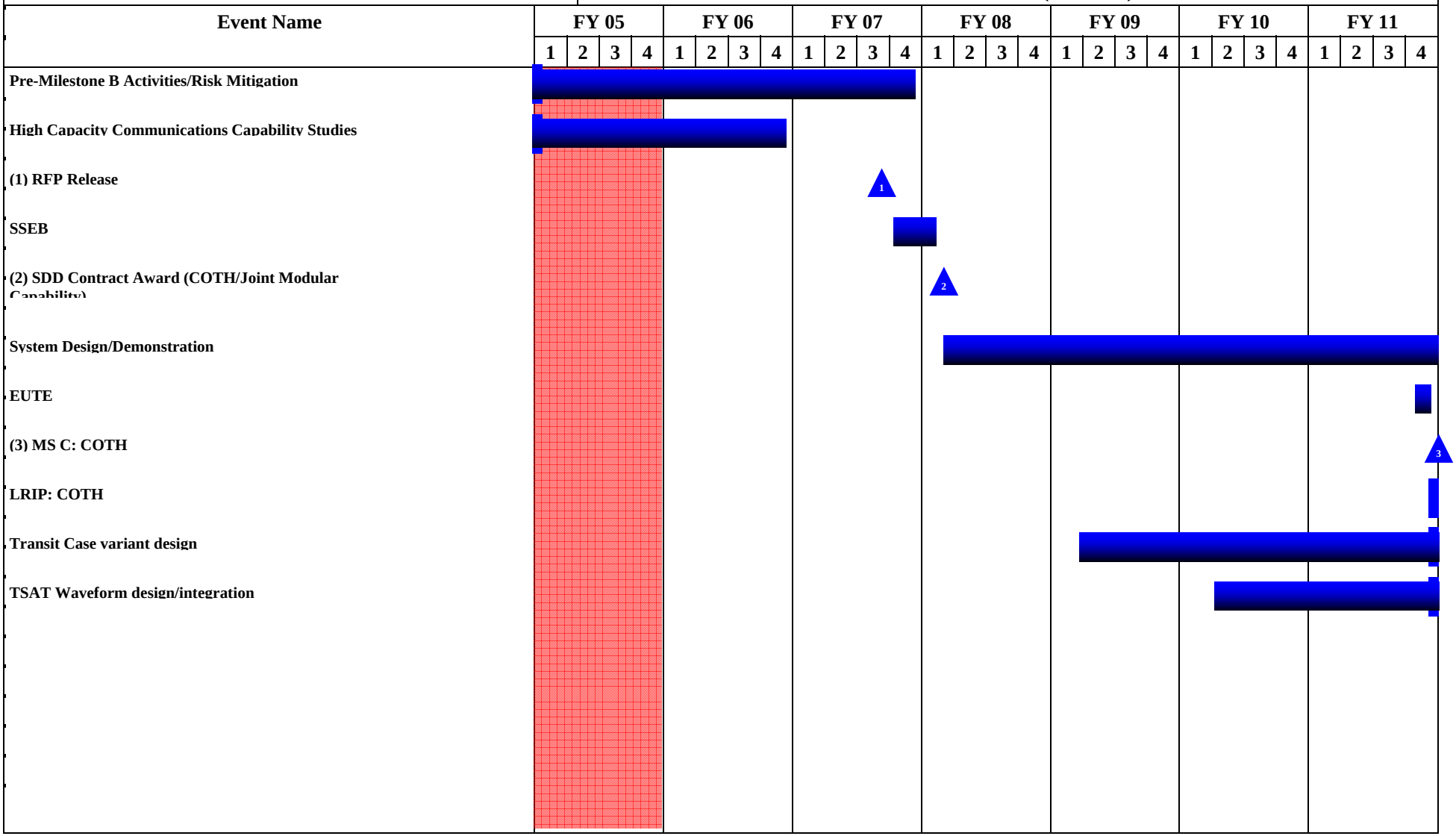

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational system development	**0303142A - SATCOM Ground Environment (SPACE)**	**562**

Schedule Detail	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
High capacity communications capability studies	1-4Q	1-4Q					
Pre-Milestone B Activities/Risk Mitigation Efforts	1-4Q	1-4Q	1-4Q				
SDD RFP Release			3Q				
Milestone B				1Q			
SDD Contract Award				1Q			
SDD Phase				1-4Q	1-4Q	1-4Q	1-4Q
SDD EUTE							4Q