UNCLASSIFIED

Supporting Data FY 2007 President's Budget
Submitted to OSD – February 2006

DESCRIPTIVE SUMMARIES OF THE

RESEARCH, DEVELOPMENT, TEST AND EVALUATION
Army Appropriation, Budget Activities 4 and 5

Department of the Army
Office of the Secretary of the Army (Financial Management and Comptroller)

Persuasive in Peace, Invincible in War

VOLUME II

UNCLASSIFIED

DESCRIPTIVE SUMMARIES FOR PROGRAM ELEMENTS OF THE RESEARCH, DEVELOPMENT, TEST AND EVALUATION, ARMY FY 2007 PRESIDENT'S BUDGET SUBMISSION FEBRUARY 2006

VOLUME II
Budget Activities 4 and 5

Department of the Army
Office of the Assistant Secretary of the Army (Financial Management and Comptroller)

FY 2007 RDT&E, ARMY
PROGRAM ELEMENT DESCRIPTIVE SUMMARIES

INTRODUCTION AND EXPLANATION OF CONTENTS

1. General. The purpose of this document is to provide summary information concerning the Research, Development, Test and Evaluation, Army program. The Descriptive Summaries are comprised of R-2 (Army RDT&E Budget Item Justification – program element level), R-2A (Army RDT&E Budget Item Justification – project level), R-3 (Army RDT&E Cost Analysis), R-4 (Schedule Profile), R-4A (Schedule Profile Detail) and R-5 (Termination Liability Funding for MDAPs) Exhibits, which provide narrative information on all RDT&E program elements and projects for FY 2005 through FY 2007.

2. Relationship of the FY 2007 Budget Submission to the FY 2006/2007 Budget Submitted to Congress. This paragraph provides a list of program elements restructured, transitioned, or established to provide specific program identification.

A. Program Element Restructures. Explanations for these changes can be found in the narrative sections of the Program Element R-2/R-3 Exhibits.

OLD PE/PROJECT	NEW PROJECT TITLE	NEW PE/PROJECT
0305206A/K98	MASINT Sensor Integration (JMIP)	0203744A/028
0604805A/615 & 61A	Joint Tactical Radio System	0604280A/162

B. Developmental Transitions. Explanations for these changes can be found in the narrative sections of the Program Element R-2/R-3 Exhibits.

C. Establishment of New FY 2007 Program Elements/Projects. There are no major system new starts. Minor new initiatives for FY 2007 are shown below.

TITLE	PE/PROJECT
In-House Lab Independent Research – Medical (CA)	0601101A/91J
Basic Research Initiatives – MRMC (CA)	0601102A/T61

C. Establishment of New FY 2007 Program Elements/Projects. There are no major system new starts. Minor new initiatives for FY 2007 are shown below. (Continued)

TITLE	PE/PROJECT
Medical University Research Initiatives (CA)	0601103A/D66
Tactical Space Research	0602120A/TS1
Computer and Software Technology (CA)	0602783A/Y11
Medical Technology Initiatives (CA)	0602787A/VB3
Medical Advanced Technology Initiatives (CA)	0603002A/MM2
Small Arms Advanced Technology Development (CA)	0603607A/62D
Environmental Quality Technology (EQT) Dem/Val (CA)	0603779A/EP1
Nuclear Arms Control Technology Sensor Engineering	0604870A/SE1
Utility Fixed Wing Cargo Aircraft	0203744A/D18

D. FY 2007 programs for which funding existed in the FY 2006/2007 President's Budget Submit (February 2005), but which are no longer funded in FY 2007.

PE/PROJECT	TITLE	BRIEF EXPLANATION
0604817A/482	Ground Combat Identification	Program Delayed
0605326A/308	Concepts Experimentation	Program Terminated

3. Classification. This document contains no classified data. Classified/Special Access Programs that are submitted offline are listed below.

0203806A	0603005A/C66	0604328A
0203808A	0603009A	
0301359A	0603020A	
0602122A	0603322A	
0602786A/C60	0603710A/C65	

4. Performance Metrics. Performance metrics used in the preparation of this justification book may be found in the FY 2007 Army Performance Budget Justification Book, dated March 2006.

Department of the Army
FY 2007 RDT&E Program
President's Budget FY 2007
Summary

Exhibit R-1

30-Jan-2006

Summary Recap of Budget Activities	Thousands of Dollars FY 2005	FY 2006	FY 2007
Basic research	392,802	372,251	311,931
Applied Research	1,137,821	1,250,026	685,245
Advanced technology development	1,479,844	1,388,924	721,661
Advanced Component Development and Prototypes	871,241	507,353	441,086
System Development and Demonstration	4,370,672	5,061,368	6,239,030
Management support	1,196,969	1,138,936	1,163,638
Operational system development	1,126,709	1,307,189	1,292,968
Total RDT&E, Army	10,576,058	11,026,047	10,855,559

Summary Recap of Budget Activities				Thousands of Dollars FY 2005	FY 2006	FY 2007
	Basic research					
1	0601101A	01	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	23,065	21,236	19,402
2	0601102A	01	DEFENSE RESEARCH SCIENCES	164,449	173,533	137,568
3	0601103A	01	UNIVERSITY RESEARCH SCIENCES (H)	82,959	76,984	68,545
4	0601104A	01	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	100,021	100,498	86,416
5	0601105A	01	FORCE HEALTH PROTECTION	22,308	0	0
	Total: Basic research			392,802	372,251	311,931
	Applied Research					
6	0602105A	02	MATERIALS TECHNOLOGY	48,274	35,051	18,822
7	0602120A	02	SENSORS AND ELECTRONIC SURVIVABILITY	56,267	51,327	38,428
8	0602122A	02	TRACTOR HIP	6,403	7,693	8,466
9	0602211A	02	AVIATION TECHNOLOGY	47,536	39,424	32,804
10	0602270A	02	EW TECHNOLOGY	19,694	29,305	19,218
11	0602303A	02	MISSILE TECHNOLOGY	79,358	90,712	59,439
12	0602307A	02	ADVANCED WEAPONS TECHNOLOGY	27,121	36,233	19,430
13	0602308A	02	ADVANCED CONCEPTS AND SIMULATION	22,710	27,416	16,181
14	0602601A	02	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	110,057	92,857	59,304
15	0602618A	02	BALLISTICS TECHNOLOGY	55,305	52,010	52,221
16	0602622A	02	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	9,977	10,567	2,212
17	0602623A	02	JOINT SERVICE SMALL ARMS PROGRAM	11,271	6,607	6,247
18	0602624A	02	WEAPONS AND MUNITIONS TECHNOLOGY	103,533	125,267	35,344
19	0602705A	02	ELECTRONICS AND ELECTRONIC DEVICES	101,771	91,925	42,175
20	0602709A	02	NIGHT VISION TECHNOLOGY	26,393	31,664	23,907
21	0602712A	02	COUNTERMINE SYSTEMS	26,267	29,171	22,088
22	0602716A	02	HUMAN FACTORS ENGINEERING TECHNOLOGY	20,746	28,420	18,858
23	0602720A	02	ENVIRONMENTAL QUALITY TECHNOLOGY	22,358	17,859	17,923
24	0602782A	02	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	28,774	49,242	21,193
25	0602783A	02	COMPUTER AND SOFTWARE TECHNOLOGY	5,346	4,521	3,844
26	0602784A	02	MILITARY ENGINEERING TECHNOLOGY	52,477	50,318	50,098
27	0602785A	02	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	14,839	14,990	16,200
28	0602786A	02	LOGISTICS TECHNOLOGY	54,385	47,667	25,436
29	0602787A	02	MEDICAL TECHNOLOGY	186,959	279,780	75,407
	Total: Applied Research			1,137,821	1,250,026	685,245
	Advanced technology development					
30	0603001A	03	WARFIGHTER ADVANCED TECHNOLOGY	78,821	77,434	45,666

Summary Recap of Budget Activities				Thousands of Dollars FY 2005	FY 2006	FY 2007
31	0603002A	03	MEDICAL ADVANCED TECHNOLOGY	300,328	300,784	50,757
32	0603003A	03	AVIATION ADVANCED TECHNOLOGY	92,788	106,577	64,654
33	0603004A	03	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	84,538	101,841	74,717
34	0603005A	03	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	284,720	242,013	109,952
35	0603006A	03	COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLO	9,540	12,880	10,851
36	0603007A	03	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLO	8,390	10,235	6,794
37	0603008A	03	ELECTRONIC WARFARE ADVANCED TECHNOLOGY	58,185	60,515	44,022
38	0603009A	03	TRACTOR HIKE	7,720	8,652	9,324
39	0603015A	03	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	26,888	27,927	18,296
40	0603020A	03	TRACTOR ROSE	4,527	4,885	5,183
41	0603100A	03	IED DEFEAT TECHNOLOGY DEVELOPMENT	30,000	5,500	0
42	0603103A	03	EXPLOSIVE DEMILITARIZATION TECHNOLOGY	18,397	21,041	10,376
43	0603105A	03	MILITARY HIV RESEARCH	13,545	13,644	7,042
44	0603125A	03	COMBATING TERRORISM, TECHNOLOGY DEVELOPMENT FOR	30,427	10,159	7,497
45	0603238A	03	GLOBAL SURVEILLANCE/AIR DEFENSE/PRECISION STRIKE T	10,280	11,939	12,995
46	0603270A	03	EW TECHNOLOGY	36,347	22,280	18,612
47	0603313A	03	MISSILE AND ROCKET ADVANCED TECHNOLOGY	136,319	114,018	42,127
48	0603322A	03	TRACTOR CAGE	12,770	15,186	19,192
49	0603606A	03	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	37,246	30,092	25,554
50	0603607A	03	JOINT SERVICE SMALL ARMS PROGRAM	5,732	7,474	7,202
51	0603710A	03	NIGHT VISION ADVANCED TECHNOLOGY	102,002	101,690	44,307
52	0603728A	03	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	16,919	15,777	14,089
53	0603734A	03	MILITARY ENGINEERING ADVANCED TECHNOLOGY	21,716	21,390	7,848
54	0603772A	03	ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECH	51,699	44,991	64,604
	Total: Advanced technology development			1,479,844	1,388,924	721,661
	Advanced Component Development and Prototypes					
55	0603024A	04	UNIQUE ITEM IDENTIFICATION (UID)	0	1,479	1,520
56	0603305A	04	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	109,799	81,494	11,233
57	0603308A	04	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION (DEM/VAL)	31,776	48,186	11,771
58	0603327A	04	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	109,170	100,190	143,417
59	0603619A	04	LANDMINE WARFARE AND BARRIER - ADV DEV	11,141	0	8,439
60	0603627A	04	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	6,943	5,651	10,714
61	0603639A	04	TANK AND MEDIUM CALIBER AMMUNITION	26,764	8,281	0
62	0603653A	04	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	49,689	26,332	5,415
63	0603747A	04	SOLDIER SUPPORT AND SURVIVABILITY	19,482	3,344	2,778
64	0603766A	04	TACTICAL SUPPORT DEVELOPMENT - ADV DEV (TIARA)	15,211	18,637	20,077

Summary Recap of Budget Activities				Thousands of Dollars FY 2005	FY 2006	FY 2007
65	0603774A	04	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	17,044	6,787	5,337
66	0603779A	04	ENVIRONMENTAL QUALITY TECHNOLOGY DEM/VAL	43,637	35,255	5,166
67	0603782A	04	WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL	94,991	98,057	158,157
68	0603790A	04	NATO RESEARCH AND DEVELOPMENT	4,598	4,832	4,946
69	0603801A	04	AVIATION - ADV DEV	22,809	7,146	6,542
70	0603802A	04	WEAPONS AND MUNITIONS - ADV DEV	8,797	0	0
71	0603804A	04	LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV	9,543	13,184	13,216
72	0603805A	04	COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION A	6,117	10,507	8,645
73	0603807A	04	MEDICAL SYSTEMS - ADV DEV	20,277	23,149	11,973
74	0603827A	04	SOLDIER SYSTEMS - ADVANCED DEVELOPMENT	0	12,119	10,605
75	0603850A	04	INTEGRATED BROADCAST SERVICE (JMIP/DISTP)	4,292	2,723	1,135
76	0603856A	04	SCAMP BLOCK II	7,863	0	0
77	0603869A	04	MEADS CONCEPTS - DEM/VAL	251,298	0	0
	Total: Advanced Component Development and Prototypes			871,241	507,353	441,086
	System Development and Demonstration					
78	0604201A	05	AIRCRAFT AVIONICS	72,521	13,259	61,946
79	0604220A	05	ARMED, DEPLOYABLE OH-58D	43,315	91,860	132,781
80	0604270A	05	EW DEVELOPMENT	18,106	33,397	41,655
81	0604280A	05	JOINT TACTICAL RADIO SYSTEM	151,274	139,546	832,259
82	0604321A	05	ALL SOURCE ANALYSIS SYSTEM	6,586	9,042	7,074
83	0604328A	05	TRACTOR CAGE	13,571	15,869	16,057
84	0604329A	05	COMMON MISSILE	112,376	25,630	0
85	0604601A	05	INFANTRY SUPPORT WEAPONS	33,697	53,257	31,748
86	0604604A	05	MEDIUM TACTICAL VEHICLES	12,540	18,518	1,925
87	0604609A	05	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ENG DEV	3,637	0	5,297
88	0604611A	05	JAVELIN	904	0	0
89	0604622A	05	FAMILY OF HEAVY TACTICAL VEHICLES	13,938	20,913	3,960
90	0604633A	05	AIR TRAFFIC CONTROL	2,011	4,444	4,527
91	0604642A	05	LIGHT TACTICAL WHEELED VEHICLES	9,581	7,393	0
92	0604645A	05	ARMORED SYSTEMS MODERNIZATION (ASM)-ENG. DEV.	2,098,130	2,745,716	3,310,477
93	0604646A	05	NON LINE OF SIGHT LAUNCH SYSTEM	119,767	231,209	322,880
94	0604647A	05	NON LINE OF SIGHT CANNON	286,853	146,271	112,237
95	0604710A	05	NIGHT VISION SYSTEMS - ENG DEV	34,107	28,980	38,821
96	0604713A	05	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	107,912	3,334	3,017
97	0604715A	05	NON-SYSTEM TRAINING DEVICES - ENG DEV	42,784	60,219	121,553
98	0604716A	05	TERRAIN INFORMATION - ENG DEV	3,140	0	0

Summary Recap of Budget Activities				Thousands of Dollars FY 2005	FY 2006	FY 2007
99	0604726A	05	INTEGRATED METEOROLOGICAL SUPPORT SYSTEM	2,442	0	0
100	0604741A	05	AIR DEFENSE COMMAND, CONTROL AND INTEL - ENG	72,052	41,512	21,757
101	0604742A	05	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	41,052	39,993	40,006
102	0604746A	05	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	9,074	2,221	8,136
103	0604760A	05	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - ENGIN	26,323	29,628	19,596
104	0604766A	05	TACTICAL EXPLOITATION SYSTEM/DCGS (TIARA)	21,496	0	0
105	0604768A	05	BRILLIANT ANTI-ARMOR SUBMUNITION (BAT)	1,748	0	0
106	0604778A	05	POSITIONING SYSTEMS DEVELOPMENT (SPACE)	1,961	0	0
107	0604780A	05	COMBINED ARMS TACTICAL TRAINER (CATT)	16,304	43,344	39,901
108	0604783A	05	JOINT NETWORK MANAGEMENT SYSTEM	10,244	5,019	5,187
109	0604801A	05	AVIATION - ENG DEV	3,236	1,380	0
110	0604802A	05	WEAPONS AND MUNITIONS - ENG DEV	150,030	104,029	130,581
111	0604804A	05	LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV	86,918	14,150	40,301
112	0604805A	05	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - ENG DEV	217,686	318,947	10,783
113	0604807A	05	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPM	19,315	16,487	14,509
114	0604808A	05	LANDMINE WARFARE/BARRIER - ENG DEV	57,090	74,482	118,078
115	0604814A	05	ARTILLERY MUNITIONS - EMD	137,391	114,709	102,554
116	0604817A	05	COMBAT IDENTIFICATION	12,068	5,395	39
117	0604818A	05	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWAR	64,585	66,026	69,172
118	0604819A	05	LOSAT	17,403	0	0
119	0604820A	05	RADAR DEVELOPMENT	5,848	5,008	2,527
120	0604822A	05	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	58,007	70,105	61,194
121	0604823A	05	FIREFINDER	10,332	45,405	70,151
122	0604827A	05	SOLDIER SYSTEMS - WARRIOR DEM/VAL	0	58,473	27,498
123	0604854A	05	ARTILLERY SYSTEMS - EMD	12,016	5,397	1,650
124	0604865A	05	PATRIOT PAC-3 THEATER MISSILE DEFENSE ACQ - EMD	60,408	0	0
125	0604869A	05	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)	0	284,695	329,583
126	0604870A	05	NUCLEAR ARMS CONTROL MONITORING SENSOR NETWORK	0	0	7,428
127	0605013A	05	INFORMATION TECHNOLOGY DEVELOPMENT	68,893	66,106	70,185
	Total: System Development and Demonstration			4,370,672	5,061,368	6,239,030
	Management support					
128	0604256A	06	THREAT SIMULATOR DEVELOPMENT	32,292	28,878	21,180
129	0604258A	06	TARGET SYSTEMS DEVELOPMENT	14,882	11,784	10,928
130	0604759A	06	MAJOR T&E INVESTMENT	65,999	66,030	64,953
131	0605103A	06	RAND ARROYO CENTER	21,846	23,460	20,171
132	0605301A	06	ARMY KWAJALEIN ATOLL	139,339	153,317	178,891

Summary Recap of Budget Activities				Thousands of Dollars FY 2005	FY 2006	FY 2007
133	0605326A	06	CONCEPTS EXPERIMENTATION	20,866	38,496	21,626
134	0605502A	06	SMALL BUSINESS INNOVATIVE RESEARCH	261,896	0	0
135	0605601A	06	ARMY TEST RANGES AND FACILITIES	188,226	364,007	389,840
136	0605602A	06	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	71,804	68,299	74,066
137	0605604A	06	SURVIVABILITY/LETHALITY ANALYSIS	44,104	41,703	40,780
138	0605605A	06	DOD HIGH ENERGY LASER TEST FACILITY	17,300	19,505	16,622
139	0605606A	06	AIRCRAFT CERTIFICATION	2,920	2,709	4,580
140	0605702A	06	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	9,440	8,703	8,571
141	0605706A	06	MATERIEL SYSTEMS ANALYSIS	15,908	15,296	16,526
142	0605709A	06	EXPLOITATION OF FOREIGN ITEMS	4,670	4,643	4,993
143	0605712A	06	SUPPORT OF OPERATIONAL TESTING	70,181	75,891	80,057
144	0605716A	06	ARMY EVALUATION CENTER	56,837	56,388	60,129
145	0605718A	06	SIMULATION & MODELING FOR ACQ, RQTS, & TNG (SMART)	1,853	5,360	5,441
146	0605737A	06	DEFENSE FOREIGN LANGUAGE TRAINING	4,800	0	0
147	0605801A	06	PROGRAMWIDE ACTIVITIES	59,484	53,496	72,214
148	0605803A	06	TECHNICAL INFORMATION ACTIVITIES	37,525	46,760	34,834
149	0605805A	06	MUNITIONS STANDARDIZATION, EFFECTIVENESS & SAFETY	38,042	37,530	18,726
150	0605857A	06	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	4,334	3,957	4,418
151	0605898A	06	MANAGEMENT HEADQUARTERS (RESEARCH AND DEVELOPMENT)	12,386	12,724	14,092
152	0909999A	06	FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS	35	0	0
	Total: Management support			1,196,969	1,138,936	1,163,638
	Operational system development					
153	0603778A	07	MLRS PRODUCT IMPROVEMENT PROGRAM	105,395	113,652	74,506
154	0603820A	07	WEAPONS CAPABILITY MODIFICATIONS UAV	0	5,323	16,532
155	0102419A	07	JOINT LAND ATTACK CRUISE MISSILES DEFENSE (JLENS)	79,279	105,888	264,491
156	0203726A	07	ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	18,846	16,820	17,394
157	0203735A	07	COMBAT VEHICLE IMPROVEMENT PROGRAMS	17,162	31,080	12,741
158	0203740A	07	MANEUVER CONTROL SYSTEM	31,050	40,813	37,976
159	0203744A	07	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAM	297,917	336,884	301,739
160	0203752A	07	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	7,117	2,036	860
161	0203758A	07	DIGITIZATION	24,055	13,152	13,373
162	0203759A	07	FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW (FBCB2	43,668	19,913	26,375
163	0203801A	07	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	32,067	15,957	10,770
164	0203802A	07	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	0	18,414	19,706
165	0203806A	07	TRACTOR RUT	3,179	0	0
166	0203808A	07	TRACTOR CARD	8,640	6,700	7,242

Department of the Army
FY 2007 RDT&E Program
President's Budget FY 2007
Summary

Exhibit R-1

30-Jan-2006

Summary Recap of Budget Activities				Thousands of Dollars FY 2005	FY 2006	FY 2007
167	0208010A	07	JOINT TACTICAL COMMUNICATIONS PROGRAM (TRI-TAC)	17,354	24,550	5,804
168	0208053A	07	JOINT TACTICAL GROUND SYSTEM	9,817	12,670	15,044
169	0208058A	07	JOINT HIGH SPEED VESSEL (JHSV)	0	3,215	20,397
170	0303028A	07	SECURITY AND INTELLIGENCE ACTIVITIES	14,391	11,130	3,170
171	0303140A	07	INFORMATION SYSTEMS SECURITY PROGRAM	28,531	26,323	23,828
172	0303141A	07	GLOBAL COMBAT SUPPORT SYSTEM	90,310	68,264	55,272
173	0303142A	07	SATCOM GROUND ENVIRONMENT (SPACE)	51,759	57,822	41,336
174	0303150A	07	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	18,394	13,452	12,200
175	0303158A	07	JOINT COMMAND AND CONTROL - ARMY	0	1,672	4,057
176	0305204A	07	TACTICAL UNMANNED AERIAL VEHICLES	53,900	147,040	114,087
177	0305206A	07	AIRBORNE RECONNAISSANCE ADV DEVELOPMENT	8,108	5,321	12
178	0305208A	07	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS (JMIP)	54,013	91,859	120,562
179	0702239A	07	AVIONICS COMPONENT IMPROVEMENT PROGRAM	954	980	1,031
180	0708045A	07	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	100,349	111,788	68,075
181	0P0GMTOT	07	OTHER ARMY PROGRAMS	9,867	3,910	3,700
182	1001018A	07	NATO JOINT STARS	587	561	688
	Total:		Operational system development	1,126,709	1,307,189	1,292,968
Total: RDT&E, Army				10,576,058	11,026,047	10,855,559

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CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	0604742A	101	522
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Logistics and Engineer Equipment - Adv Dev	0603804A	071	150
Logistics and Engineer Equipment - Eng Dev	0604804A	111	642
Meads Concepts - Dem/Val	0603869A	077	220
Medical Materiel/Medical Biological Defense Equipm	0604807A	113	711
Medical Systems - Adv Dev	0603807A	073	182
MEDIUM TACTICAL VEHICLES	0604604A	086	341
NATO Research and Development	0603790A	068	135
Night Vision Systems - Eng Dev	0604710A	095	458
Night Vision Systems Advanced Development	0603774A	065	110
Non Line of Sight Cannon	0604647A	094	450
Non Line of Sight Launch System	0604646A	093	442
Non-System Training Devices - Eng Dev	0604715A	097	498
Nuclear Arms Control Monitoring Sensor Network	0604870A	126	871
Patriot PAC-3 Theater Missile Defense Acq - EMD	0604865A	124	859
Patriot/MEADS Combined Aggregate Program (CAP)	0604869A	125	862
RADAR DEVELOPMENT	0604820A	119	809
Smoke, Obscurant and Target Defeating Sys-Adv Dev	0603627A	060	75
Smoke, Obscurant and Target Defeating Sys-Eng Dev	0604609A	087	347
Soldier Support and Survivability	0603747A	063	89
Soldier Systems - Advanced Development	0603827A	074	200
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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603024A - Unique Item Identification (UID)**	**U02**

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
U02 UNIQUE ITEM IDENTIFICATION (UID)	0	1479	1520	1520	1520	0	0	0	6039

A. Mission Description and Budget Item Justification: The Department of Defense (DoD) vision for unique item identification is to uniquely identify tangible items in order to facilitate item tracking in DoD business systems and provide reliable and accurate technical and financial data for management, financial accountability, and asset management purposes. The policy relies to the maximum extent practicable on commercial item markings and does not impose unique government data requirements.

Unique Identification (UID) is a mandatory DOD requirement on all solicitations issued on or after January 1, 2004. UID, or a recognized equivalent, is required for all property items delivered to the Government if: (1) the acquisition cost is $5,000 or more, (2) it is either a serially managed, mission essential or controlled inventory piece of equipment or a reparable item, or a consumable item or material where permanent identification is required, (3) it is a component of a delivered item, if the program manager has determined that unique identification is required, or (4) a UID or a DOD-recognized UID equivalent is available.

The following strategic outcomes have been defined:

* Data integration across Department, Government, and Industry systems as envisioned by the DoD Business Enterprise Architecture
* Improved item management and accountability
* Improved asset visibility and life-cycle management
* Clean audit opinions on the property, plant, and equipment and operating materials and supplies portions of DoD financial statements

The DoD UID focuses first on the requirements for new equipment, major modifications, and re-procurements of equipment and spares. The second phase of implementation will apply the UID policy to existing assets and other business venues including maintenance. This includes the data mining tool which will screen purchase card buys for tangible property and forward these transactions to the applicable property book officer (using the purchase card authorization tool) to ensure the UIDs for these buys have been entered into the UID registry. Unique identification of tangible items will: Help achieve integration of item data across the Department, Federal and industry asset management systems envisioned by the DoD Business Enterprise Architecture (BEA); improve item management and accountability; improve asset visibility and life cycle management; and, enable clean audit opinions on tangible item portions of DoD financial statements.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
The unique identifier registry has been deployed. As of 11 January 2006, 264 contractors are providing item unique identifiers allowing the department to individually track 78,964 newly procured items and 11,820 previously procured items. Combined there are 90,784 personal property entries into the registry. Full asset visibility for all functional areas will not occur until all systems from logistics, acquisition, transportation, property management, and financial are enhanced to support item unique identification. The following system enhancements bring the Defense Department closer to achieving full asset visibility. The capability to track government furnished property shipments to contractors has been developed in the wide area workflow system. The unique identifier registry has been enhanced to collect and maintain item unique upgrades or major overhauls effecting the life cycle and or cost of that specific item. The Defense Medical Logistics Support System has been enhanced to support item unique identification. The Plant Clearance and Lost Damaged Destroyed system used by the Defense Contract Management Agency to manage personal property has been redesigned to support item unique identification. The site unique identification registry has been established and is being populated to provide the Department of Defense visibility of real property across the department. FY 2007 and out years will continue with analysis design, development and integration of the unique identification registries.	0	1479	1520

Total	0	1479	1520

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603024A - Unique Item Identification (UID)**	**U02**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	0	0	0
Current BES/President's Budget (FY 2007)	0	1479	1520
Total Adjustments	0	1479	1520
Congressional Program Reductions		-6	
Congressional Rescissions		-15	
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OMA APE 432612	12225	13700	13700	13700	13700	14047	14402	0	95474

Comment:

D. Acquisition Strategy The Unique Identification UID) acquisition strategy will make extensive use of Integrated Product Teams (IPTs) consisting of in-house matrix and contract support. The strategy will be accomplished via performance-based acquisition procurement efforts. Spiral software development will be employed through the evolutionary acquisition of time-phased requirements through blocks of capability building on preceding blocks while ongoing to full, interoperable capability. UID must support the near term needs of the acquisition community while achieving the long-term goal of a collaborative business enterprise environment. The evolutionary acquisition approach UID is taking will acquire contractor support and services for program management and integration early in its acquisition life cycle phases. Phased implementation and incremental development will align with the Acquisition Business Enterprise Architecture. Implementation of maturing technology and commercial off-the-shelf software (COTS) will provide the necessary flexibility for building an Information Technology environment to sustain a collaborative business enterprise and achieve the Department of Defense goal for a Global Information Grid (GIG).

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603024A - Unique Item Identification (UID)

PROJECT
U02

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
Analysis and Design, Development, Integration and Testing	Competetive contract, Time & Materials	Northrop Grumman and Defense Information Systems Agency (DISA)	0	0		1479	1-4Q	1520	1-4Q	Continue	0	0
Subtotal:			0	0		1479		1520		Continue	0	0

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			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									

Project Total Cost:	**0**	**0**		**1479**		**1520**		**0**	**0**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603024A - Unique Item Identification (UID)

PROJECT
U02

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Development, Design and Implementation																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603024A - Unique Item Identification (UID)**	**U02**

Schedule Detail	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Development, Design and Implementation		1-4Q	1-4Q	1-4Q	1-4Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603305A - Army Missile Defense Systems Integration

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		109799	81494	11233	11272	13819	14487	10595	0	387800
TR3	MOBILE TACTICAL HIGH ENERGY LASER (MTHEL)	41224	2464	0	0	0	0	0	0	96948
TR4	MISSILE DEFENSE INTEGRATION	55954	65298	1698	1814	1171	1642	0	0	182012
TR5	MISSILE DEFENSE BATTLELAB	12621	12746	9535	9458	12648	12845	10595	0	104039
TR6	ARMY AIR AND MISSILE DEFENSE	0	986	0	0	0	0	0	0	4801

A. Mission Description and Budget Item Justification: This Program Element funds missile defense systems integration efforts for both the Army Space and Missile Defense Command (SMDC) and the Program Executive Office for Missiles and Space (PEO-MS).

Project TR4 funds the Future Warfare Center (FWC) Directorate of Combat Development, (formerly the Force Development Integration Center (FDIC)) to execute SMDC's specified proponency role for maturing solutions to Doctrine, Organizations, Training, Materiel, Leadership and Education, Personnel and Facilities (DOTMLPF) issues related to Ground-Based Missile Defense.

Project TR5 funds FWC (formerly the Space and Missile Defense Battle Lab (SMDBL)) to mature warfighting concepts, focus military science and technology research, and conduct warfighting experiments associated with SMDC's ASCC mission. Additionally, this project funds the delivery of innovations to the warfighter through prototyping, operational analysis, and experimentation in support of current and future Forces.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
4 - Advanced Component Development and Prototypes	**0603305A - Army Missile Defense Systems Integration**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	112069	14573	15089
Current BES/President's Budget (FY 2007)	109799	81494	11233
Total Adjustments	-2270	66921	-3856
Congressional Program Reductions		-822	
Congressional Rescissions		-357	
Congressional Increases		68100	
Reprogrammings	-2270		
SBIR/STTR Transfer			
Adjustments to Budget Years			-3856

Project TR3 FY06 Congressional Add is in the amount of $2.5 million for Mobile Tactical High Energy Laser (MTHEL).

Project TR4 FY06 Congressional Adds in the amount of $64.6 million include the following projects: $2.6 million for Advanced Battery Technology; $.5 million for Advanced Laser Electric Power; $1.2 million for Advanced Strap Down Seeker (ASDS); $1.8 million for Aero Acoustic Test Facility (Phase II); $1.8 million for Army Missile Defense - Advanced Electronics Rosebud Integration; $1 million for Army Missile Defense Integration of Thermo-Acoustic Piezo Energy Conversion; $1 million for Ballute Technology Development; $1 million for Biological Air Filtering System Technology (BAFST); $6.2 million for Carbon Foam Program - Missile Defense; $1 million for Component Integrated Modeling and Simulation Test Analysis Environment; $2.4 million for Continuation of Microelectromechanical Systems and Nanotechnology; $2.4 million for Credible Threat Prediction Capability Development; $2.1 million for Dielectric Enhanced Sensor Systems (DESS); $2.6 million for Global Infrasound Monitoring; $1.2 million for Integrated Composite Missile Structures; $1.5 million for Joint Wavelet Transform of Hyperspectral Data (JWaTH); $1 million for Low Coast Avionics; $1 million for Low Cost Surveillance System (LCSS); $1 million for Mobile Optical Sensor Suite (MOSS); $2.8 million for Multiple Component Army Flight Test; $3.1 million for Next Generation Interceptors Materials Research; $2.6 million for Next Generation Passive Sensors; $1.4 million for Radar Power Technology (RPT); $1.5 million for Radar-on-a-Chip (RAD-CHIP) Research Program; $2 million for Standoff Hazardous Agent Detection and Evaluation System (SHADES) Research Program; $4 million for Standoff Sensor for Radionuclide Identification (SSRID); $1 million for Thermal and Electronic Nanoscale Transport (TENT); $3.4 million for Transfer Missile Power System - Onboard Vehicle Power; $5.2 million for UAV Platform for Sensor Package and Mission Profile Development; $2.8 million for Ultra Light UAV Sensor Platform; and $1.5 million for Vertical Integration for Missile Defense Surveillance Data. FY07 funds realigned to higher priority requirements.

Project TR6 FY06 Congressional Add is in the amount of $1 million for Medical Imaging.

FY07 funds realigned to higher priority requirements.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603305A - Army Missile Defense Systems Integration**	**TR4**

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
TR4	MISSILE DEFENSE INTEGRATION	55954	65298	1698	1814	1171	1642	0	0	182012

A. Mission Description and Budget Item Justification: HQDA General Order No. 5, 1 March 1998, designated the US Army Space and Missile Defense Command (SMDC), the Army specified proponent for Ground-Based Midcourse Ballistic Missile Defense, and the Army operational integrator for Theater Missile Defense (TMD) and AR 5-22 designates SMDC as the specified proponent for Ballistic Missile Defense (BMD). As such, SMDC is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize those missile defense capabilities.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue efforts to integrate concepts and DOTMLPF solutions for Army ground-based missile defense capabilities, across the four domains of missile defense (passive defense, active defense, attack operations and battle management).	1822	1642	1698
Includes FY05 Congressional Add for Interactive Modeling and Simulation; Dielectric Enhanced Sensor System; Advanced Battery Technology; Next Generation Passive Surveillance Systems; Vertical Integration for Missile Defense Surveillance Data; Global Infrasound Monitoring of Atmosphere; Ballute Technology Development; Nanoscience Initiative; Remote Sensor Monitoring Technology; Ultra Light UAV Sensor Platform; Credible Threat Prediction Capability Development; Advanced Laser Electric Power Program; Composite Chassis; Multiple Component Army Flight Test; Low Cost Avionics; Advanced Strap-Down Seeker; Carbon Foam Missile Defense Agency; Eagle Eyes Nuclear Detection Program; Next Generation Hardware-in-the-loop; integrated Composite Airframe Structure Program; Anti-Stealth Research-Passive Surveillance System; C4ISR Visualization; Spectral Operations Resources Center; and Future Laser Neutralization System.	54132	0	0
Includes FY06 Congressional Adds for Advanced Battery Technology; Advanced Laser Electric Power; Advanced Strap Down Seeker (ASDS); Aero Acoustic Test Facility (Phase II); Army Missile Defense - Advanced Electronics Rosebud Integration; Army Missile Defense Integration of Thermo-Acoustic Piezo Energy Conversion; Ballute Technology Development; Biological Air Filtering System Technology (BAFST); Carbon Foam Program - Missile Defense; Component Integrated Modeling and Simulation Test Analysis Environment; Continuation of Microelectromechanical Systems and Nanotechnology; Credible Threat Prediction Capability Development; Dielectric Enhanced Sensor Systems (DESS); Global Infrasound Monitoring; Integrated Composite Missile Structures; Joint Wavelet Transform of Hyperspectral Data (JWaTH); Low Coast Avionics; Low Cost Surveillance System (LCSS); Mobile Optical Sensor Suite (MOSS); Multiple Component Army Flight Test; Next Generation Interceptors Materials Research; Next Generation Passive Sensors; Radar Power Technology (RPT); Radar-on-a-Chip (RAD-CHIP) Research Program; Standoff Hazardous Agent Detection and Evaluation System (SHADES) Research Program; Standoff Sensor for Radionuclide Identification (SSRID); Thermal and Electronic Nanoscale Transport (TENT); Transfer Missile Power System - Onboard Vehicle Power; UAV Platform for Sensor Package and Mission Profile Development; Ultra Light UAV Sensor Platform; Vertical Integration for Missile Defense Surveillance Data.	0	63656	0
Total	55954	65298	1698

C. Acquisition Strategy Program supports the continuous integration of Army ground-based missile defense capabilities and Doctrine, Organization, Training, Material, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions. Various performers will conduct planned accomplishments.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603305A - Army Missile Defense Systems Integration

PROJECT
TR4

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
Various	Execute Congressional Adds	Various	47355	54132	2-4Q	63656	2-4Q	0		0	165143	0
Subtotal:			47355	54132		63656		0		0	165143	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
Govt support & support contracts	Various	Various	5093	1822	1-4Q	1642	1-4Q	1698	1-4Q	0	10255	0
Subtotal:			5093	1822		1642		1698		0	10255	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									

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									

Project Total Cost:	**52448**	**55954**		**65298**		**1698**		**0**	**175398**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603305A - Army Missile Defense Systems Integration

PROJECT
TR4

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Continue integration of Army missile defense capabilities & DOTMLPF solutio																												
Execute FY05 Congressional Adds																												
Execute FY06 Congressional Adds																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603305A - Army Missile Defense Systems Integration

PROJECT
TR4

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Continue integration of Army missile defense capabilities and DOTMLPF solutions	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Execute Congressional adds	1-4Q	2-4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603305A - Army Missile Defense Systems Integration**	**TR5**

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
TR5	MISSILE DEFENSE BATTLELAB	12621	12746	9535	9458	12648	12845	10595	0	104039

A. Mission Description and Budget Item Justification: This project funds the delivery of innovations to the warfighter in the Space and Missile Defense Command mission areas of Missile Defense, Space, Information Operations (IO), Global Strike (GS), Command, Control, Communications, Intelligence, Surveillance and Reconnaissance (C4ISR). The innovations are provided through prototyping, operational analysis and experimentation to support the future force. The project supports the Army Service Component Command responsibilities for integration of Army capabilities into U.S. Strategic Command.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Experiments/Advanced Prototype components into Command and Control (C2) Systems - Experiments assessed/exploited Doctrine, Organization, Training, Material, Leadership and Education, Personnel and Facilities (DOTMLPF) issues. Participated in major Army and Joint Experiments integrating space, missile defense, IO, GS and C4ISR organizational/operational concepts into the Army Campaign Plan (ACP). Assessed space, missile defense, IO, GS and C4ISR impacts on doctrine and materiel. Seventeen experiments will be completed in FY06. These include Joint Expeditionary Force 2006, Urban Resolve 2015, Joint Forces Command Experiment 06, other micro experiments hosted by other TRADOC Battle Labs (focusing on NET Operations, Intelligence Surveillance and Reconnaissance (ISR), and Battlefield Surveillance Brigade. Four major and four minor experiments are scheduled with TRADOC in FY07. The Future Operation Capability (FOC) test bed integrates commercial state-of-the-art technologies into C4ISR experiments. Prototype versions of the FOC supported operations Iraqi Freedom and Homeland Defense.	7714	7704	5960
Operational Analysis/Tools, Modeling and Simulation (M&S)- Studies and Analysis included operational assessments of concepts, doctrine, organizations, technologies and tactics. Also examined Future Combat system/Transformation issues for space and missile defense including Space Control, Army Equities in Space - Intelligence Surveillance and Reconnaissance (AEIS-ISR), Joint Ground Tracking, ISR Integration and targeting. Tools and M&S accomplishments included M&S for experimentation and operational assessments, and the maintenance of M&S tools. Evolving concepts will require analysis that addresses emerging needs in FY06-07. Space control will require analysis to support the military utility analysis and requirements definition in FY07. Additionally, M&S integration will be required to support the fielding of Army simulations and experiments for Information Operations and Global Strike. Plans include continued maintenance of M&S tools and support for experimentation and analysis.	4907	5042	3575
Total	12621	12746	9535

C. Acquisition Strategy Not applicable for this item.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603305A - Army Missile Defense Systems Integration

PROJECT
TR5

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
Subtotal:			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
Experiments, Exercises, Enhancements, Maintenance analysis	CPAFF/CPFF	Various, AL & CO	11293	5375	1-4Q	5478	1-4Q	2393	1-4Q	Continue	Continue	0
Govt Support and Support Contracts	MIPR/Allot	Various, AL , CO & NM	13082	7246	1-4Q	7268	1-4Q	7142	1-4Q	Continue	Continue	0
Subtotal:			24375	12621		12746		9535		Continue	Continue	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									

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									

Project Total Cost:			**24375**	**12621**		**12746**		**9535**		**0**	**0**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603305A - Army Missile Defense Systems Integration

PROJECT
TR5

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Conduct experiments, operational analysis, maintain M&S for ASCC Missions																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603305A - Army Missile Defense Systems Integration**	**TR5**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Conduct experiments, conduct operational analysis and maintain M&S tools for ASCC mission areas.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603308A - Army Missile Defense Systems Integration (Dem/Val)

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	31776	48186	11771	13191	15809	22647	23594	0	240770
978	SPACE CONTROL	925	943	2776	6292	7053	12970	12817	0	45641
988	RANGE UPGRADES	14468	0	0	0	0	0	0	0	22073
990	Space and Missile Defense Integration	16383	31373	8995	6899	8756	9677	10777	0	168556
997	Space and Missile Defense BattleLab	0	15870	0	0	0	0	0	0	4500

A. Mission Description and Budget Item Justification: This program element funds space systems integration efforts performed by both the Army Space and Missile Defense Command (SMDC) and the Program Executive Office for Missiles and Space (PEO MS).

SMDC: Headquarters, Department of the Army General Order Number 5, dated 1 March 1998, designated SMDC as the Army specified proponent for space and National Missile Defense (NMD), and the operational integrator for Theater Missile Defense (TMD). As such, SMDC is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize those space related capabilities.

Project #990 funds the Future Warfare Center (FWC) Directorate of Combat Development (formerly the Force Development Integration Center) to mature warfighting concepts, and validate concepts, identify capabilities needed to implement the validated concepts, and develop DOTMLPF solutions to realize those space related capabilities.

Project #978 funds the Army Core Space Control System (ACSCS) development that provides space control capabilities to meet current Army Requirements Review Committee guidance, DEPSECDEF directives, Army Requirements Oversight Council (AROC)-approved counter-surveillance and reconnaissance system Joint Initial Requirements Document (JIRD), and validated TRADOC capability gaps. Space Control has gained importance with proliferation of satellite technology and the commercial availability of these technologies to potential adversaries. Adversaries will have the capability to capitalize on these assets to identify friendly activities and operations, increase their lethality and intelligence gathering efforts, and thus, reduce our survivability, agility, versatility, and information superiority. The Army Core Space Control System is a System of Systems concept consisting of sensors (to see the satellites), shooters (to deny the satellites), and an integrating battle command capability. Space Control is critical to the Future Force for survivability in that it denies adversary imaging for precision targeting, thus reducing lethality, and limiting intelligence gathering. Space Control also supports the Future Force characteristics of agility and versatility by denying adversary space-based communications and information as our forces respond to varying shifts in intensity and mission requirements. ACSCS was formally trasitioned back to the U.S. Army Space and Missile Defense Command (USASMDC) from the Program Executive Office, Missiles and Space (PEO MS) in 2005.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603308A - Army Missile Defense Systems Integration (Dem/Val)

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	32131	9284	14805
Current BES/President's Budget (FY 2007)	31776	48186	11771
Total Adjustments	-355	38902	-3034
Congressional Program Reductions		-212	
Congressional Rescissions		-486	
Congressional Increases		39600	
Reprogrammings	-355		
SBIR/STTR Transfer			
Adjustments to Budget Years			-3034

FY06 includes Congressional adds ($39,600) for: Advanced Hypersonic Weapon (AHW) ($1,000), Allen Army Airfield Upgrades ($15,100), Low Cost Interceptor ($10,500), and Near Space Long Loiter Sensor Communications Platform ($13,000). FY07 funds realigned ($3,034) to higher priority requirements.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603308A - Army Missile Defense Systems Integration (Dem/Val)**	**978**

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
978 SPACE CONTROL	925	943	2776	6292	7053	12970	12817	0	45641

A. Mission Description and Budget Item Justification: The mission of Space Control is to provide freedom of action in space for friendly forces and to deny the same freedom to the enemy when directed. This includes offensive and defensive operations by the Army to gain and maintain space superiority in the space region and also involves maintaining situational awareness of events in space. The Army Core Space Control System (ACSCS) is a ground-based space capability that provides Counter Satellite Communications (C-SATCOM), space surveillance system (i.e., Space and Threat Surveillance (SaTS) System), a Counter Imagery System, and an integrated Battle Management, Command, Control, Communications, Computers, and Intelligence (BMC4I) System. The Army Requirement Oversight Council approved the Initial Capability Document (ICD) for C-SATCOM in 2005, allowing this initial capability to advance toward the Technology Development Phase. ACSCS was formally transitioned back to the U.S. Army Space and Missile Defense Command (USASMDC) from the Program Executive Office, Missiles and Space (PEO MS) in 2005.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Develop and maintain Space Control program plans and strategies.	550	236	250
Define Space Control System Architectural requirements.	100	257	250
Develop system designs and perform systems engineering.	275	450	2276
Total	925	943	2776

C. Acquisition Strategy Acquisition plans for C-SATCOM, SaTS, and Counter EO will be developed in accordance with National Security Space (NSS) Acquisition Policy 03-01 and will utilize evolutionary acquisition approaches with spiral developments. These system designs will leverage any Science and Technology Objectives (STO) or Advanced Concept Technology Demonstrations (ACTDs) from various technology developers that are ready to transition into an acquisition program. Once systems are fielded, they will be retrofitted with upgraded hardware and software.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603308A - Army Missile Defense Systems Integration (Dem/Val)

PROJECT
978

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
Program plans and strategies	Various	Various	350	300	1-4Q	286	1-4Q	300	1-4Q	0	1236	0
Systems and technical architectures	Various	Various	301	275	1-4Q	150	1-4Q	150	1-4Q	0	876	0
Systems engineering and prototypes	Various	Various	224	250	1-4Q	307	1-4Q	2001	1-4Q	0	2782	0
Subtotal:			875	825		743		2451		0	4894	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
Government support and support contracts	Various	Various	50	50	1-4Q	50	1-4Q	125	1-4Q	0	275	0
Subtotal:			50	50		50		125		0	275	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
T&E Support	Various	Various	0	0	1-4Q	100	1-4Q	150	1-4Q	0	250	0
Subtotal:			0	0		100		150		0	250	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
Administration processes	Various	Various	0	50	1-4Q	50	1-4Q	50	1-4Q	0	150	0
Subtotal:			0	50		50		50		0	150	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603308A - Army Missile Defense Systems Integration (Dem/Val)**	**978**

Project Total Cost:	**925**	**925**		**943**		**2776**		**0**	**5569**	**0**

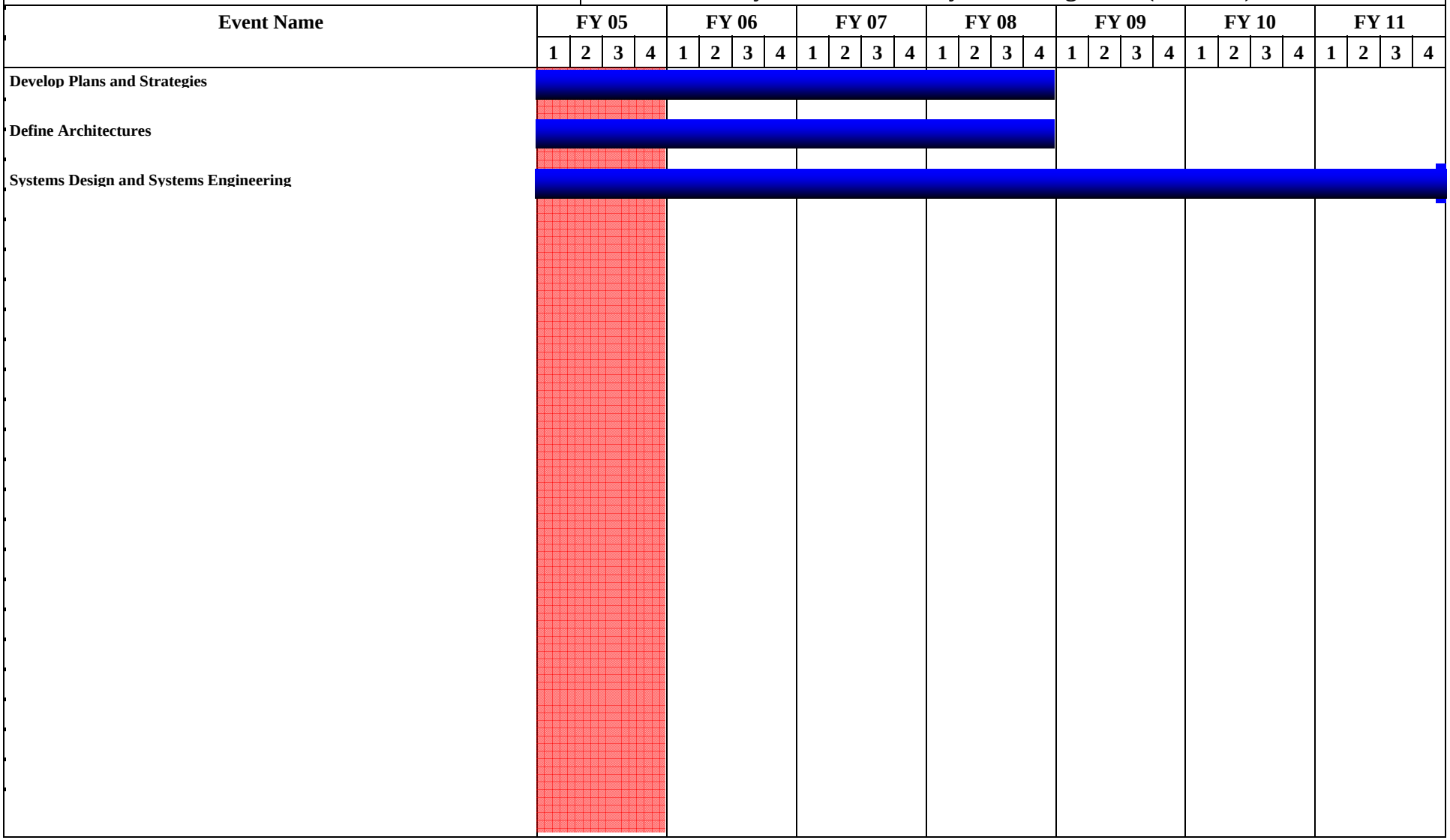
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603308A - Army Missile Defense Systems Integration (Dem/Val)

PROJECT
978



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603308A - Army Missile Defense Systems Integration (Dem/Val)

PROJECT
978

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Develop Plans and Strategies	1-4Q	1-4Q	1-4Q	1-4Q			
Define Architectures	1-4Q	1-4Q	1-4Q	1-4Q			
Systems Design and Systems Engineering	1-4Q	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
4 - Advanced Component Development and Prototypes	**0603308A - Army Missile Defense Systems Integration (Dem/Val)**	**990**

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
990	Space and Missile Defense Integration	16383	31373	8995	6899	8756	9677	10777	0	168556

A. Mission Description and Budget Item Justification: Headquarters, Department of the Army General Order Number 5, dated 1 March 1998, designated Army Space and Missile Defense Command (SMDC) as the Army specified proponent for space. As such, SMDC is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize those space related capabilities.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Plan, develop, and execute concepts and DOTMLPF solutions for Army exploitation of space systems, including Space-Based Infrared System (SBIRS), Multi-Mission Mobile Processor (M3P), Space-Based Radar, Space Support Element Toolsets, and various space control capabilities. Represent Army positions and defend Army equities relative in Joint/DoD and inter-Service activities; e.g., National Security Space Architect (NSSA) Program Assessments, etc. Lead Army's efforts in developing and executing the Space Domain of the Army Knowledge Enterprise Architecture. Develop space modernization strategies and sponsor exploration of future space warfighting concepts in support of Army Transformation.	4053	8327	8995
Includes FY05 Congressional adds for Low Cost Interceptor, P3 Power System and Radar Power Technology.	12330	0	0
Includes FY06 Congressional adds for: Advanced Hypersonic Weapon (AHW), Low Cost Interceptor, and Near Space Long Loiter Sensor Communications Platform.	0	23046	0
Total	16383	31373	8995

C. Acquisition Strategy Program is continuous. Various performers will conduct planned accomplishments.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603308A - Army Missile Defense Systems Integration (Dem/Val)**	**990**

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
Various	Various	Various	104521	0		0		0		0	104521	0
Execute Congressional adds	Various	Various	0	0	2-4Q	23046		0		0	23046	0
Subtotal:			104521	0		23046		0		0	127567	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
GOVT SUPPORT & SUPPORT CONTRACTS	VARIOUS	VARIOUS	13246	16383	1-4Q	8327	1-4Q	8995	1-4Q	Continue	0	0
Subtotal:			13246	16383		8327		8995		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
Subtotal:			0									

Remarks: Not Applicable

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

Remarks: Not Applicable

Project Total Cost:	**117767**	**16383**		**31373**		**8995**		**0**	**127567**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603308A - Army Missile Defense Systems Integration (Dem/Val)

PROJECT
990

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Continue development/synchronization of Army space and DOTMLPF solutions.																												
Execute FY05 Congressional Adds																												
Execute FY06 Congressional Adds																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603308A - Army Missile Defense Systems Integration (Dem/Val)

PROJECT
990

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Execute FY05 Congressional adds.	1-4Q						
Continue development/synchronization of Army space and DOTMLPF solutions	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Execute FY06 Congressional adds		2-4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

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		109170	100190	143417	101574	72178	0	0	0	641871
E88	INTEGRATED FIRE CONTROL AIR MISSILE DEFENSE	19984	24480	41746	47995	50096	0	0	0	224576
S24	ARMY SIAP SYSTEMS ENGINEERING	9017	9994	10328	10292	199	0	0	0	53696
S25	ARMY SIAP OPERATIONAL INTEGRATION	2737	18651	3005	2813	2811	0	0	0	32660
S26	ARMY SIAP IMPLEMENTATION	14897	25742	41570	17073	903	0	0	0	110352
S27	JOINT DISTRIBUTED ENGINEERING PLANT (JDEP)	3163	3341	1314	0	0	0	0	0	11285
S32	JOINT SIAP SYSTEM ENGINEERING	35799	15222	45454	23401	18169	0	0	0	182969
S34	AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION	23573	2760	0	0	0	0	0	0	26333

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

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	109217	83063	128570
Current BES/President's Budget (FY 2007)	109170	100190	143417
Total Adjustments	-47	17127	14847
Congressional Program Reductions		-660	
Congressional Rescissions		-1013	
Congressional Increases		18800	
Reprogrammings	-47		
SBIR/STTR Transfer			
Adjustments to Budget Years			14847

FY 2006 (+$17127) - Congressional increase (+$4800) Army Extended Range Attack Missile (AERAM), (+$4000) AERAM Turbine development, ($3500) Geospatial Info Decision Support-SIAP, (+$2700) Situspace Single Integrated Space Picture, (+$2800) Hardware in the Loop Test Bed, and (+$1000) Command Responder; Congressional reduction (-$1673) for Congressional general reductions and rescissions.
FY 2007 - Funds provided for Integrated Architectural Behavioral Model (IABM)

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

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

COST (In Thousands)		FY 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
E88	INTEGRATED FIRE CONTROL AIR MISSILE DEFENSE	19984	24480	41746	47995	50096	0	0	0	224576

A. Mission Description and Budget Item Justification: Cruise Missile Defense/Integrated Fire Control - This project will provide for development of the Integrated Fire Control (IFC) capability that is essential to defeat the emerging cruise missile threat. The IFC capability is a critical enabler for the transformation of the Army's current air and missile defense systems to a component-based, Integrated Air and Missile Defense (IAMD)Program Architecture. IFC will provide network centric air and missile defense protection of high value assets, operational flexibility through wide area battle coordination and counters stressing threats at extended ranges. IFC enables fire control quality track and/or measurement data from any sensor to be used to execute an engagement with the most effective/efficient available weapon system. IFC provides the network and functionality necessary to fully exploit the capabilities provided by advanced elevated sensors. This project defines the integrated air and missile defense program architecture for IFC, develops requirements and interface specifications, develops specific IFC capabilities, and performs integration and testing of the IFC architecture. The IFC capabilities that this project will develop are an essential component of the development of an effective cruise missile defense capability. This project will be coordinated with similar IFC projects/programs within the other services and the Missile Defense Agency to evolve toward a Joint IFC capability. (FY05 Funding for this project was moved from PE 0603327, project S24).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Cruise Missile Defense - Integrated Fire Control	19984	24480	41746
Total	19984	24480	41746

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0603869A, Project 01C MEADS	251298	0	0	0	0	0	0	0	251298
0203801A, Project 036 PATRIOT Product Improvement	32067	15957	10770	11051	11297	12227	12734	0	106103
654869A, Project M06, PATRIOT/MEADS CAP	0	284695	329583	459684	517049	592013	422005	0	2605029
MSLS PROC C50001, PARTIOT/MEADS CAP	0	0	0	89735	65296	429735	674386	0	1259152
0604869A, Project 01C PAC-3	60408	0	0	0	0	0	0	0	60408
PE 0102419A, JLENS	79279	105888	264491	465214	353856	335490	301143	0	1905361
OPA BZ0525, JLENS Production	0	0	0	0	0	30471	476728	0	507199
0604802A, Project S23 SLAMRAAM	63084	35587	26961	10132	0	0	0	0	135764
SSN C81004, SLAMRAAM Production	2438	19061	22039	59314	82656	82143	60979	0	328630
0604820A, SENTINEL	5848	5008	2527	2622	0	0	0	0	16005

OPA WK5053, SENTINEL Production	10566	8289	15125	20914	33394	33239	25314	0	146841
MSLS PROC C49100 Patriot	496990	483260	489067	472907	478795	0	0	0	2421019

Comment: This PE project is an integral part of the PEO, Missiles and Space Integrated Air and Missile Defense (IAMD) Program including Integrated Fire Control, JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, JTAGS, SENTINEL, and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
E88

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 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
CMD Integrated Fire Control Development	MIPR, 1095, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	19984		17129	1-4Q	27718	1-4Q	0	0	0
Integrated Product and Development	MIPR, 1095, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	0		1375	1-4Q	3040	1-4Q	0	0	0
Subtotal:			0	19984		18504		30758		0	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
Cruise Missile Defense - Integrated Fire Control	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	1780	0		1081	1-4Q	1217	1-4Q	0	0	0
Science and Technology Analysis			2980	0		0		0		0	0	0
Army Space Architectural Analysis			3990	0		0		0		0	0	0
Subtotal:			8750	0		1081		1217		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
Testing of IFC capability	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	0		4895	1-4Q	9771	1-4Q	0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

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

Subtotal:			0	0		4895		9771		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									
Project Total Cost:			**8750**	**19984**		**24480**		**41746**		**0**	**0**	**0**

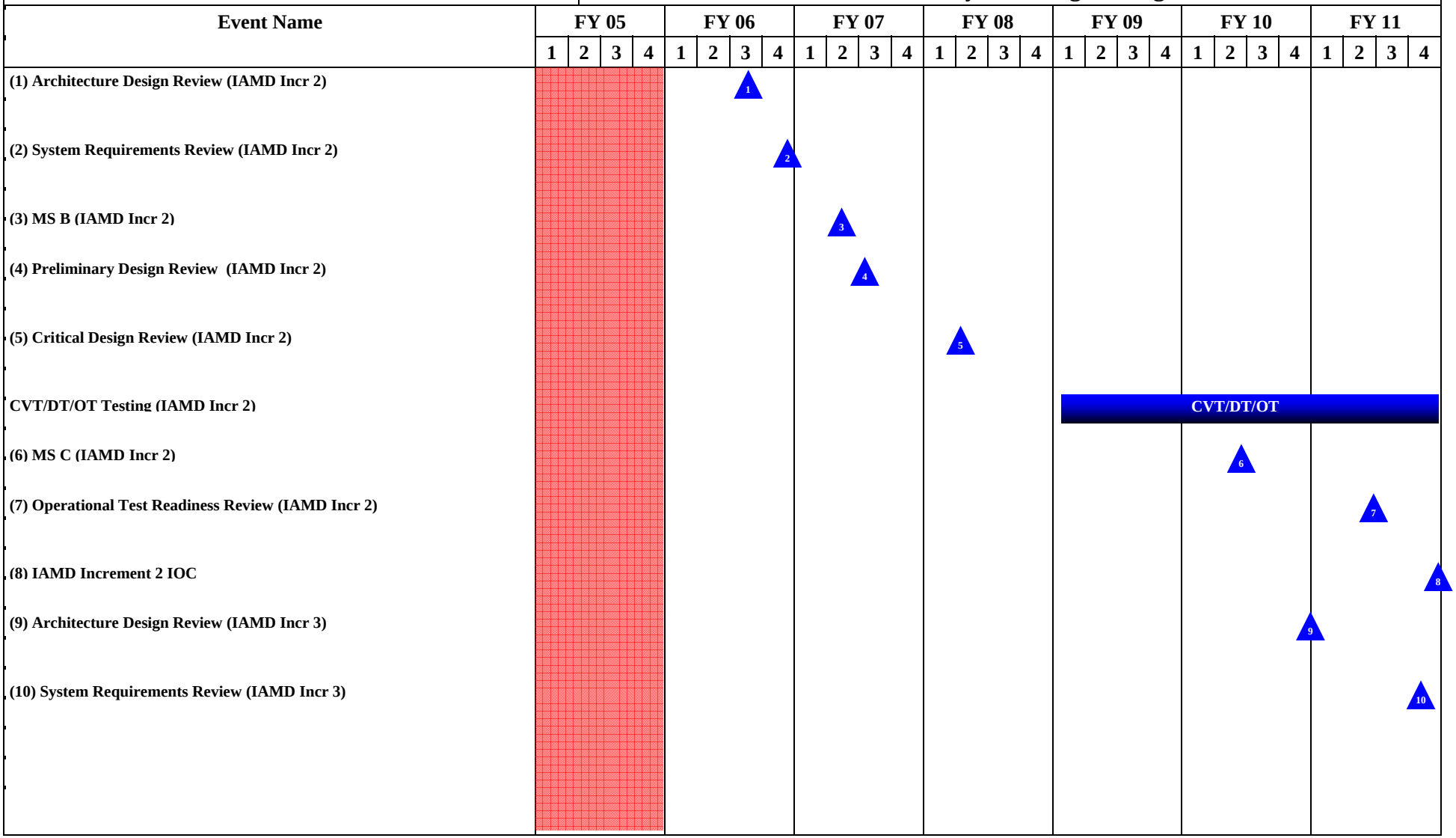
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
E88



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
E88

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Architecture Design Review (IAMD Incr 2)		3Q					
System Requirements Review (IAMD Incr 2)		4Q					
MS B (IAMD Incr 2)			2Q				
Preliminary Design Review (IAMD Incr 2)			3Q				
Critical Design Review (IAMD Incr 2)				2Q			
CVT/DT/OT Testing (IAMD Incr 2)					1-4Q	1-4Q	1-4Q
MS C (IAMD Incr 2)						2Q	
Operational Test Readiness Review (IAMD Incr 2)							2Q
Increment 2 IOC							4Q
Architecture Design Review (IAMD Incr 3)						4Q	
System Requirements Review (IAMD Incr 3)							4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

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

COST (In Thousands)		FY 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
S24	ARMY SIAP SYSTEMS ENGINEERING	9017	9994	10328	10292	199	0	0	0	53696

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

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Program Management / Systems Engineering	2729	2464	2230
Identify and Fix Critical Interoperability Deficiencies (SIAP)	1362	1527	1367
Development and Evaluation of SIAP Integrated Architecture and Joint Track Managers	4926	6003	6731
Total	9017	9994	10328

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 643327, Project S25, SIAP Operational Integration	2737	18651	3005	2813	2811	0	0	0	30017
PE 643327, Project S26, SIAP Implementation	14897	25742	41570	17073	903	0	0	0	100185
PE 643327, Project S32, Joint SIAP Systems Engineering	35799	15222	45454	23401	18169	0	0	0	138045
PE 643327, Project E88, Integrated Fire Control Air Missile Defense	19984	24480	41746	47995	50096	0	0	0	184301

Comment: This PE project is an integral part of the PEO, Missiles and Space Integrated Air and Missile Defense (IAMD) Program including Integrated Fire Control, JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, JTAGS, SENTINEL, and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

C. Acquisition Strategy Not applicable for this item.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S24

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 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
Systems Engineering support for the development and evaluation of the SIAP Integrated Architecture	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	7401	3000	1-4Q	4163	1-4Q	4001	1-4Q	Continue	0	0
Identification and development of fixes for critical interoperability deficiencies	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	2169	1250	1-4Q	1343	1-4Q	1770	1-4Q	Continue	0	0
Subtotal:			9570	4250		5506		5771		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
Program Management, Army JSSEO Staff and Modeling and Simulation	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	4296	3089	1-4Q	1503	1-4Q	1520	1-4Q	Continue	0	0
Subtotal:			4296	3089		1503		1520		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
Development of Testbed and actual testing of Integrated Architecture solutions	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	1678	1-4Q	2985	1-4Q	3037	1-4Q	0	0	0
Subtotal:			0	1678		2985		3037		0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S24

Remarks: IABM - Integrated Architecture Behavior Model

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									
Project Total Cost:			**13866**	**9017**		**9994**		**10328**		**0**	**0**	**0**

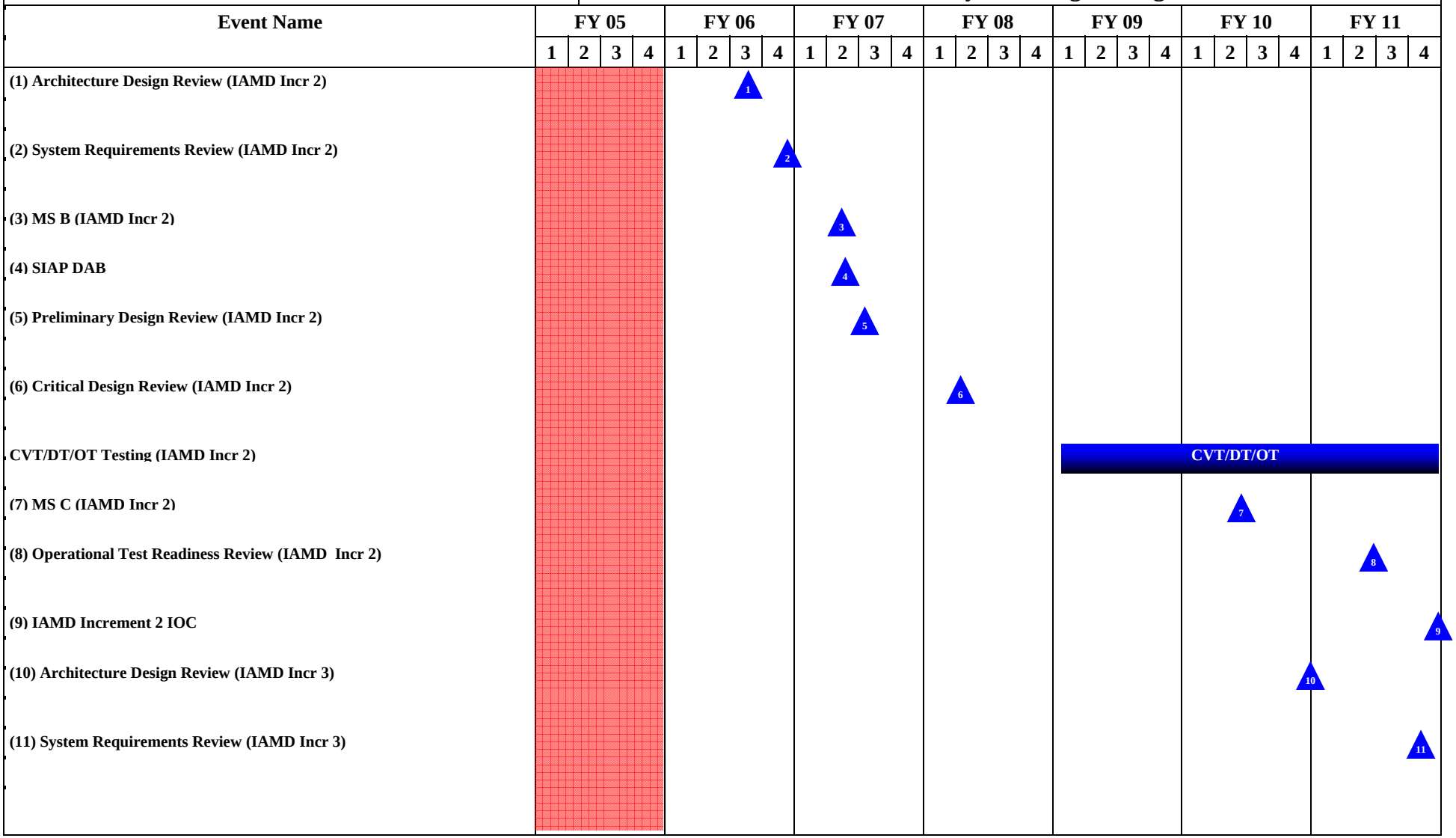
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S24



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S24

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Architecture Design Review (IAMD Incr 2)		3Q					
System Requirements Review (IAMDIncr 2)		4Q					
MS B (IAMD Incr 2)			2Q				
SIAP DAB			2Q				
Preliminary Design Review (IAMD Incr 2)			3Q				
Critical Design Review (IAMD Incr 2)				2Q			
CVT/DT/OT Testing (IAMD Incr 2)					1-4Q	1-4Q	1-4Q
MS C (IAMD Incr 2)						2Q	
Operational Test Readiness Review (IAMD Incr 2)							2Q
IAMD Increment 2 IOC							4Q
Architecture Design Review (IAMD Incr 3)						4Q	
System Requirements Review (IAMD Incr 3)							4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

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

COST (In Thousands)		FY 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
S25	ARMY SIAP OPERATIONAL INTEGRATION	2737	18651	3005	2813	2811	0	0	0	32660

A. Mission Description and Budget Item Justification: This project funds the coordination of the Single Integrated Air Picture (SIAP) requirements with the operational community: verification that operational requirements exist to support technical specifications and any subsequent changes; integration and coordination of Army SIAP operational requirements with the user community and multi-service sponsor(s); provide support to development and revision of SIAP acquisition strategy with respect to Army operational requirements. These products/tasks are required to ensure a specific, focused effort that integrates SIAP with weapons, sensors, BMC4 and concepts of operations.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue efforts for coordinating SIAP operational requirements with Training and Doctrine Command (TRADOC) Directorates of Combat Developments (DCDs), integrating SIAP operational requirements into current and evolving doctrine, developing the Army position on SIAP-related acquistion strategy and tools, and supporting Joint SIAP Systems Engineering Organization initiatives related to Integrated Architecture Behavior Model development.	2737	2921	3005
Includes Congressional adds for Army Extended Range Attack Missile (AERAM), AERAM Turbine Engine Development, Geospatial Information Decision Support - SIAP, SituSpace Single Integrated Space Picture, and Command Responder.	0	15730	0
Total	2737	18651	3005

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 643327, Project S24, Army SIAP Systems Engineering	9017	9994	10328	10292	199	0	0	0	39830
PE 643327, Project S26, Army SIAP Implementation	14897	25742	41570	17073	903	0	0	0	100185
PE 643327, Project S32, Joint SIAP Systems Engineering	35799	15222	45454	23401	18169	0	0	0	138045

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S25

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 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
Execute Congressional adds	Various	Various	0	0		15730	2-4Q	0		0	15730	0
Subtotal:			0	0		15730		0		0	15730	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
Government support & support contracts	MIPRs, 1095s, CPFF	OGAs, Inhouse, Contact spt.	2709	2737	1-4Q	2921	1-4Q	3005	1-4Q	Continue	11372	0
Subtotal:			2709	2737		2921		3005		Continue	11372	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									

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									

Project Total Cost:			**2709**	**2737**		**18651**		**3005**		**0**	**27102**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S25

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Coord & integrate SIAP reqmts into doctrine, demos, experiments, & exercise																												

Schedule Detail (R4a Exhibit)

February 2006

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

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Coordinate and integrate SIAP requirements into doctrine, demonstrations, experiments and exercises.	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
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S26**

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
S26	ARMY SIAP IMPLEMENTATION	14897	25742	41570	17073	903	0	0	0	110352

A. Mission Description and Budget Item Justification: The establishment of a Single Integrated Air Picture (SIAP) capability is a critical enabler for many Army and Joint mission areas. The Joint SIAP System Engineering Organization (JSSEO) has the lead for the joint development of SIAP capabilities. Initial SIAP capabilities will be delivered to the services as either a build of the JSSEO SIAP Integrated Architecture Behavior Model (IABM) or as an alternate Joint Track Manager (JTM) as defined by the Joint Architecture Working Group (JAWG). This project provides for the integration and test of the delivered Joint SIAP capability.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Perform engineering and analysis to identify and prioritize critical interoperability deficiencies, design and develop engineering fixes for high priority deficiencies, and begin implementation of those fixes.	6956	2581	1940
Prepare selected Army systems for implementation of the Joint SIAP solution.	7941	23161	39630
Total	14897	25742	41570

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Army SIAP Systems Engineering (S24)	9017	9994	10328	10292	199	0	0	0	39830
Army Operational Integration (S25)	2737	18651	3005	2813	2811	0	0	0	30017
Joint SIAP Systems Engineering (S32)	35799	15222	45454	23401	18169	0	0	0	138045

Comment: This PE project is an integral part of the PEO, Missiles and Space Integrated Air and Missile Defense (IAMD) Program including Integrated Fire Control, JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, JTAGS, SENTINEL, and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

C. Acquisition Strategy Not applicable to this item.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S26

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 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 Critical Interoperability Deficiencies Engineering and Implementation	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	5237	5456	1-4Q	7240	1-4Q	7655	1-4Q	0	0	0
SIAP IABM Engineering and Implementation	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	4930	7941	4Q	15921	1-4Q	23725	1-4Q	0	0	0
Subtotal:			10167	13397		23161		31380		0	0	0

Remarks: Implementation of IABM Configuration occurs in FY07

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
Program Management Support	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	1500	1-4Q	2581	1-4Q	4076	1-4Q	0	0	0
Subtotal:			0	1500		2581		4076		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
Testing of Implementation of IABM into systems	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	0		0		6114	1-4Q	0	0	0
Subtotal:			0	0		0		6114		0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S26

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									
Project Total Cost:			**10167**	**14897**		**25742**		**41570**		**0**	**0**	**0**

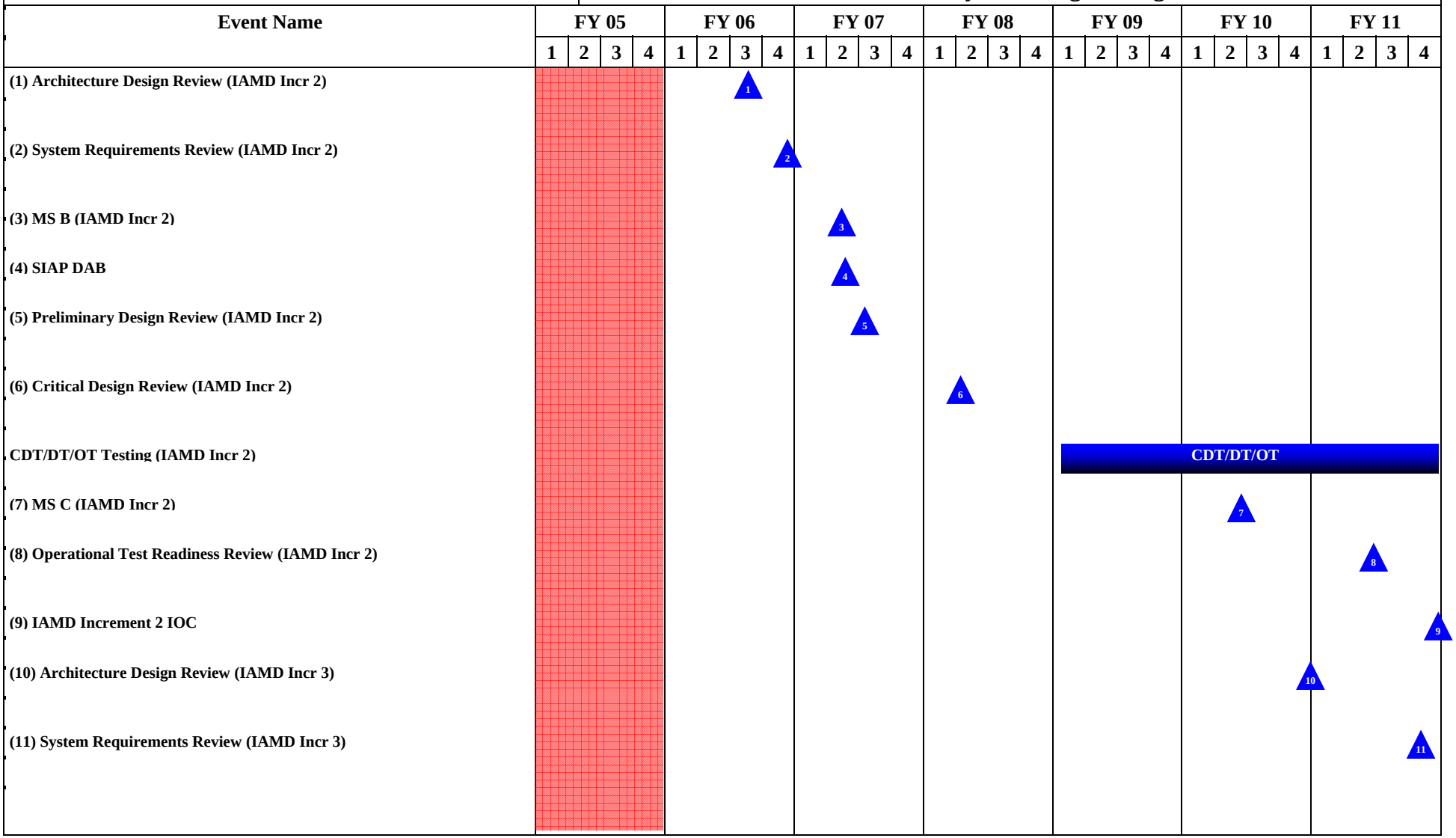
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S26



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S26

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Architecture Design Review (IAMD Incr 2)		3Q					
System Requirements Review (IAMD Incr 2)		4Q					
MS B (IAMD Incr 2)			2Q				
SIAP DAB			2Q				
Preliminary Design Review (IAMD Incr 2)			3Q				
Critical Design Review (IAMD Incr 2)				2Q			
CDT/DT/OT Testing (IAMD Incr 2)					1-4Q	1-4Q	1-4Q
MS C (IAMD Incr 2)						2Q	
Operational Test Readiness Review (IAMD Incr 2)							2Q
IAMD Increment 2 IOC							4Q
Architecture Design Review (IAMD Incr 3)						4Q	
System Requirements Review (IAMD Incr 3)							4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

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

COST (In Thousands)		FY 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
S27	JOINT DISTRIBUTED ENGINEERING PLANT (JDEP)	3163	3341	1314	0	0	0	0	0	11285

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

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
JDEP Test Event Participation	1370	1434	0
Communication Equipment	696	700	700
Operational Center Support: Support during JDEP testing and pre-event simulations.	1097	1207	614
Total	3163	3341	1314

C. Acquisition Strategy Not applicable for this item.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S27

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 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
Development of Simulation/Stimulation for JDEP	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	1491	1000	1-4Q	816	1-4Q	420	1-4Q	0	0	0
Subtotal:			1491	1000		816		420		0	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
Digital/integrated system network and equipment	MIPRs, 1095s, CPFF	OGAs, Inhouse, contract spt.	685	696	1-4Q	700	1-4Q	700	1-4Q	Continue	2781	0
Subtotal:			685	696		700		700		Continue	2781	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
JDEP Test Event Support	MIPRs, 1095s, CPFF	OGAs, Inhouse, contract spt.	1011	1167	1-4Q	1425	1-4Q	0		Continue	0	0
Subtotal:			1011	1167		1425		0		Continue	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Army management of JDEP activity	MIPRs, 1095s, CPFF	OGAs, Inhouse, contract spt.	280	300	2-4Q	400	1-4Q	194	1-4Q	0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

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

Subtotal:	280	300		400		194		0	0	0
Project Total Cost:	**3467**	**3163**		**3341**		**1314**		**0**	**2781**	**0**

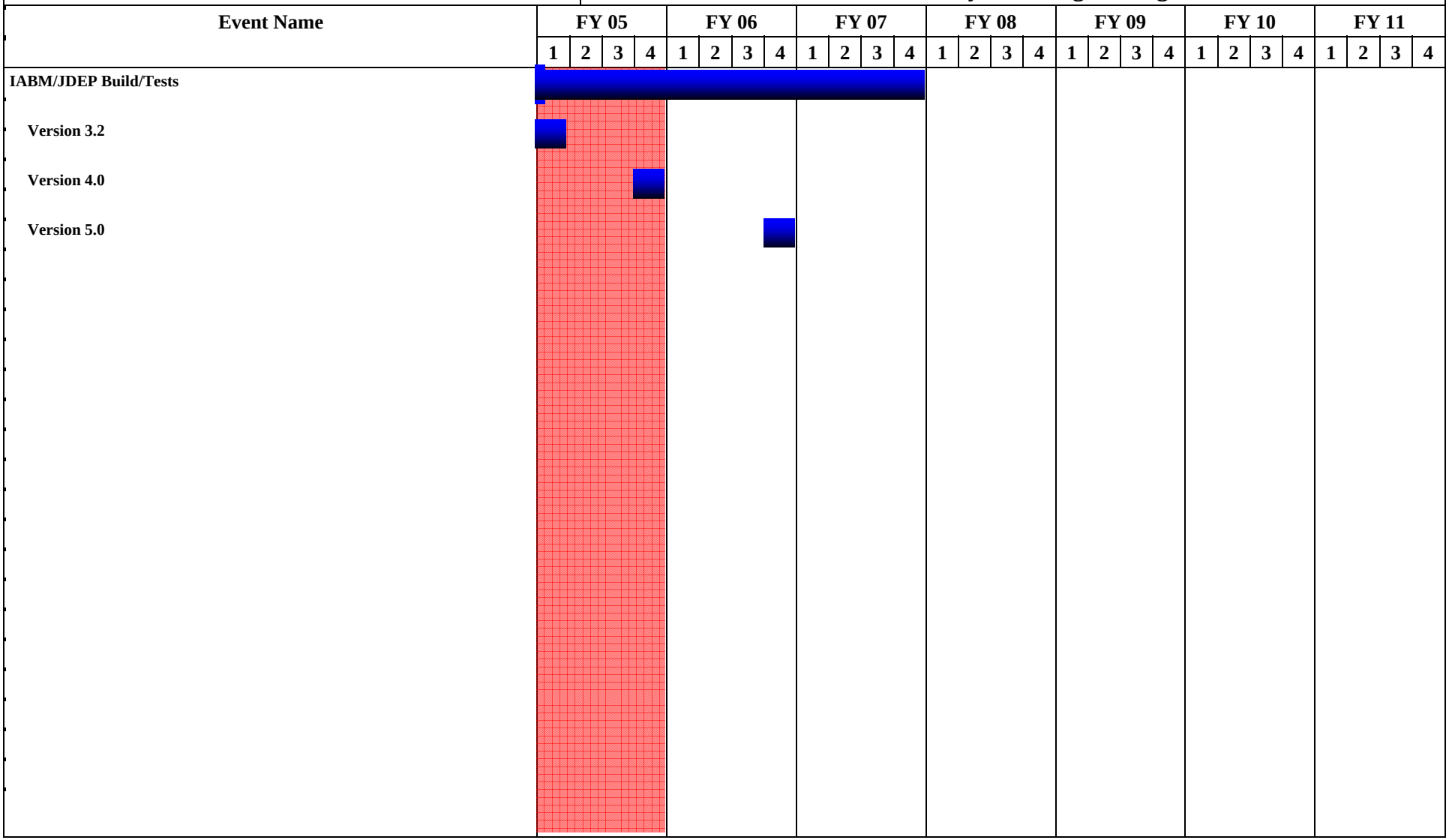
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S27



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S27

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
IABM/JDEP Build/Tests	1-4Q	1-4Q	1-4Q				
Version 3.2	1Q						
Version 4.0	4Q						
Version 5.0		4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

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

COST (In Thousands)		FY 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
S32	JOINT SIAP SYSTEM ENGINEERING	35799	15222	45454	23401	18169	0	0	0	182969

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

The Joint SIAP System Engineering Organization (JSSEO) develops the tools and processes and performs the system engineering designed to net US and coalition warfighting systems and tactical data link systems for the theater air and missile defense. The JSSEO focuses on specific problem areas and translates the solutions into an integrated, executable architecture-- the Integrated Architecture Behavioral Model (IABM). This model describes the functional behavior and expected performance of Joint and coalition netted sensors to meet DoD Net-Ready Key Performance Parameter requirements as well as Theater Air & Missile Defense, Combat Identification and Global Information Grid mission area requirements. The results of specific engineering studies (called Block 0, Block 1, and Block 2 engineering) were used to describe the functions and performance needed in the integrated air and missile defense architecture. The model of this architecture (the IABM) then becomes a reference specification that the JSSEO releases every two years as IABM Configuration 05, 07, 09, etc. This spiral-developed standard began with the release of IABM Configuration 05 in September 2005. The Services and industry use this model to develop and integrate these specified functions into their combat systems. The Joint Interoperability Test Command also uses this model to evaluate system conformance and to validate these combat systems performance against the behavior described in the integrated air and missile defense architecture. SIAP was designated a Special Interest Acquisition program by OUSD (AT&L) in FY 05.

Block 0 addressed four joint warfighting shortfalls selected for their impact in reducing tactical confusion, applicability across the Services, and the engineering maturity reflected by interface change proposals already on record with the Joint Interoperability of Tactical Command and Control System process. The change proposals addressed were: improved correlation/de-correlation, identification (ID) taxonomy, ID conflict resolution matrix, and strength-track reporting (strength-track reporting final approval Feb 2005).

IABM Configuration 05 incorporated solutions developed under Block 1 and some Block 2 engineering and established the baseline for future spirals. This initial release focused on the technical foundations for geodetic/time synchronization and addressed United States Joint Forces Command and JROC-endorsed deficiencies that could be implemented in the near term. IABM Configuration 05 capabilities addressed are: further reduction of dual tracks, improved combat ID capability, improved data sharing (network capacity), and improved air picture for integrated theater air and missile defense performance.

IABM Configuration 07 builds on the Configuration 05 baseline, and focuses on improving efficiency and throughput, improving beyond line-of-sight capability, and providing track management and combat identification performance enhancements. The engineering issues being addressed to provide those capabilities are host computer implementation consistency, distributed database consistency improvement, network latency reduction, and interface with ground systems.

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

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Block 1 - (FY05) Service implementation planning and risk reduction of Block 1 recommendations began. JSSEO monitored and assisted	100	0	0

the Services with test infrastructure development and acquisition planning, monitored technical configuration management and conducted technical design reviews with affected weapon systems.			
Block 2 (FY05) Refined planning and requirements, and continued engineering analysis for Block 2. Translated JROC validated requirements into system-level objectives for quality of service and information assurance capabilities to support Joint sensor netting. Coordinated design and solution development with the Services and Agencies and introduced industrial integrating contractors to Joint technical approach.	4255	0	0
Architecture - (FY05) Delivered version 2.1 of the SIAP Integrated Architecture. Expanded engineering detail to capture additional tactical functionality and updated Joint Theater Air and Missile Defense (TAMD) requirements. Integrated Block solutions into models to provide integrated architecture artifacts to Joint Staff and OSD roadmaps and other decision-making tools. Continued to update the IABM with increased functional scope and began to align with other tactical data functions. Delivered IABM Baseline (Configuration 05).(FY06-07) Deliver SIAP Integrated Architecture updates. Expand engineering detail to capture additional tactical functionality and updated Joint TAMD requirements. Support technical design reviews with affected weapon systems. Support analysis focused on network latency reduction, ground system interfaces. Integrate support for IPv6 routing into the IABM to enable weapon systems to take advantage of future increases in comm bandwidth, and posture weapon systems to integrate with the Global Information Grid (GIG) and Net-centric Enterprise Services (NCES). Configuration 07 will deliver in Sep 2007 to establish a 2-yr cadence for DoD integrating contractors. Begin engineering work to define Config 09, targeted capabilities include better ID of blue forces, reduced fratricide, and improved ability to engage time critical targets.	20295	8246	25100
Systems Engineering Tools and Analysis - (FY05) Continued to evaluate the technical and warfighting benefits of SIAP engineering. Updated analysis tools to support modeling and simulation capabilities, hardware in the loop laboratories and data reduction of open-air live exercises. Coordinated with Joint Interoperability Test Command for Mil-Standard conformance, architecture conformance certification and JROC validated requirements assessment. (FY06-07) Continue to evaluate the technical and warfighting benefits of the SIAP improvements. Update analysis tools to support modeling and simulation capabilities, hardware in the loop laboratories, and planning/data reduction of open-air live exercises (i.e., exercises for assessing achieved improvements). Coordinate with Joint Interoperability Test Command (JITC) for verification and validation of the Integrated Architecture Behavior Model (IABM). Analyze installed performance of Block 0 fixes in systems in Joint Exercises. Products include updates to technical reports on Common Reference Scenarios (CRS), SIAP Attributes, and SIAP Measures of Performance (MOPs), environmental and comm model simulations, and improved data parsing and analysis tools that provide greater fidelity in testing the IABM.	7245	1855	11600
Customer Support (Requirements and Technical Analyses) - (FY06-07) Assist Services with integration tasks initiated under Block efforts. Resolve technical discrepancies and provide track management and combat identification performance enhancements. Monitor and assist the Services in the implementation of Config 05, into their weapon systems. Assist with risk reduction and demonstration planning for the Integrated Architecture Behavior Model (IABM).	0	800	1300
Program Management - Support SIAP TF infrastructure requirements such as rent, LAN (local area network), telephone, computers, VTC (video teleconferences) rooms, office equipment, facilities management and administrative support. With the designation of SIAP as a Special Interest program, this line now includes Acquisition management planning and documentation to support Integrated Process Team (IPT) and Defense Acquisition Board (DAB) activities starting FY 06.	3904	4321	7454
Total	35799	15222	45454

C. Acquisition Strategy Document in development for this project.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S32

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
Block 1	MIPR	NAVSEA-JHU-APL. Laurel, MD	800	0		0		0		Continue	800	0
Block 1	MIPR	GSA-Sparta, Centerville, VA	222	0		0		0		Continue	222	0
Block 1	MIPR	Various	2552	100	1-4Q	0		0		Continue	2652	0
Block 2	MIPR	NAVSEA - JHU/APL Laurel, MD	2000	800	1-4Q	0		0		Continue	2800	0
Block 2	MIPR	GSA-BAH, McLean VA	0	375	1-4Q	0		0		Continue	375	0
Block 2	MIPR	GSA - Northrop Grumman, McLean, VA	463	50	1-4Q	0		0		Continue	513	0
Block 2	MIPR	Various	595	3030	1-4Q	0		0		Continue	3625	0
Customer Support	Various	Various	7738	0		800	1-4Q	1300	1-4Q	Continue	9838	0
Architecture	MIPR	NAVSEA - JHU/APL, Laurel, MD	750	6066	1-4Q	2066	1-4Q	4735	1-4Q	Continue	13617	0
Architecture	MIPR	GSA - BAH, McLean, VA	1692	2867	1-4Q	1882	1-4Q	4129	1-4Q	Continue	10570	0
Architecture	MIPR	GSA, Northrup Grumman	1944	681	1-4Q	681	1-4Q	1305	1-4Q	Continue	4611	0
Architecture	MIPR	GSA, Sparta, McLean, VA	1088	800	1-4Q	800	1-4Q	1213	1-4Q	Continue	3901	0
Architecture	Various	Various	12022	9881	1-4Q	2817	1-4Q	13718	1-4Q	Continue	38428	0
System Eng Tools and Development	MIPR	NAVSEA - JHU/APL, Laurel, MD	625	170	1-4Q	170	1-4Q	63	1-4Q	Continue	1028	0
System Eng Tools and Development	MIPR	GSA, Northrop Grumman, McLean, VA	741	2008	1-4Q	308	2-3Q	770	1-4Q	Continue	3827	0
System Eng Tools and Development	MIPR	GSA - Sparta, Centreville, VA	0	338	1-4Q	170	1-4Q	117	1-4Q	Continue	625	0
System Eng Tools and Development	MIPR	Various	9002	4729	1-4Q	1207	1-4Q	9193	1-4Q	0	24131	0
Subtotal:			42234	31895		10901		36543		Continue	121563	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation Support	Various		0	0		0		1457	1-4Q	0	0	0
Subtotal:			0	0		0		1457		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
Program Management Support	Various		3843	3904	1-4Q	4321	1-4Q	7454	1-4Q	Continue	19522	0
Subtotal:			3843	3904		4321		7454		Continue	19522	0

Project Total Cost:			**46077**	**35799**		**15222**		**45454**		**Continue**	**141085**	**0**

Schedule Profile (R4 Exhibit)

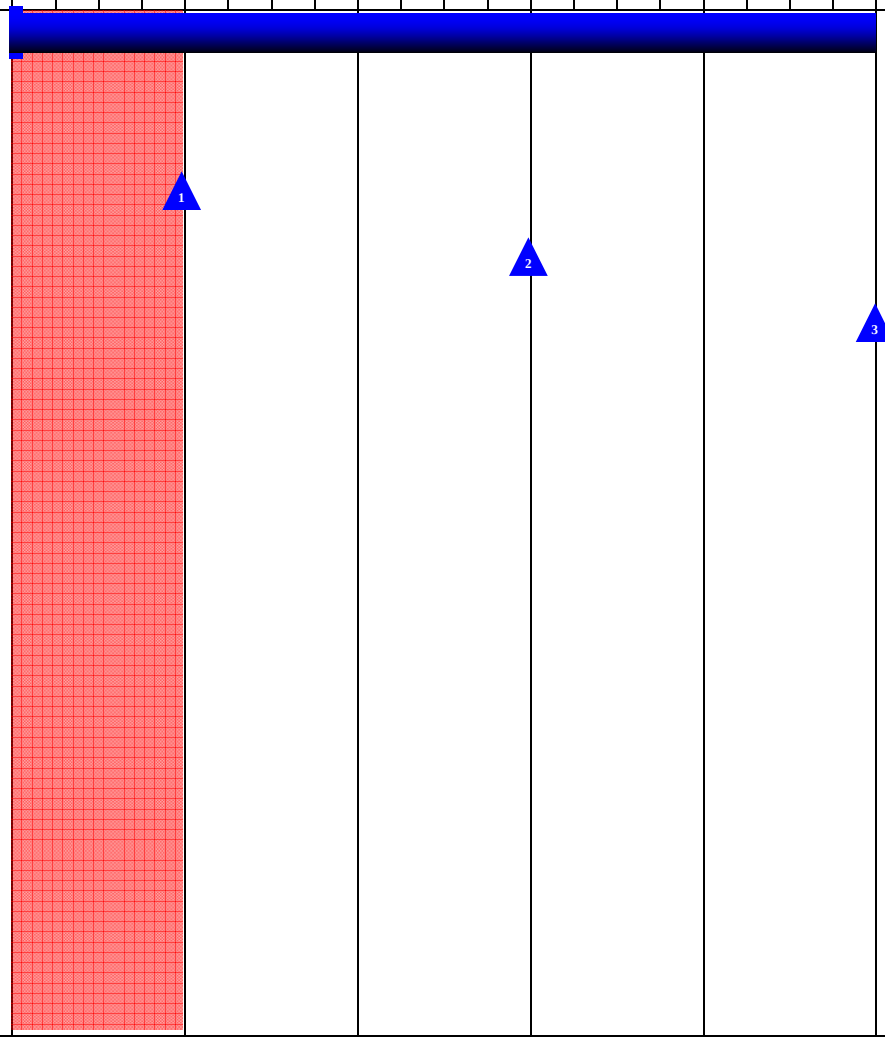
February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S32

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Army Support to Full Range of Joint SIAP Systems Engineering Activities																												
SIAP Program Deliveries																												
(1) IABM Configuration 05																												
(2) IABM Configuration 07																												
(3) IABM Configuration 09																												



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S32

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Army Support to Full Range of Joint SIAP Systems Engineering Activities	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
SIAP Program Deliveries							
IABM Configuration 05	4Q						
IABM Configuration 07			4Q				
IABM Configuration 09					4Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603327A - Air and Missile Defense Systems Engineering**	**S34**

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
S34	AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION	23573	2760	0	0	0	0	0	0	26333

A. Mission Description and Budget Item Justification: Funding in the project provides components to produce an integrated capability or Integrated Air and Missile Defense (IAMD). To provide this integrated capability, the PEO Missiles and Space (M&S) must ensure operational effectiveness and acquisition efficiency are achieved. The Army integrated air and missile defense comprises a broad range of elements/components acquired individually to support complementary missions. PEO M&S must have the needed resources to execute this integration task. This project will provide for insertion of technology initiatives, development of alternative architectures and the modeling and simulation associated with development of a PEO M&S IAMD program. FY05/FY06 funding in this project is a result of congressional increases.

Geospatial Information Decision Support for Single Integrated Air Picture - This effort provides the Army aerospace warfighter the view and effects from space to ground to support time-critical targeting of missile threats.

SituSpace Single Integrated Space Picture - Provides critical decision support and visualization of the view up into space, in support of space control, satellite control, and laser-assisted missile defense missions.

ASMD Architecture Analysis Program - The PEO M&S Architecture Analysis Program (A3P) Develops the Modeling and Simulation infrastructure for the Army's Integrated Air and Missile Defense (IAMD) Program. A3P provides key capabilities for the IAMD Simulation Lab, IAMD Integration Lab and IAMD User Lab. A3P analyses are critical for the definition of the IAMD architecture and requirements, and the integration of AMD components/systems into the Army and Joint IAMD architectures.

Future Army Attack and Missile Defense System (FAAMDS) - This project will provide for the initiation of the preliminary design of a direct fire rocket capable of engaging and destroy a mortar in flight.

E-Strike Technology Enhancement for the Maneuver Air Defense Capability - Provides for the Army's future needs in development of a radar that can acquire, track, and provide fire control for a kinetic energy and a directed energy rocket, artillery, and mortar (RAM) defense system. This funding will provide for the performance analysis to develop the necessary requirements for the radar and shooters and the overall integration requirements.

ASMD System of Systems Hardware in the Loop Test Bed - provides funding for development of a prototype shelter for user evaluation and training.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Geospatial Information Decision Support for Single Integrated Air Picture	5019	0	0
SituSpace Single Integrated Space Picture	4390	0	0
ASMD Architecture Analysis Program (A3P)	5010	0	0

Future Army Attack and Missile Defense System (FAAMDS)	1672	0	0
E-Strike Technology Enhancement for the Maneuver Air Defense Capability	4808	0	0
ASMD System of Systems Hardware-in-the-Loop Testbed	2674	2760	0
Total	23573	2760	0

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S34

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
Geospatial Information Decision Support for Single Integrated Air Picture	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	5019	1-4Q	0		0		0	5019	0
ASMD Architecture Analysis Program (A3P)	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	5010	1-4Q	0		0		0	5010	0
SituSpace Single Integrated Space Picture	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	4390	1-4Q	0		0		0	4390	0
Future Army Attack and Missile Defense System (FAAMDS)	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	1672	1-4Q	0		0		0	1672	0
E-Strike Technology Enhancement for the Maneuver Air Defense Capability	MIPRs, 1095s, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	4808	1-4Q	0		0		0	4808	0
ASMD SOS Hardware-in-the- Loop Testbed	MIPRs, 1095, CPFF	Various OGA's, Inhouse and Contractor, Huntsville, AL and various other locations	0	2674	1-4Q	2760	1-4Q	0		0	0	0
Subtotal:			0	23573		2760		0		0	20899	0

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

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

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

PROJECT
S34

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									

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									

Project Total Cost:			**0**	**23573**		**2760**		**0**		**0**	**20899**	**0**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
4 - Advanced Component Development and Prototypes	**0603619A - Landmine Warfare and Barrier - Adv Dev**

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	11141	0	8439	39929	44475	19008	4213	0	146265
606 CNTRMN/BARRIER ADV DEV	11141	0	8439	39929	44475	19008	4213	0	146265

A. Mission Description and Budget Item Justification: This program element provides for component development of new mine, countermine, demolition, non-lethal, and shoulder launched munitions/systems by prototyping modern munitions technology, logic networks, fuzes, power sources, warhead components and modules into complete systems. This Program Element provides for development of grenades, munition simulators, and pyrotechnic devices. Additionally, this Program Element (PE) provides for the Intelligent Munitions System (IMS). The IMS provides the Future Combat System (FCS) unit of action with capability of intelligent mines, both lethal and non-lethal, demolitions includes sensors/seekers used by the US Army. It will enhance the effectiveness of the unit of action by providing networked munitions and real time targeting data capabilities. The IMS will significantly enhance minefield effectiveness through coordinated attack/tactics and elimination of overwatch forces. This PE also provides for the initiation and/or continuation of component development of the Airborne Surveillance Target Acquisition, and Minefield Detection System (ASTAMIDS) a Future Combat System complementary system. GSTAMIDS and ASTAMIDS are FCS Complementary programs.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
4 - Advanced Component Development and Prototypes	**0603619A - Landmine Warfare and Barrier - Adv Dev**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	15843	0	8311
Current BES/President's Budget (FY 2007)	11141	0	8439
Total Adjustments	-4702	0	128
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings	-4702		
SBIR/STTR Transfer			
Adjustments to Budget Years			128

Change Summary Explanation: Funding:
FY2005: Congressional increase was placed into incorrect PE. Funds were reprogrammed out of this PE to be executed in the correct PE.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603619A - Landmine Warfare and Barrier - Adv Dev**	**606**

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
606 CNTRMN/BARRIER ADV DEV	11141	0	8439	39929	44475	19008	4213	0	146265

A. Mission Description and Budget Item Justification: This project provides for component development of new countermine systems for neutralizing, clearing, breaching and detection concepts that will enhance the effectiveness of the Future Force to maintain freedom of maneuver. The program includes the Airborne Surveillance, Target Acquisition, and Minefield Detection System (ASTAMIDS) and Ground Standoff Mine Detection System Future Combat Systems (GSTAMIDS FCS). With the advent of the Army's Future Force Transformation, the GSTAMIDS Program has been restructured to meet the countermine requirements for the FCS. The April 2003 Joint Requirements Oversight Council (JROC) approved the FCS Operational Requirements Document (ORD) which includes countermine requirements. ASTAMIDS and GSTAMIDS have been identified in FCS Spinouts 2 and 3 respectively as part of the Chief of Staff of the Army's initiative to spiral future capabilities to the current force. The GSTAMIDS Ground Penetrating Radar (GPR) Senor Upgrade will be integrated into the Husky Mine Destrction Vehicle which provides the capability to interrogate and neutralize mines.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
ASTAMIDS - Conducted airborne data collection of imaginary at both Yuma Proving Grounds and AP Hill to facilitate the development of the minfield detection and target acquisition algorithms..	7481	0	0
Test planning, preparation ,and support for ASTAMIDS.	2125	0	0
ASTAMIDS Modeling, Analysis and Engineering support.	1535	0	0
Initiate GSTAMIDS Ground Penetrating Radar Sensor (GPR) Upgrade Integration.	0	0	8439
Total	11141	0	8439

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 0604808A, Project 415, Mine Neutralization/Detection	14117	28909	36118	47165	65543	56352	21167	CONT	CONT
S11500, ASTAMIDS	0	0	0	11708	12860	12487	12631	CONT	CONT
R68102 GSTAMIDS/Interim capability	0	0	197061	272116	226063	219910	304123	CONT	CONT

C. Acquisition Strategy The Airborne Surveillance, Target Acquisition and Minefield Detection System (ASTAMIDS) prime contractor was competitively selected and awarded a System Development and Demonstration (SDD) contract after Milestone B approval. A sole source production contract with multiple options is anticipated. Program transitioned from 6.3 to 6.4 in FY06. GSTAMIDS FCS entered the SDD Phase in 3QFY04 with MDA approval and competitively selected SDD Cost Plus Fixed Fee (CPFF)

contract.

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603619A - Landmine Warfare and Barrier - Adv Dev

PROJECT
606

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
ASTAMIDS	C-CPIF	Northrup Grumman, Melbourne, FL	25169	7481	1Q	0		0		0	32650	32650
GSTAMIDS GPR	TBD	TBD	0	0		0		7450	2Q	0	7450	Continue
Subtotal:			25169	7481		0		7450		0	40100	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
ASTAMIDS	MIPR	NVESD Ft Belvoir VA	2287	528	1Q	0		0		0	2815	0
ASTAMIDS	MIPR	Various	769	245	1-4Q	0		0		0	1014	0
GSTAMIDS FCS - Forward Looking	TBD	TBD	0	0		0		989	1Q	Continue	989	0
Subtotal:			3056	773		0		989		Continue	4818	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
ASTAMIDS	MIPR	DTC, MD	623	782	2Q	0		0		0	1405	0
Subtotal:			623	782		0		0		0	1405	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
Program Management	In-house	PM-CCS Picatinny NJ /	697	570	1-4Q	0		0		0	1267	1267

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603619A - Landmine Warfare and Barrier - Adv Dev**	**606**

		Ft Belvoir VA										
Program Management Contractor Support	C-FP	BRTRC Farifax VA	1212	1535	1Q	0		0		0	2747	2765
Subtotal:			1909	2105		0		0		0	4014	4032
Project Total Cost:			**30757**	**11141**		**0**		**8439**		**0**	**50337**	**36682**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603619A - Landmine Warfare and Barrier - Adv Dev

PROJECT
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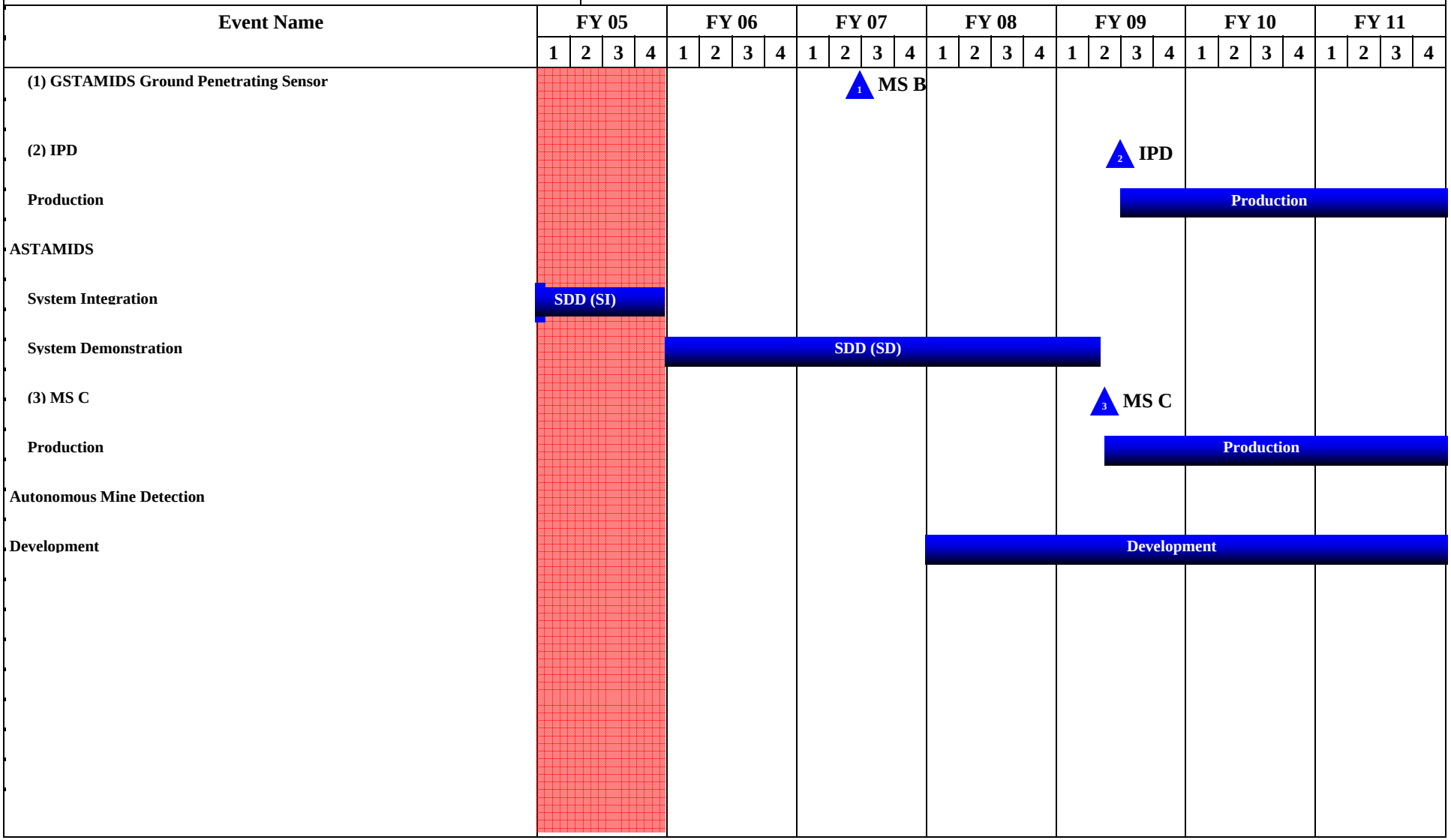


Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603619A - Landmine Warfare and Barrier - Adv Dev**	**606**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ASTAMIDS Transition from SI to SD portion of SDD	4Q						
GSTAMIDS Ground Penetrating Radar (GPR) Sensor			2Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
4 - Advanced Component Development and Prototypes	**0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev**

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	6943	5651	10714	6100	3872	5676	6503	0	49614
E79 SMOKE/OBSCURANT SYSTEM	6943	5651	10714	6100	3872	5676	6503	0	49614

A. Mission Description and Budget Item Justification: Project supports the Component Advanced Development and System Integration developmental phases of high performance obscuration materials and systems to increase the survivability of the combined armed forces and to complement weapon systems. U.S. Forces must be able to defeat target acquisition, weapon guidance systems, and surveillance sensors across the electro-optical spectrum. These programs develop systems to provide large area and projected obscuration across the spectrum from visual through infrared and millimeter wavelength radar. The technologies supported by this program enhance obscuration systems as combat multipliers.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	9342	5733	2847
Current BES/President's Budget (FY 2007)	6943	5651	10714
Total Adjustments	-2399	-82	7867
Congressional Program Reductions		-25	
Congressional Rescissions		-57	
Congressional Increases			
Reprogrammings	-2399		
SBIR/STTR Transfer			
Adjustments to Budget Years			7721

Change Summary Explanation: Funding - FY05: Funds reprogrammed in support of higher priority Army programs. FY07: Additional funds provided by the Army to support the program.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev**	**E79**

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
E79	SMOKE/OBSCURANT SYSTEM	6943	5651	10714	6100	3872	5676	6503	0	49614

A. Mission Description and Budget Item Justification: Project supports the Component Advanced Development and System Integration developmental phases of high performance obscuration materials and systems to increase the survivability of the combined armed forces and to complement weapons systems. This program develops systems to provide small area, medium area and large area obscuration across the spectrum from visual through infrared and millimeter wavelength radar. The technologies supported by this program enhance obscuration systems as combat multipliers.

U.S. Forces must be able to defeat target acquisition, weapon guidance systems, and surveillance sensors across the electro-optical spectrum.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Qualified and quantified test requirements for candidate grenades and smoke pots.	600	0	0
Conducted environmental impact studies on candidate grenades and smoke pots.	196	0	0
Initiate Milestone B for the Family of Tactical Obscurant Devices.	0	94	0
Conduct Test and Evaluation	0	1000	2000
Funding erroneously issued to this PE and project.	1101	0	0
Continues development and building of candidate smoke grenades and smoke pots with multi-spectral capability. (quantity or cost of each unknown at this time)	5046	4557	8714
Total	6943	5651	10714

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, A, Budget Activity 2, PE 0602622A, Project 552	3175	2483	2212	2252	2305	2328	2365	0	17120
Other Procurement Army, OPA3, MX1000, Family of Tactical Obscuration Devices	0	0	0	24232	38449	25620	12337	CONT	CONT

Comment: Milestone B upon approval of Capabilities Development Document.

C. Acquisition Strategy The Advanced Component Development effort acquisition strategy uses full and open competition and cost plus fixed fee (CPFF) contracting to test and build multispectral grenades and pots.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev

PROJECT
E79

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
Initial Program Planning and System Design	OGA	JPMNBCCA, APG, MD	3567	0		0		0		0	3567	0
Developmental Contract	C/CPFF	GENERAL DYNAMICS OTS	0	3568	3Q	3590	1Q	7574	2Q	0	0	0
Subtotal:			3567	3568		3590		7574		0	3567	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
Environmental Studies	OGA	RDECOM, ECBC, APG-EA, MD	0	196	2Q	0		0		0	196	0
Qualify and Quantify Test Requirements	OGA	RDECOM, ECBC, APG-EA, MD	0	600	2Q	0		0		0	600	0
Subtotal:			0	796		0		0		0	796	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 & Evaluation	OGA	RDECOM, ECBC, APG-EA, MD	0	0	2Q	1000	2Q	2000	3Q	0	0	0
Subtotal:			0	0		1000		2000		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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev

PROJECT
E79

Conduct initial Milestone B	Inhouse	JPMNBCCA, APG, MD	0	0		94	2Q	0		0	0	0
Contract development, engineering design and evaluation.	Inhouse	JMPNBCCA, APG, MD	809	1478	1Q	967	1Q	1140	1Q	0	0	0
Funding erroneously issued on Smoke line.			0	1101		0		0		0	0	0
Subtotal:			809	2579		1061		1140		0	0	0
Project Total Cost:			**4376**	**6943**		**5651**		**10714**		**0**	**4363**	**0**

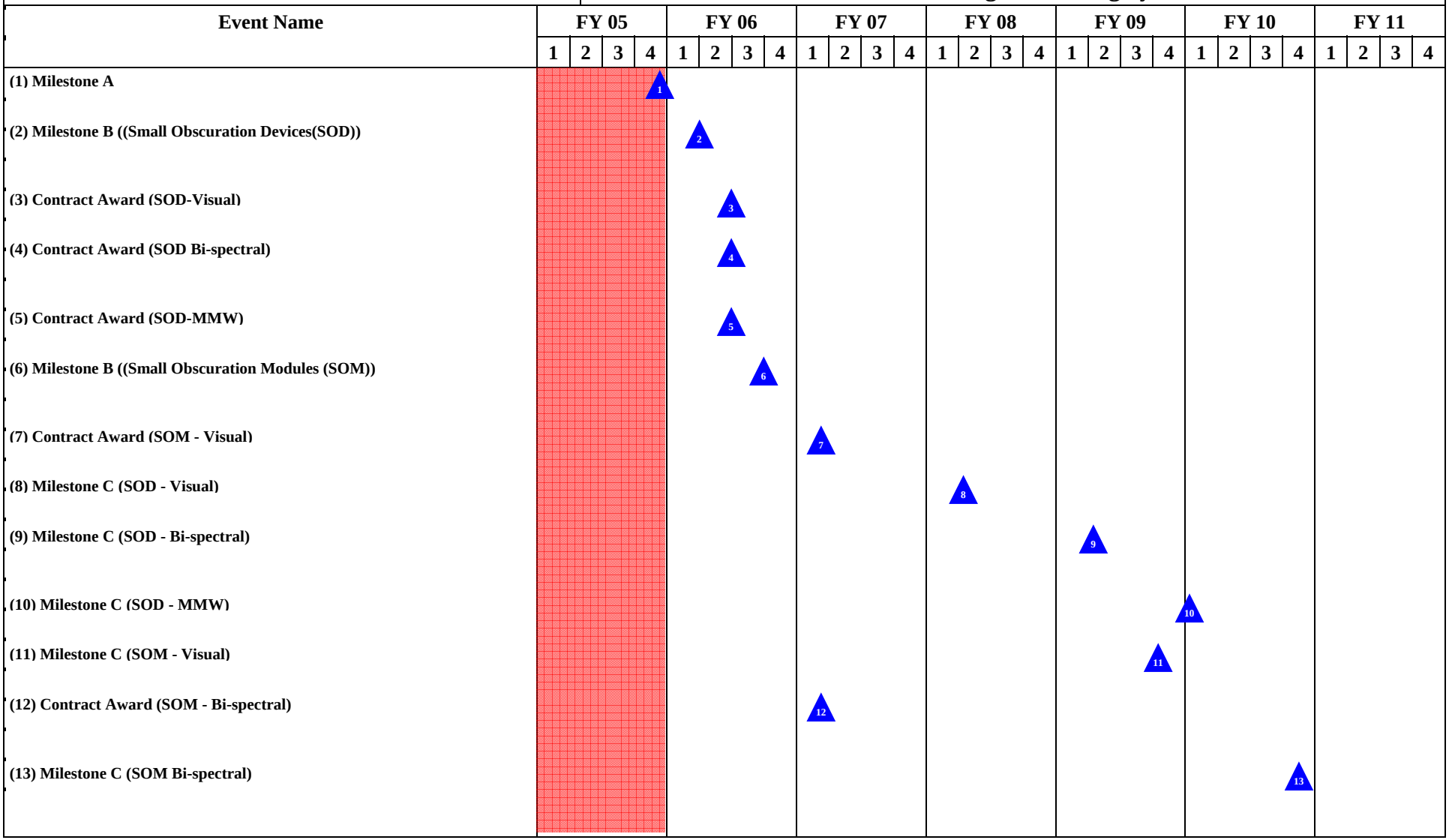
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev

PROJECT
E79



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603627A - Smoke, Obscurant and Target Defeating Sys-Adv Dev

PROJECT
E79

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Milestone A		1-2Q					
Milestone B (Small Obscuration Devices (SOD))			1Q				
Contract Award (SOD-Visual)		3Q					
Contract Award (SOD-Bi-spectral)		3Q					
Contract Award (SOD-MMW)		3Q					
Milestone B (Small Obscuration Modules (SOM))			1Q				
Contract Award (SOM Visual)			1-2Q				
Contract Award (SOM Bi-Spectral)			1-2Q				
Milestone C (SOD-Visual)				2Q			
Milestone C (SOD-Bi-Spectral)					2Q		
Milestone C (SOD MMW)						1Q	
Milestone C (SOM Visual)					4Q		
Milestone C (SOM Bi-spectral)						4Q	
Milestone C (SOM MMW)							4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)**	**C03**

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
C03	INTERIM ARMORED VEHICLE (IAV) FAMILY	49689	26332	5415	64372	88	0	0	0	353057

A. Mission Description and Budget Item Justification: This project supports the development of the Family of Stryker vehicles. A critical need exists to improve the deployability and operational effectiveness of rapid response/early entry forces. The Stryker equipped Brigade Combat Team (BCT) will be capable of deployment to anywhere on the globe in a combat ready configuration. Immediate response by a lethal, versatile, tactically agile joint force capable of operational maneuver once in the Area of Operations is essential to fulfilling the warfighting needs of the U. S. Army. The Stryker family includes: Infantry Carrier Vehicle (ICV), Reconnaissance Vehicle (RV), Mobile Gun System (MGS), Mortar Carrier (MC), Commander's Vehicle (CV), Fire Support Vehicle (FSV), Engineer Squad Vehicle (ESV), Medical Evacuation Vehicle (MEV), Anti-Tank Guided Missile Vehicle (ATGM), and Nuclear/Biological/Chemical Reconnaissance (NBC RV). The use of a common platform/common chassis design reduces requirements for repair parts and logistics support in the area of operations. RDTE funding is for integration of the mission equipment packages that make each platform unique and effective, and for vehicle testing to include developmental, production qualification, live fire and initial operational testing.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Completed design integration of NBCRV and HFE redesign. Completed design efforts on MGS: gun turret drives, fire control target acquisition, vehicle weight reduction and RAM improvement. Continue development and engineering efforts of Block modifications: Survivability Enhancements to include SLAT armor for the MGS and NBCRV vehicles and Land Warrior Development. Continue contractor support to government testing for the MGS and NBCRV.	26332	5435	0
Government Testing of Vehicles: Completed Development Testing on the MC unique, Ammo Requal, MGS Unique to include additional RAM/Reliability Growth Testing (RGT) and Remote Weapons Station (RWS). Prepare for Live Fire Test & Evaluation (LFT&E) and Initial Operational Testing and Evaluation (IOT&E) on NBCRV and MGS.	17767	20347	5165
Government Systems Engineering and Program Management	2590	550	250
Training Devices	3000	0	0
Total	49689	26332	5415

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)**	**C03**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	49712	26712	13216
Current BES/President's Budget (FY 2007)	49689	26332	5415
Total Adjustments	-23	-380	-7801
Congressional program reductions		-115	
Congressional rescissions	-23	-265	
Congressional increases			
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			-7801

FY07: Funds realigned (-$7.8M) to higher priority requirements.

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PA, WTCV, G85100 Stryker	1434037	1049427	795978	804061	289099	390608	327043	938700	6028953

Comment: The Mobile Gun System (MGS) and the NBC Reconnaissance Vehicle (NBCRV) have been approved for LRIP. A quantity of 17 NBCRV vehicles and 72 MGS vehicles have been put on contract. Contract award for these items occurred in November 2004 and January 2005.

D. Acquisition Strategy The MGS vehicle recently completed system improvement testing, i.e, MGS Reliability Growth Testing, in which the purpose of the test was to demonstrate reliability improvement. The successful results of this test were used to support the initial production decision for the acquisition of the additional 58 MGS vehicles. FY06 and FY07 funding supports Live Fire and Initial Operational Test and Evaluation prior to MS III/full-rate production decisions for the NBCRV & MGS in 4QFY07. Live Fire Testing is scheduled to begin Feb 06 for both the NBCRV and MGS and IOTE testing is scheduled to begin 4QFY06 for the NBCRV and 1QFY07 for the MGS.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)

PROJECT
C03

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
Stryker Development/Engineering	CPAF	GDLS Sterling Heights, MI	307550	25748	1-2Q	2900	2-3Q	0		34097	370295	370295
GFE	Requisitions	Various	851	0		0		0		0	851	851
Prototype Development (8)	Firm Fixed Price	GM GDLS DG L.L.C. Shelby, MI	29215	0		0		0		0	29215	29215
Training Devices	MIPR	PEO-STRI, Orlando, FL	8420	3000		0		0		0	11420	11420
Miscellaneous Contractor Support			1246	0		0		0		0	1246	1246
SBIR/STTR			8959	0		0		0		0	8959	8959
Subtotal:			356241	28748		2900		0		34097	421986	421986

Remarks: Stryker development/engineering supports the MGS Low Velocity Air Drop Effort and the Mounted Mast development for the Reconnaissance Vehicle (RV) and the Fire Support Vehicle (FSV).

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 Gov't Agencies	MIPR	TACOM, Warren, MI / Various	15288	2113	1-2Q	550	1-2Q	250	1-2Q	263	18464	18464
Source Selection Board		MIPR	2300	0		0		0		0	2300	2300
Subtotal:			17588	2113		550		250		263	20764	20764

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
Developmental System Testing	MIPR	ATEC, APG, MD/Various	94116	8846	2-3Q	0		0		0	102962	102962
Fort Lewis Concept Prove Out	MIPR	BCT Materiel Dev Cell, Ft Lewis, WA	1118	0		0		0		0	1118	1118

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)

PROJECT
C03

Procure Test/Evaluation Vehicles	Competitive / CPAF	General Motors/General Dynamics Land Systems Defense Group L.L.C. Shelby, MI	3735	0		0		0		30100	33835	33835
Live Fire Test & Evaluation	MIPR	Army Test Center, Army Research Lab, Army Evaluation Center	12607	5546	2Q	3183	1Q	2137	1Q	0	23473	23473
Initial Operational Test & Evaluation	MIPR	OTC, Ft. Knox, KY	58981	3375	3Q	17164	1Q	2247	1Q	0	81767	81767
Contractor Support to Test	CPFF	GM GDLS DG L.L.C. Shelby, MI	20414	584	2Q	2535	2Q	781	2Q	0	24314	24314
Subtotal:			190971	18351		22882		5165		30100	267469	267469

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
PMO	N/A	TACOM, Warren, MI	8610	477	1-2Q	0		0		0	9087	9087
PM Support (Contractor)	Competitive / Various	Warren, MI	2147	0		0		0		0	2147	2147
Subtotal:			10757	477		0		0		0	11234	11234
Project Total Cost:			**575557**	**49689**		**26332**		**5415**		**64460**	**721453**	**721453**

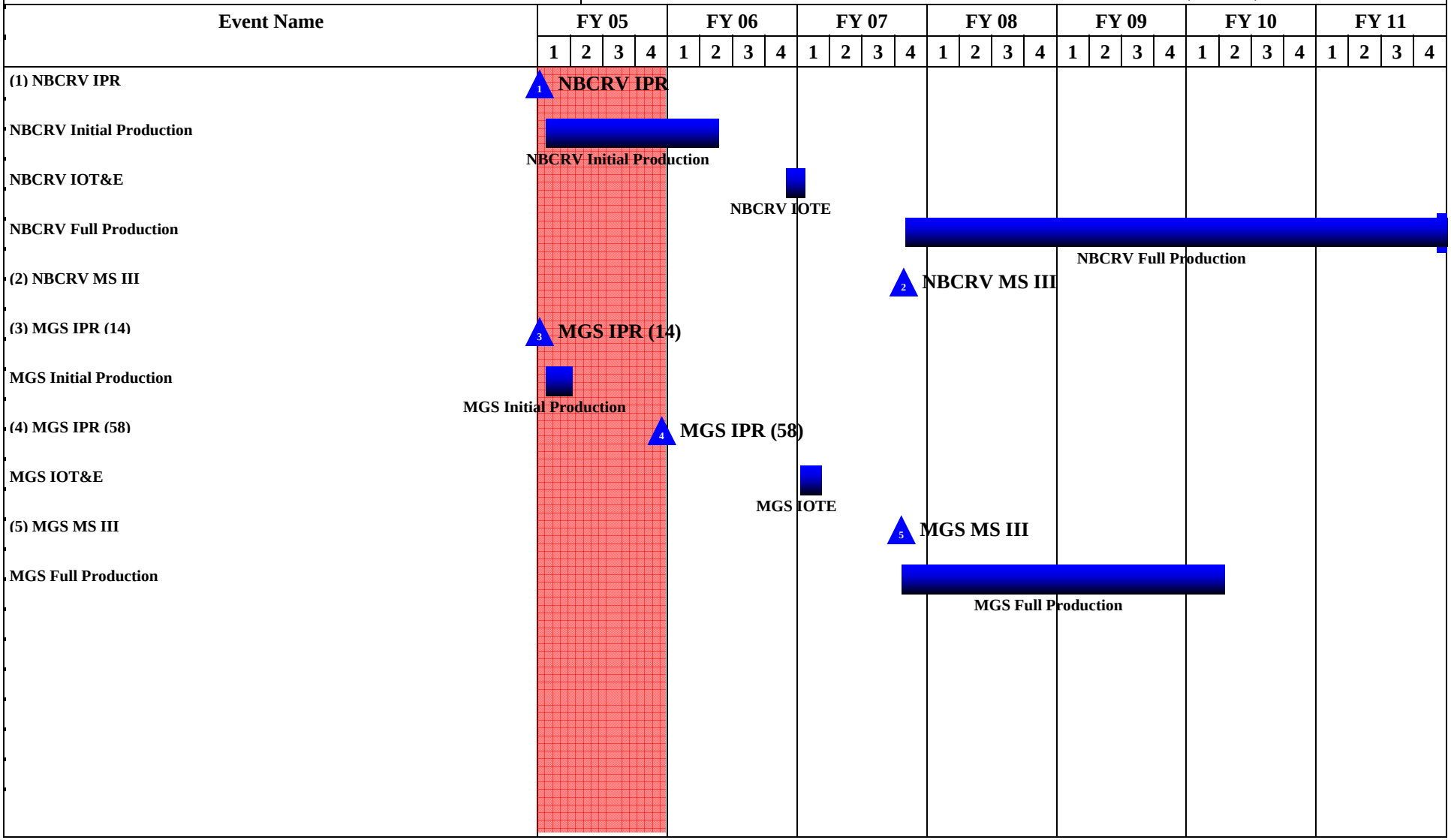
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)

PROJECT
C03



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603653A - ADVANCED TANK ARMAMENT SYSTEM (ATAS)

PROJECT
C03

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
NBCRV IPR	1Q						
Planned NBCRV Milestone III			4Q				
MGS IPR (Lot 1 - 14 Vehicles)	1Q						
MGS IPR (Lot 2 - 58 Vehicles)	4Q						
Planned MGS Milestone III			4Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603747A - Soldier Support and Survivability

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	19482	3344	2778	3833	3929	4324	4414	0	74901
610	FOOD ADV DEVELOPMENT	3846	3344	2770	3825	3921	4315	4405	0	33475
669	CLOTHING AND EQUIPMENT	7946	0	8	8	8	9	9	0	20878
C08	RAPID EQUIPPING FORCE	7500	0	0	0	0	0	0	0	7500
C09	SOLDIER SUPPORT EQUIPMENT - AD	190	0	0	0	0	0	0	0	13048

A. Mission Description and Budget Item Justification: This program element supports component development and prototyping for organizational equipment, improved individual clothing and equipment that enhance Soldier battlefield effectiveness, survivability, and sustainment. This program element also supports the component development and prototyping of joint service food and combat feeding equipment designed to reduce logistics burden. In FY06, Projects 669 and C09 transition to a new Program Element, 0603827A, Soldier Systems - Advanced Development.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603747A - Soldier Support and Survivability

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	13234	3393	2728
Current BES/President's Budget (FY 2007)	19482	3344	2778
Total Adjustments	6248	-49	50
Congressional Program Reductions		-15	
Congressional Rescissions		-34	
Congressional Increases			
Reprogrammings	7500		
SBIR/STTR Transfer			
Adjustments to Budget Years	-1252		50

Change Summary Explanation: Funding - FY 2005: -$1.252M realigned to other higher Army priority requirements.
FY 2005: +$4.000M Funding provided by IFF to support REF GWOT requirement. requirement.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603747A - Soldier Support and Survivability**	**610**

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
610 FOOD ADV DEVELOPMENT	3846	3344	2770	3825	3921	4315	4405	0	33475

A. Mission Description and Budget Item Justification: This project provides for the advanced component development and prototyping of joint service food and combat feeding equipment designed to reduce the logistics burden and Operation and Support (O&S) costs of subsistence support to service personnel. Project supports development of rations and rapidly deployable field food service equipment. Project conducts demonstration and validation of improved subsistence and subsistence support items used to enhance soldier effectiveness and quality of life in all four Services, as part of an integrated Department of Defense (DoD) Food Research, Development, Test, Evaluation and Engineering Program. The Program is reviewed and validated twice annually by the DoD Combat Feeding Research and Engineering Board (CFREB) as part of the Joint Service Food Program. This project develops critical enablers that support the Joint Future Force Capabilities and the Joint expeditionary mindset by maintaining readiness through fielding and integrating new equipment. This equipment enhances the field soldier's well-being and provides the soldier with usable equipment, in addition to reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, combat zone footprint, and costs for logistical support.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY 05: Developed, field tested, and transitioned updated Unitized Group Ration - Heat & Serve (UGR-H&S) and UGR-A menus and documents to procurement to ensure maximum acceptability/consumption. Eighteen new items were approved by Joint Services Operational Ration Forum (JSORF) and included in the UGR-H&S, 06 menus. Twenty-two new UGR-A items were approved and transitioned to Defense Supply Center Philadelphia (DSCP) for procurement. Assembled prototypes of revised Medical Diet Supplement (MDS) and provided them to AMEDD in support of OEF/OIF. Optimized quantity and variety within UGR-H&S, 06 breakfast menus based on OEF/OIF feedback. Initiated development of Boil-in-Bag (BIB) Dehydrated Eggs for UGR-H&S based on OEF/OIF feedback. Obtained Service approval of the Institutional-Sized Pouch (ISP) for use in the UGR-B and initiated transition of ISP technology to procurement. Continued field-testing of ISPs to ensure compatibility with the UGR-H&S. FY 06: Completes document preparation and transitions BIB Egg package and ISP (for UGR-H&S) technologies to procurement. Complete UGR, 07 component/menu development to include candidate components from transitioned 6.3 items. FY07: Improve fielded group operational rations to increase variety, enhance acceptability, increase consumption and improve nutritional intake to maintain peak performance on the battlefield. Integrates state-of-the-art packaging technologies and other Science & Technology (S&T) transitions into fielded group rations.	964	715	441
FY 05: Conducted Meal, Cold Weather (MCW)/Long Range Patrol (LRP) ration test. Completed advanced development storage evaluations of LRP components, planned field test and obtained prototypes. Completed field test with Long Range Surveillance troops from E Company, 51st Infantry. Completed evaluations of a new drink pouch and eighteen other components being considered for inclusion in the ration. Performed data analysis from field test results. Completed OIF evaluation of First Strike Ration (FSR). FY 06: Complete data analysis from field test and plan for a limited FY07 field test of new LRP components and improved FSR components. FY 07: Identify and select new candidate LRP MCW and FSR transitioning from 6.3. Acquire prototypes and initiate accelerated storage and rough handling evaluations. Complete prototype menu design, obtain OTSG approvals and finalize field test results. Transition First Strike Ration components to Systems Development and Demonstration (SDD).	295	99	200
FY 06: Complete management plan for FSR. Complete Operational Testing (OT) for FSR. Finalize component structure, packaging and assembly instructions. Complete industry producibility evaluations. Obtain industry producible test quantities of FSR. Analyze field test	0	641	0

data and prepare report for Joint Services Operational Ration Forum decision brief on acceptance of FSR. Develop procurement documentation, and transition to DSCP for First Unit Equipped (FUE).			
FY 05: Completed improvements to enhance acceptability/consumption of the Meal, Ready-to-Eat. Provided decision brief to Joint Services Operational Forum and received approval to incorporate nineteen new items for procurement into MRE 25. Completed in-house evaluations of two alternative non-hydrogen flameless ration heaters being developed to eliminate hydrogen field generation. Provided recommended design changes to manufacturers and received new prototypes. Initiated field test planning. FY 06: Completes field testing of new MRE components for FY 08 Date Of Pack (DOP). Completes field test of non-hydrogen flamesless heaters. Completes evaluations to address heat stress and browning to create an improved shelf stable cheese spread for MRE. Obtain producibility data on cheese and conduct an evaluation. Completes development of new products for MRE and begin advanced storage studies. Down select most promising items for FY07 field test. Obtain prototypes from operational ration vendors. FY 07: Finalize test items and obtain test quantities for new MRE operational ration components. Complete large-scale field test design for new MRE components. Begin advanced development of an improved supplement pack.	810	401	812
FY 05: Completed scale-up production test of Compressed Meal (CM) components and assembled prototype CMs for user testing. Worked with Ft Knox to modify the Operational Requirements Document (ORD) for Future Combat Vehicle (FCV) cold and hot water requirements for optimum CM rehydration. Conducted focus groups of CM technology which yielded data on overall CM utility, compatibility with the FCV and in-vehicle feeding.	300	0	0
FY 07: Completes optimization of CM components/menus and field-testing of CMs. Completes document preparation and transition to Procurement.	0	0	212
FY 05: Completed fabrication of Multi Temp Refrigerated Container System (MTRCS) prototypes. Conducted contractor testing and initiated Developmental Testing (DT) on prototypes. Transitioned program into System Development and Demonstration.	589	0	0
FY 05: Drafted Performance-based Contract Requirements (PCRs) & acquisition strategy for Unitized Group Ration Express (UGR-E). Continued design optimization of chemical heaters, heating trays, activator pouches and overall UGR-E design. Awarded multiple pre-production contracts to validate UGR-E producibility and cost, based on incremental improvements achieved and implemented. Conducted remote site/large-scale field testing, accelerated storage, rough handling, and cold weather testing. User tests included cold weather test in Alaska and evaluations by remote units in OEF. FY 06: Completes producibility demonstrations and field testing of UGR-E. Completes Safety Assessment Report (SAR), Health Hazard Assessment Report (HHAR) and Department of Transportation /Environmental Protection Agency regulatory assessments. Completes cost estimate and documentation to support fielding. Finalize procurement documentation and transitions to Defense Supply Center Philadelphia (DSCP).	400	422	0
FY 05: Researched and developed storage system for the extended preservation of Rations using polymer membrane to control atmosphere and collapsible storage container to limit mechanical injury. Completed in-house testing of side chain crystallizable membrane technology used to create optimum atmospheres for Fresh Food and Vegetables (FF&V). Demonstrated that FF&V products such as iceberg lettuce, broccoli and bananas could be extended to forty-five days while maintaining post harvest condition. Awarded a contract to develop and test polymer membranes for the top ten FF&V's currently being used by the Navy. Conducted prototype testing of the storage system aboard the USS Regan. FY 06: Conducts additional prototype tests of polymer membranes to control atmosphere and down select system to be used within submarine fleet. Award 2nd phase contract to complete FF&V testing. Conduct surveys and prepare final report and recommendations to Navy Support Command (NAVSUP) and Defense Supply Center Philadelphia (DSCP).	142	114	0
FY 05: Conducted market investigation into field co-generation technologies for Field Feeding Operations and prepared for FY06 award of development contract.	86	0	0

FY 05: Conducted studies on emerging technologies to accommodate reductions of shipboard labor and to reduce freezer storage on board Navy ships through use of prepared foods, common menus and shelf stable food items. Initiated food and nutrition research studies on more than 300 food products in order to develop the Navy 21 Day Advanced Operational Menu (AOM). Efforts included product identification, sensory analysis, time motion studies and developing speed scratch concepts for food preparation. Implemented 21-Day AOM aboard the USS Nitze and provided feedback and recommendations to NAVSUP. Determined the freezer and chill storage requirements using the Convenience Food Logistics Model to support the 21-Day AOM by ship class for increased prototype testing.	140	0	0
FY 06: Develops Smart Ship Galley prototype for DD(X) platform utilizing modular concepts and systems. Study production flow, manpower usage & labor savings, diagnose equipment & collect maintenance and mean time to failure data to optimize future Navy galley designs. FY 07: Completes Phase I galley design and layout for the new San Antonio LPD Class Ships. Determines feeding requirements, equipment configuration, manpower usage, production flow, and maintenance requirements, and recommend best design to Navy.	0	371	311
FY 06: Optimize design and case hardening of surface scanning biosensor, complete field tests, prepare Technical Data Package (TDP) and transition to Veterinary Command (VETCOM) for procurement.	0	375	0
FY 07: Conducts testing of labor saving automated galley feeding equipment, procures, tests in laboratory, generates test plans and procedures for testing; identifies and secures Navy field test platforms, prepares evaluation reports for the Navy.	0	0	110
FY 06: Conducts total systems analysis; evaluates, procures, and conducts in house testing of commercial and approved Navy equipment for use in the Air Force Basic Expeditionary Airfield Resources (BEAR) single kitchen system. Developes Technical Data Packages (TDPs) and Commercial Item Descriptions (CIDs) for recommended equipment. Provides approved equipment list to AF Procurement.	0	206	0
FY 05: Conducted a Market Survey of options to mitigate combustion by-products for the field food sanitation system, developed various protoype concepts and conducted in-house testing.	120	0	0
FY 07: Obtain Milestone B approval and initiate development of Future Combat Vehicle (FCS) Crew Sustainment System and Modular Individual Water Heater.	0	0	684
Total	3846	3344	2770

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0604713.548, Military Subsistence System	1945	3334	3017	2520	2519	2154	2199	CONT	CONT
OPA 3, M65801, Refrigerated Containers	5944	4175	5276	4220	11024	10461	9869	CONT	CONT

C. Acquisition Strategy Project development will transition to System Development & Demonstration and production.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603747A - Soldier Support and Survivability

PROJECT
610

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
Joint Service Food/Combat Feeding Equipment	In-House	RDECOM, Natick, MA	21840	1515	1-4Q	1234	1-4Q	1053	1-4Q	Continue	Continue	Continue
Joint Service Food/Combat Feeding Equipment	Contracts	Various	10148	1474	1-4Q	1248	1-4Q	983	1-4Q	Continue	Continue	Continue
Subtotal:			31988	2989		2482		2036		Continue	Continue	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
Subtotal:			0									

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Joint Service Food/Combat Feeding Equipment	MIPR	DTC, Maryland & AEC, Virginia	4446	665	1-4Q	563	1-4Q	443	1-4Q	Continue	6117	Continue
Subtotal:			4446	665		563		443		Continue	6117	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
Combat Feeding Program Management	In-House	RDECOM, Natick, MA	1704	192	1-4Q	299	1-4Q	291	1-4Q	Continue	0	Continue
Subtotal:			1704	192		299		291		Continue	0	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603747A - Soldier Support and Survivability**	**610**

Project Total Cost:	**38138**	**3846**		**3344**		**2770**		**Continue**	**6117**	**Continue**

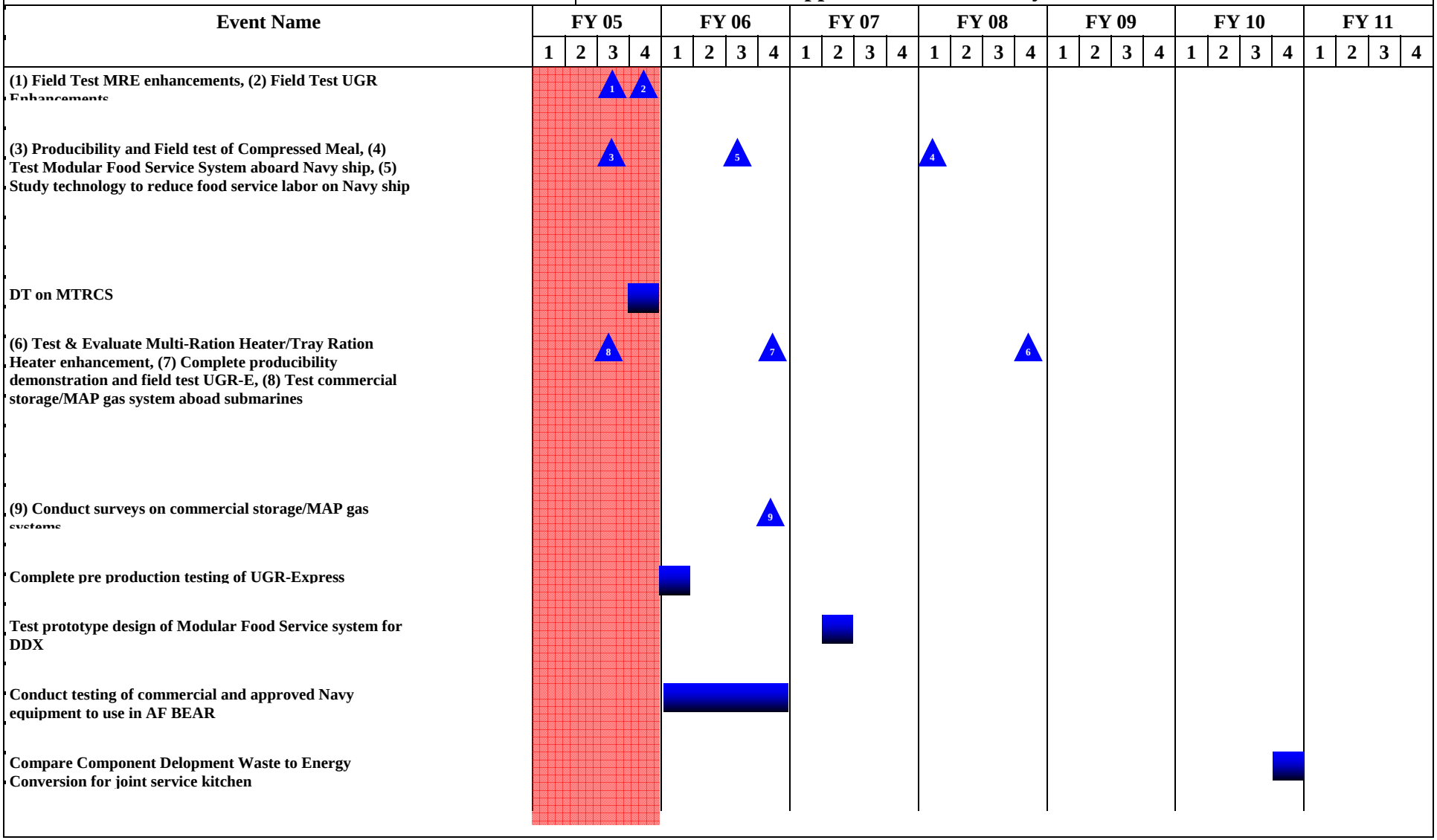
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603747A - Soldier Support and Survivability

PROJECT
610



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603747A - Soldier Support and Survivability

PROJECT
610

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Conducted field test on Meals Ready to Eat (MRE) enhancements.	3Q						
Conduct field test on UGR enhancements.	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Transition UGR enhancements/changes to DSCP for procurement.	3Q	3Q	3Q	3Q	3Q	3Q	3Q
Completed producibility and field test of Compressed Meal.	3Q		3Q				
Test Modular Food Service System aboard Navy ship.				1Q			
Conduct studies on emerging technologies to reduce food service labor on board Navy ships.		3Q					
Develop Modular Food Service equipment and transition to the Navy.			3Q	3Q	3Q	3Q	3Q
Prepare TDP and transition Surface Scanning Biosensor to VETCOM.		4Q					
Transition performance contract requirements for Tamper Evident Packaging to DSCP and services.				4Q			
Test and evaluate Multi-Ration Heater/Tray Ration Heater enhancements.				4Q			
Transition Multi-Ration Heater/Tray Ration Heater enhancements to SDD					4Q		
Transition the Compressed Meals to DSCP for procurement.			4Q				
Transition First Strike Ration components to Systems Development.			4Q	4Q	4Q	4Q	4Q
Complete UGR-E producibility demostrations and field tests and transition to DSCP for procurement.		4Q					
Initiated DT on the Multi Temp Refrigerated Container System (MTRCS).	4Q						
Test commercial storage/MAP gas system aboard submarines.	3Q						
Conduct surveys on commercial storage/MAP gas systems and provide recommendations to the Navy.		4Q					
Transition advanced development of individual operational ration components to systems development	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Transition Boil-in-bag Egg package to DSCP for Procurement		1Q					
Transition Institutional-Sized Pouch (UGR- H&S) packaging to DSCP for procurement		2Q					

Complete pre-production testing of UGR-Express (E)		1Q					
Test prototype design of Modular Food Service system for DDX			2Q				
Conduct testing of commercial and approved Navy equipment for use in AF BEAR system.		1-4Q					
Compare Advanced Component Development of WEC systems for joint service kitchens, transition to SDD					4Q	4Q	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603747A - Soldier Support and Survivability**	**669**

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
669 CLOTHING AND EQUIPMENT	7946	0	8	8	8	9	9	0	20878

A. Mission Description and Budget Item Justification: Not applicable for this item.

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603747A - Soldier Support and Survivability**	**C08**

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
C08 RAPID EQUIPPING FORCE	7500	0	0	0	0	0	0	0	7500

A. Mission Description and Budget Item Justification: The US Army Rapid Equipping Force (REF) was established to provide urgently needed state-of-the-art technology to soldiers in the field to meet immediate warfighter needs under operational conditions in the current theaters. The REF Forward Teams in Iraq and Afghanistan work with Combatant Commanders and the soldiers to identify warfighter needs while REF Rear formulates solutions and rapidly delivers/fields new equipment to the deployed units. REF solutions are rapid responses to evolving, adaptable and changing, mostly asymmetric threats, in any operational environment. Projects will be aimed at improved mission mobility/survivability including evaluating concepts and hardware/software that accomplish this with current platforms and possible new platforms and or non-platform (satellites) solutions.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY 05: Developed three prototypes Fractal Antennas and delivered a low-frequency onmidirectional antenna for use on HMMWV platforms.	375	0	0
FY 05: Developed, fabricated, tested, and demonstrated an interface device between the U.S. Army Matrix System and a Portable Vehicle Arresting Barrier (PVAB) and the Vehicle Lightweight Arresting Device.	800	0	0
FY 05: Tested, evaluated, supported and wrote report on commercial of the shelf (COTS) items as part of the Heat Stress Mitigating Vest (HSMV) project.	144	0	0
FY 05: Performed test on Backscatter Portal for capabilities, safety and electromagnetic interference (EMI). Performed EMI, software safety/vulnerability test and testing support for Rapiscan Secure 1000 system.	350	0	0
FY 05: Deployed and supported the Hunter Unmanned Aerial Vehicle (UAV) Systems and Viper Strike Weapon Systems to the Counter-Rocket, Artillery and Mortar (C-RAM) Integration Demonstration at Yuma Proving Ground, AZ.	800	0	0
FY 05: Prepared and delivered miniature Transceiver Field Unit (TFU) technical data package including concurrent engineering with production agency.	470	0	0
FY 05: Completed project management for Roberta Project (SAP).	180	0	0
FY 05: Transported and tested Israeli technology and equipment for the Joint Improvised Explosive Device Defeat Task Force (JIEDDTF).	162	0	0
FY 05: Awarded contract for preparation of the Suicide/Homicide Bomber Training Kits, The Suicide Homicide Bomber Awareness Training Support Packages and The Vehicle Bomb Mitigation Guides. Integrated the Air Force IED Detection System onto a TeleOP vehicle platform and tested interoperability. Performed test of the Genesis Tanker Borne Vehicle Borne Improvised Explosive Device (VIEDB) Detection System for capability against realistic threats in an operational environment. Performed testing to determine characteristics of threat rocket propelled grenade (RPG), mortars and rocket fuse and detonator systems.	456	0	0
FY 05: Purchased 10 Night Vision Laboratories (NVL) Laser Dazzler and three PD/G90 Saber Dazzler test articles for safety testing. Produced one prototype filter, mounting bracket, and electrical connection for the WARLOCK Green, ICE and SSVJ jammers, tested each	263	0	0

prototype with documented results and field tested each prototype with documented results.			
FY 05: Develop man portable modification to Small Lightweight Advanced Modular - Digital Electronic Attack (SLAM-DEP) jammer. Purchase 53 test units for modifying, testing and development of at least three man portable prototype which are useable in dismounted operations.	2105	0	0
FY 05: Test, Evaluation and support for man portable SLAM-DEP jammers in dismounted operations.	1395	0	0
Total	7500	0	0

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Other Procurement, Army	196658	54222	50679	51855	47544	52502	62012	0	515472
Operations and Maintenance, Army	54335	0	0	0	0	0	0	0	54335

C. Acquisition Strategy The REF provides urgently needed, state-of-the-art technology to soldiers in the field to meet immediate requirements. REF Rear evaluates, utilizes or adapts currently available military or civilian items (COTS/GOTS) which typically have not been type classified for Army-wide use but are available and adaptable to the current Combatant Operational Commander's needs. The REF solution is a rapid response to evolving, adaptable and changing asymmetric threats in any operational environment.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603747A - Soldier Support and Survivability

PROJECT
C08

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
Suicide/Homicide Bomber Training Kits	MIPR	Navy Systems Management Activity (NSMA) Arlington, VA	0	78	1-2Q	0		0		0	0	0
Suicide Homicide Bomber Aware Trng Spt Pkgs & Vehicle Bomb Mitigation Guides	MIPR	US Gov Printing Office, Wash., DC	0	59	1-2Q	0		0		0	0	0
Developed three prototypes Fractal Antennas	MIPR	RDECOM CERDEC I2WD, Ft. Monmouth, NJ	0	175	1-2Q	0		0		0	0	0
Low-frequency onmidirectional antenna for use on HMMWV platforms	MIPR	RDECOM CERDEC I2WD, Ft. Monmouth, NJ	0	200	1-2Q	0		0		0	0	0
Developed & fabricated interface for USA Matrix Sys and PVAB and Veh Lt Wt Arresting Device	MIPR	PM Close Combat Systems (CCS), Picatinny, NJ	0	750	1-2Q	0		0		0	0	0
Prepared and delivered miniature Transceiver Field Unit (TFU) technical data package	MIPR	RDECOM CERDEC I2WD, Ft. Monmouth, NJ	0	470	1-3Q	0		0		0	0	0
Develop prototype filter, bracket, & electrical connection - WARLOCK Green, ICE & SSVJ Jammers	MIPR	PM Signals Warfare, Ft. Monmouth, NJ	0	108	1-3Q	0		0		0	0	0
Develop three man portable SLAM-DEP for use in dismounted operations.	MIPR	RDECOM CERDEC I2WD, Ft. Monmouth, NJ	0	100	1-4Q	0		0		0	0	0
Subtotal:			0	1940		0		0		0	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
Project management for Roberta	MIPR	Aviation & Missile	0	180	1-3Q	0		0		0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603747A - Soldier Support and Survivability

PROJECT
C08

Project (SAP)		Research, Development and Engineering Center, RDECOM, Redstone Arsenal, AL										
Subtotal:			0	180		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
Test and Demonstrate interface for USA Matrix Sys and PVAB and Veh Lt Wt Arresting Device	MIPR	PM Close Combat Systems (CCS), Picatinny, NJ	0	50	1-2Q	0		0		0	0	0
Integrated Air Force IED Detection Sys onto a TeleOP vehicle platform & tested interoperabiliy	MIPR	SAF/FMBMB, Wash., DC	0	175	1-2Q	0		0		0	0	0
Capability test of Genesis Tanker Borne VIEDB Detectiion System	MIPR	Yuma Proving Ground, Yuma, AZ	0	50	1-2Q	0		0		0	0	0
Tested, evaluated & documented results on COTS items for the HSMV project	MIPR	Ft. Bliss, TX	0	143	1-2Q	0		0		0	0	0
Capability, Safety and EMI test on Backscatter Portal	MIPR	White Sands Missile Range, White Sands Missile Range, NM	0	198	1-3Q	0		0		0	0	0
Deploy & Spt Hunter UAV Systems and Viper Strike Weapon System Integration Demonstration with C-RAM	MIPR	PM UAV, Redstone Arsenal, AL	0	800	1-3Q	0		0		0	0	0
Test characteristics of threat RPG, mortars & rocket fuse and detonator systems	MIPR	US Army Research Lab, Aberdeen Proving Ground, MD	0	55	1-3Q	0		0		0	0	0
EMI, software safety/vulnerability test and testing support for Rapiscan Secure 1000 system.	MIPR	White Sands Missile Range, White Sands Missile Range, NM	0	152	1-3Q	0		0		0	0	0
Safety testing for 10 Night Vision	MIPR	CERDEC NVESD, Ft.	0	95	1-3Q	0		0		0	0	0

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603747A - Soldier Support and Survivability

PROJECT
C08

Laboratories (NVL) Laser Dazzler and three PD/G90 Saber Dazzler		Belvoir										
Transport and test Israeli technology and equipment for the Joint IED Defeat Task Force	MIPR		0	162	1-3Q	0		0		0	0	0
Test prototype filter, mounting bracket, & electrical connection - WARLOCK Green, ICE & SSVJ Jammers	MIPR	PM Signals Warfare, Ft. Monmouth, NJ	0	60	1-3Q	0		0		0	0	0
Purchase, modify and test man portable SLAM-DEP in dismounted operations	MIPR	RDECOM CERDEC I2WD, Ft. Monmouth, NJ	0	2005	1-4Q	0		0		0	0	0
Test, Evaluation and support of man portable SLAM-DEP in dismounted operations		RDECOM CERDEC I2WD, Ft. Monmouth, NJ	0	1395	1-4Q	0		0		0	0	0
Subtotal:			0	5340		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
Funds Management Support	MIPR	USA SMDC, Redstone, Arsenal, AL	0	40	1Q	0		0		0	0	0
Subtotal:			0	40		0		0		0	0	0
Project Total Cost:			**0**	**7500**		**0**		**0**		**0**	**0**	**0**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603747A - Soldier Support and Survivability**	**C09**

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
C09	SOLDIER SUPPORT EQUIPMENT - AD	190	0	0	0	0	0	0	0	13048

A. Mission Description and Budget Item Justification: Not applicable for this item.

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603766A - Tactical Support Development - Adv Dev (TIARA)**	**907**

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
907	Tactical Surveillance Systems - TIARA	15211	18637	20077	20580	22948	25345	25272	0	180206

A. Mission Description and Budget Item Justification: Integrate National and Theater capabilities into the tactical army architecture and force structure to support intelligence targeting and situational awareness. The mission is to define requirements and endeavor to get them integrated into the national/theater architectures/requirements and CONOPS. This involves an extensive amount of studies, simulations and experiments in coordination with multiple programs and commands. In the short term, the mission is to evaluate current National developmental technology and potential CONOPS then integrate these items into TENCAP systems/architectures/CONOPS. In the long run, the mission is to influence the type/direction of National technological/CONOPS development to meet future force requirements.

Capabilities developed will be incorporated into the Tactical Exploitation System (TES), Division TES (DTES), TES Lite, Future Combat System, and Distributed Common Ground Station - Army (DCGS-A). Common Baseline addresses common Tactical Exploitation of National Capabilities (TENCAP) subsystems, planned improvements, key activities and ongoing/planned initiatives determined to have potential application to future national, theater and tactical intelligence, surveillance and reconnaissance capabilities.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Pursue technology to refine the TENCAP common baseline, fully exploiting national and theater capabilities to meet emerging worldwide contingency scenarios. Effort includes experimentation, Signals Intelligence (SIGINT), Imagery Intelligence (IMINT), communications, and Measurement and Signature Intelligence (MASINT) processing initiatives.	11844	14512	15562
Support ASPO program management for administrative activities.	3367	4125	4515
Total	15211	18637	20077

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603766A - Tactical Support Development - Adv Dev (TIARA)**	**907**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	15218	18907	19951
Current BES/President's Budget (FY 2007)	15211	18637	20077
Total Adjustments	-7	-270	126
Congressional Program Reductions		-82	
Congressional Rescissions		-188	
Congressional Increases			
Reprogrammings	-7		
SBIR/STTR Transfer			
Adjustments to Budget Years			126

FY07: Increase to support technical base shortfall; previously funded in PE 0305208, Project 956.

D. Acquisition Strategy As pioneers in streamlined acquisition, ASPO's success in delivering systems to warfighters is directly attributed to an environment emphasizing stable funding, low density acquisition, minimal use of MILSPECS, and managed competition. By influencing new technology direction, tailoring existing technology, leveraging the best commercial practices, and using commercial and government-off the shelf software, ASPO minimizes risk while maximizing efficiency. Government and contract personnel and facilities accomplish dedicated Integrated Logistics Support (ILS) for all systems through a coordinated effort.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603766A - Tactical Support Development - Adv Dev (TIARA)

PROJECT
907

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
Common Baseline	SS/CPAF	Multiple	39124	11844	1-3Q	14512	1-3Q	15562	1-3Q	Continue	0	Continue
Subtotal:			39124	11844		14512		15562		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
ASPO Program Management	In House	ASPO, Alexandria, VA	9237	3367	1-4Q	4125	1-4Q	4515	1-4Q	Continue	21244	Continue
Subtotal:			9237	3367		4125		4515		Continue	21244	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
Subtotal:			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									

Project Total Cost:	**48361**	**15211**		**18637**		**20077**		**0**	**21244**	**0**

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603766A - Tactical Support Development - Adv Dev (TIARA)

PROJECT
907

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Common Baseline	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q
ASPO Program Management	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
4 - Advanced Component Development and Prototypes	**0603774A - Night Vision Systems Advanced Development**

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	17044	6787	5337	3481	2610	5684	5808	Continuing	Continuing
131	NIGHT VISION SYS A/DEV	6980	6787	5337	3481	2610	5684	5808	Continuing	Continuing
U01	UNIQUE IDENTIFICATION (UID)	10064	0	0	0	0	0	0	0	0

A. Mission Description and Budget Item Justification: This program addresses initiatives to develop and transition technologies from the laboratories and industry in order to improve fielded equipment in the current force as well as initiation, development, and engineering/program management support of systems for fielding to the Current, Modular, and Future Forces (FF). Efforts include the development of an uncooled infrared imaging "B-Kit" to integrate this technology across many current and FF systems for lower costs for production, fielding and maintenance. 3rd Generation Forward Looking Infrared (3rd Gen FLIR) high performance thermal imaging technology will allow simultaneous operation in the mid and long wavelength infrared bands for significantly improved ranges for acquisition of enemy forces. A major thrust will be to transition technologies to acquisition programs that meet required, advanced sensor capabilities of the Modular Force, FF, and FCS requirements documents. This will include the ability for sensors to accomplish Advanced UAV Payload missions, Aided Target Recognition (ATR), and Close Surveillance Support System for 360 degree situational awareness for vehicles. Overwatch provides for detecting, classifying, and locating weapons based on firing signatures. ATR will provide the FF unprecedented capability in target detection, recognition, and hand-off. Close Surveillance Support System will allow vehicle occupants to see outside the vehicle in day or night without the blind spots created by armor. This will allow much improved maneuvering in urban/complex terrain, tracking of friendly soldiers and vehicles, and detection and engagement of dismounted and vehicular threats. Other emerging concepts resulting from ongoing operations will be supported by this program, to include route reconnaissance for road hazards, battle damage assessment including decoy and camouflage detection, detection of threat soldiers carrying Rocket Propelled Grenades (RPGs), and identification of Improvised Explosive Devices (IED) and suicide bombers.

FY 2007 funding supports continuing 3rd Gen FLIR, UGS, Overwatch, and UAV Advanced Payloads efforts as well as emerging concepts for route reconnaissance, battle damage assessment, information on the firing of weapons, and detection of personnel with RPGs, IEDs, and suicide bombers.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603774A - Night Vision Systems Advanced Development

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	17052	6885	5410
Current BES/President's Budget (FY 2007)	17044	6787	5337
Total Adjustments	-8	-98	-73
Congressional Program Reductions		-30	
Congressional Rescissions		-68	
Congressional Increases			
Reprogrammings	-8		
SBIR/STTR Transfer			
Adjustments to Budget Years			-73

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603774A - Night Vision Systems Advanced Development**	**131**

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
131 NIGHT VISION SYS A/DEV	6980	6787	5337	3481	2610	5684	5808	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program addresses initiatives to develop and transition technologies from the laboratories and industry in order to improve fielded equipment in the current force as well as initiation, development, and engineering/program management support of systems for fielding to the Current, Modular, and Future Forces (FF). Efforts include the development of an uncooled infrared imaging "B-Kit" to integrate this technology across many current and FF systems for lower costs for production, fielding and maintenance. 3rd Generation Forward Looking Infrared (3rd Gen FLIR) high performance thermal imaging technology will allow simultaneous operation in the mid and long wavelength infrared bands for significantly improved ranges for acquisition of enemy forces. A major thrust will be to transition technologies to acquisition programs that meet required, advanced sensor capabilities of the Modular Force, FF, and FCS requirements documents. This will include the ability for sensors to accomplish Advanced Unmanned Aerial Vehicle (UAV) Payload missions, Aided Target Recognition (ATR), and Close Surveillance Support System for 360 degree situational awareness for vehicles. Overwatch provides for detecting, classifying, and locating weapons based on firing signatures. ATR will provide the FF unprecedented capability in target detection, recognition, and hand-off. Close Surveillance Support System will allow vehicle occupants to see outside the vehicle in day or night without the blind spots created by armor. This will allow much improved maneuvering in urban/complex terrain, tracking of friendly soldiers and vehicles, and detection and engagement of dismounted and vehicular threats. Other emerging concepts resulting from ongoing operations will be supported by this program, to include route reconnaissance for road hazards, battle damage assessment including decoy and camouflage detection, detection of threat soldiers carrying Rocket Propelled Grenades (RPGs), and identification of Improvised Explosive Devices (IED) and suicide bombers.

FY 2007 funding supports continuing 3rd Gen FLIR, UGS, Overwatch, and UAV Advanced Payloads efforts as well as emerging concepts for route reconnaissance, battle damage assessment, information on the firing of weapons, and detection of personnel with RPGs, IEDs, and suicide bombers.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Uncooled B-Kit - Extend uncooled focal plane array technology capability across multiple platforms to allow interchangeable parts for lower cost, weight, power, and volume. FY06 and beyond supports the expansion of the Uncooled B Kit (UBK) family to include larger and smaller arrays.	0	500	683
Sense Through The Wall (STTW)- Support development of STTW technology to sense personnel in buildings, behind other small structures or foliage, and from a stand-off distance.	542	0	0
Emerging Concepts - Explore a range of potential technologies for FCS and the Future Force that will enable route reconnaissance, battle damage assessment, and detection of threats.	553	506	450
UAV Advanced Payloads - Technology to sense the presence of personnel and man-made objects under natural foliage. Determination of the extent, application and feasibility of integrating current processing technology development into Persistent Surveillance capabilities currently in-theatre and informing the Extended Range/Multi-Purpose (ER/MP) Program.	0	1041	1250
Aided Target Recognition (ATR) - Technology to allow Current and Future Force to more effectively detect and recognize targets, and cross cue other sensors in a tactical environment. This concept development effort defines technology, develops alternatives, and refines	83	362	0

Army requirements.			
Close Surveillance Support System - Perform concept development and demonstrations for a vehicle sensor system that provides an unimpeded 360 degree view of the immediate area around the vehicle from any crew position for situational awareness and threat detection. FY05/06 procures a demonstrator/test bed and further refines Operational concepts of employment. FY07 activities include system design and vehicle integration assessment, demonstration testing, and preparation for a Decision Milestone. Industry Rodeo to be conducted in 3QFY06 to evaluate Commercial Off The Shelf (COTS) state of the art.	1020	961	887
3rd Gen FLIR - Initiate Concept and Technology Development for 3rd Gen FLIR, the next generation of advanced primary reconnaissance imaging systems for the Modular and Future Force, to include Future Combat System (FCS). FY05 supported the fabrication, integration and demonstration of 3rd Gen FLIR prototypes from the 3rd Gen FLIR Advanced Technology Objective (ATO) into a Long Range Advanced Scout Surveillance System (LRAS3). Demonstration is scheduled for 3QFY06. FY06/07 efforts will 'productize' an assembly for use in ground and aerial, manned and unmanned applications (as a common component) and establish specs and interfaces with objective systems.	896	1590	835
Overwatch - Transition OVERWATCH Advanced Concepts Technology Demonstration (ACTD) technology into current and future systems applications.	0	344	522
Family of Integrated Rapid Response Equipment (FIRRE) - FY05 efforts define the sensor requirements and procure the sensors to support demonstration of an integrated capability which could be quickly fielded.	3588	0	0
Common Remote Stabilized Sensor System (CRS3) - Demonstration and testing of CRS3.	298	0	0
Unattended Ground Sensors. REMBASS II Ground Sensor Radars no longer being fielded to Army. Initiate a study to determine the extent to which Camouflaged Long Endurance Nano Sensors (CLENS) capability demonstrating a light-weight, long endurance sensor network for providing persistent reconnaissance and surveillance through foliage can be adapted to cave environments. Demonstrate UGS functionality in support of UGV mission and CONOP.	0	296	0
Mini Synthetic Aperture Radar (SAR) Demo. Conduct a solicitation and/or demonstration of Mini SAR technologies to characterize current industry capabilities. This effort will inform the TUAV objective requirement and has the potential to enhance current SHADOW capabilities in use in theater.	0	671	710
Data Comms Package on Rapid Aerostat Initial Deployment (RAID). FY06 effort integrates and demonstrates a data communications relay on the existing RAID towers and aerostats to improve communications.	0	516	0
Total	6980	6787	5337

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 0602709A/Night Vision and Electro-Optical Technology	26393	31664	23907	24904	26310	27655	27877	CONT	CONT
PE 0603710A/Night Vision Advanced Development	102002	101690	44307	35808	41685	47849	48309	CONT	CONT
PE 0604710A/Night Vision Devices Engineering Development	34107	28980	38821	52227	28688	23163	22544	CONT	CONT
K38300 LRAS3	102625	41769	179594	168279	201498	161935	103041	CONT	CONT

G86100 Future Combat System	0	0	0	170104	334124	1545296	3682551	CONT	CONT
BA0330 TUAV	305569	160974	36098	43359	216943	218854	32679	CONT	CONT
W61900 IAV	255179	255274	160060	129708	80270	73290	22757	CONT	CONT
PE 654645 FCS (UGS)	2098130	2745716	3310477	3283408	3118477	3014482	2633249	CONT	CONT

C. Acquisition Strategy The advances and improvements for cooled and uncooled thermal imaging sensors, radars, Sense Through The Wall systems, and Unattended Ground Sensors utilize various cost reimbursement development type contracts that were, and will continue to be, competitively awarded using best value source selection procedures.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603774A - Night Vision Systems Advanced Development

PROJECT
131

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
Laser Protection	C/CP, MIPR	DRS, Dallas, TX /SBRC, Santa Barbara, CA; NVESD	2326	0		0		0		0	2326	0
UAV Advanced Payloads	T&M, MIPR	Various	130	0		860	3Q	738	2Q	Continue	Continue	0
CIRISS efforts	T&M	Various	441	0		0		0		0	441	0
Sensor Link Protocol efforts	MIPR	Various	105	0		0		0		0	105	0
Demo of payload & systems integration TSP	SS/CPFF	TRW, Sierra Vista, AZ	400	0		0		0		0	400	0
3rd Gen FLIR	MIPR	NVESD	0	696	2Q	1158	2-3Q	705	2Q	Continue	Continue	0
Close Surveillance Support System efforts	T&M	Various	1101	974	2Q	521	2Q	507	2Q	Continue	Continue	0
Emerging Concepts efforts	T&M	Various	799	453	1Q	298	2Q	360	2Q	Continue	Continue	0
TUAV Laser Rangefinder	C/CP	Versitron, Santa Rosa, CA	300	0		0		0		0	300	0
Land Warrior			3750	0		0		0		0	3750	0
Award CAD Contract for TSP	C/CPFF	Applied Science Technologies, Sunnyvale, CA; BAE Nashua, NH	10967	0		0		0		0	10967	0
Theater Support Vessel study	MIPR	NVESD	106	0		0		0		0	106	0
ATR/ATC Activities	MIPR	Various	462	0		282	2Q	0		0	744	0
Uncooled B-Kit Evolution/Development	C/CP, MIPR	ADC, Newington, VA; Various others	3989	0		322	3Q	528	2Q	Continue	Continue	0
FLIR Develop/Integrate	Various	Various	1938	0		0		0		0	1938	0
UAV Quieting, Etc. TSP	MIPR	TUAV Proj Office, Redstone Arsenal, AL	900	0		0		0		0	900	0
LRAS3 /LLDR Telescopic Mast Demo	MIPR	NVESD	685	0		0		0		0	685	0
Demo and eval of ENVG	Various	Various	1778	0		0		0		0	1778	0

technology (Tx to DL67)												
Multifunction Laser Design (Tx to DL67)	C/CP	Raytheon, Dallas, TX	906	0		0		0		0	906	0
SR2P	MIPR	NVESD	658	0		0		0		0	658	0
Demo and eval of ANVG (Tx to DL67)	Various	Various	1320	0		0		0		0	1320	0
Head Tracked Commander's Sight	C/CP	Various	223	0		0		0		0	223	0
Large Format Array Uncooled Thermal Sight	C/CP	(Soldier effort)	400	0		0		0		0	400	0
Unattended Ground Sensors	Various	Various	2970	0		0		0		0	2970	0
Sense Through the wall Unmanned/Stand-Off			2357	377		0		0		0	2734	0
Multi-mode Radar	Various	Various	789	0		0		0		0	789	0
Aided Target Recognition efforts	T&M	NVESD	160	83	1Q	0		0		0	243	0
Cost Benefit Analysis TUAV	MIPR and C/FP	TRAC-WSMR, NM and TBE, Huntsville, AL	910	0		0		0		0	910	0
CRS3 Testing	MIPR	RTTC, Huntsville, AL	0	238	2Q	0		0		0	238	0
FIRRE Efforts	TBD	TBS	0	3178	2-3Q	0		0		0	3178	0
UGS/CLENS	C/CP	TBS	0	0		183	3Q	0		0	183	0
Mini SAR Demo	CPFF	Various	0	0		573	3Q	270	1Q	Continue	Continue	0
Data Comms Package on RAID	T&M	Raytheon	0	0		404	3Q	0		0	404	0
Overwatch efforts	MIPR and C/CP	Various	0	0		284	2Q	447	2Q	Continue	Continue	0
Subtotal:			40870	5999		4885		3555		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	Various	1425	265	1Q	529	2Q	497	2Q	Continue	Continue	0
Engineering Support	FFP	CSC, Falls Church, VA	0	521	2Q	0		0		0	521	0

Matrix Support	MIPR	CECOM Fort Monmouth, NJ	2000	0		0		0		0	2000	0
Engineering Support	FFP	MITRE; McLean, VA	1216	0		0		0		0	1216	0
Engineering Support	FFP	CACI, Fort Monmouth, NJ	2356	0		0		0		0	2356	0
Engineering Support	T&M	Various	0	0		724	2-3Q	378	2Q	Continue	Continue	0
Subtotal:			6997	786		1253		875		Continue	Continue	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
Multispectral Eval	MIPR	WSMR	308	0		0		0		0	308	0
FLIR Demos and Evals	MIPR	Various	836	0		0		0		0	836	0
ENVG Demos and Evals	MIPR	Various	105	0		0		0		0	105	0
HT Command Site Eval	MIPR	Various	90	0		0		0		0	90	0
ANVG Test Plan and Flight Support	MIPR	Various	480	0		0		0		0	480	0
ANVG Simulation/Field Eval	MIPR	Various	100	0		0		0		0	100	0
UGS			757	0		0		0		0	757	0
Operational Assessment of TSP Flight Demos	MIPR	AEC, APG, MD	350	0		0		0		0	350	0
Payload Demo and Emitter Spt Assessment	MIPR	EPG, Ft Huachuca, AZ	1165	0		0		0		0	1165	0
Uncooled B Kit Eval	MIPR	TBD	0	0		0		90	3Q	0	90	0
UAV Advanced Payloads Eval	MIPR	TBD	0	0		0		180	3Q	0	180	0
CS3	MIPR	TBD	0	0		175	4Q	90	3Q	0	265	0
UGS/CLENS	MIPR	TBD	0	0		30	4Q	0		0	30	0
Mini SAR Demo	MIPR	TBD	0	0		0		285	3Q	0	285	0
Data Comms Package on RAID Demo		TBD	0	0		65	4Q	0		0	65	0
ATR	MIPR	TBD	0	0		10	4Q	0		0	10	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603774A - Night Vision Systems Advanced Development

PROJECT
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3rd Gen FLIR	MIPR	TBD	0	0		40	3Q	0		0	40	0
Transition Overwatch	MIPR	TBD	0	0		0		20	3Q	0	20	0
Subtotal:			4191	0		320		665		0	5176	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
Program Management		PM-NV/RSTA, Ft.Belvoir, VA	655	195	1-4Q	329	1-4Q	242	1-4Q	Continue	Continue	0
Subtotal:			655	195		329		242		Continue	Continue	0
Project Total Cost:			**52713**	**6980**		**6787**		**5337**		**Continue**	**Continue**	**0**

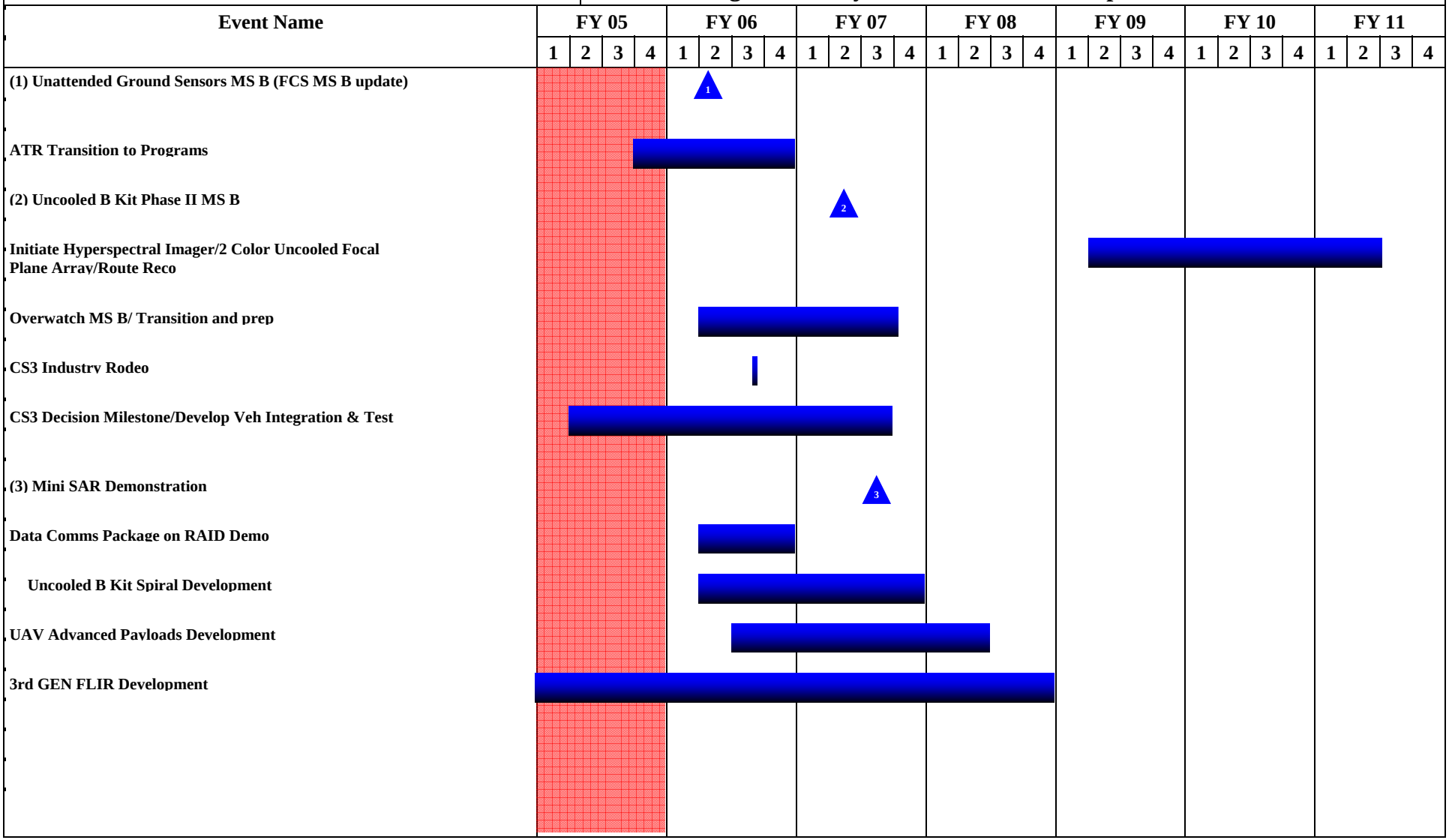
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603774A - Night Vision Systems Advanced Development

PROJECT
131



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603774A - Night Vision Systems Advanced Development

PROJECT
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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Uncooled B Kit Spiral Development		2-4Q	1-4Q				
UAV Advanced Payloads Development		3-4Q	1-4Q	1-2Q			
3rd Gen FLIR Development	1-4Q	1-4Q	1-4Q	1-4Q			
FCS UA MS B Update to include Unattended Ground Sensors (UGS)		2Q					
Aided Target Recognition (ATR) Development/Transition	4Q	1-4Q					
Hyperspectral Imager					2-4Q	1-4Q	1-4Q
2 Color Uncooled Focal Plane Array					4Q	1-4Q	1-4Q
Route Reconnaissance						3-4Q	1-4Q
Overwatch Transition		2-4Q					
Overwatch MS B Preparation			1-3Q				
CS3 Proof of Concept Development	2-4Q	1-4Q					
CS3 Vehicle Integration and Testing			1-3Q				
Data Comms. Package on RAID Development		2-4Q					
FOPEN Efforts				2-4Q	1-4Q	1-3Q	
Mini SAR Efforts		3-4Q	1-4Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603779A - Environmental Quality Technology Dem/Val

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	43637	35255	5166	5171	5174	5174	5174	0	161432
035	NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE	4608	4915	5166	5171	5174	5174	5174	0	44531
04E	ENVIRONMENTAL RESTORATION TECH VALIDATION	3088	0	0	0	0	0	0	0	12110
04F	COMMERCIALIZATION OF TECH TO LOWER DEFENSE COSTS	2007	0	0	0	0	0	0	0	5016
04I	TECHNOLOGIES TO REDUCE NON-HAZARDOUS WASTE	2108	2563	0	0	0	0	0	0	7234
04J	ENVIRONMENTAL COMPLIANCE TECHNOLOGY VALIDATION	1262	176	0	0	0	0	0	0	2844
04K	WASTE MINIMIZATION AND POLLUTION PREVENTION	957	0	0	0	0	0	0	0	3991
E12	TRANSPORTABLE DETONATION CHAMBER VALIDATION	4025	3943	0	0	0	0	0	0	15819
E14	ENVIRONMENTAL SECURITY INITIATIVE (CA)	0	986	0	0	0	0	0	0	4178
E15	ARSENIC REMOVAL (CA)	1916	1380	0	0	0	0	0	0	4892
E16	ABERDEEN PG ASBESTOS CONVERSION FACILITY (CA)	1149	0	0	0	0	0	0	0	2464
E17	ARMY ENVIRONMENTAL SOLUTIONS PROGRAM (CA)	2396	0	0	0	0	0	0	0	4744
E19	SUSTAINABLE INSTALLATIONS INITIATIVE (CA)	1629	2070	0	0	0	0	0	0	4638
E22	ENVIRONMENTAL MANAGEMENT SYSTEM DEMONSTRATION	957	0	0	0	0	0	0	0	957
E23	ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) PILOT IN DOD	1437	0	0	0	0	0	0	0	1437
E24	ENVIRONMENTAL SECURITY TECHNICAL CERTIFICATION PRG	957	1971	0	0	0	0	0	0	2928
E28	WELLHEAD TREATM'T OF PERCHLORATE CONTAMINATED WELL	2396	0	0	0	0	0	0	0	2396

E34	NDCEE JOINT SERVICES INITIATIVE	6516	0	0	0	0	0	0	0	6516
EN1	CASTING EMISSION REDUCTION PROGRAM (CERP)	3354	4337	0	0	0	0	0	0	17753
EN4	PLASMA ENERGY PYROLYSIS SYSTEM (PEPS)	0	1380	0	0	0	0	0	0	1380
EN7	VANADIUM TECHNOLOGY PROGRAM	2875	1479	0	0	0	0	0	0	5549
EP1	ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)	0	10055	0	0	0	0	0	0	10055

A. Mission Description and Budget Item Justification: There is a broad application potential for environmental quality technology (EQT) to be applied to multiple Army weapon systems and installations. However, technology must be validated (total ownership cost and performance data identified) before potential users will consider exploiting it. Therefore, this program element includes projects focused on validating the general military utility or cost reduction potential of technology when applied to different types of infrastructure, military equipment or techniques. It may include validations and proof-of-principle demonstrations in field exercises to evaluate upgrades or provide new operational capabilities. The validation of technologies will be in as realistic an operating environment as possible to assess performance or cost reduction potential. EQT demonstration/validation is systemic; i.e., applies to a class of systems (e.g., tanks or aircraft) or to a Department of Army-wide, multiple site/installation problem (e.g., unexploded ordnance detection and discrimination). This program will address, and eventually resource, programs in each of the environmental quality technology pillars (restoration, conservation, compliance, and pollution prevention). Work must be endorsed by potential users and supported by a state-of-the-art assessment (i.e., technology is well-in-hand).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
4 - Advanced Component Development and Prototypes	**0603779A - Environmental Quality Technology Dem/Val**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	41651	5166	5088
Current BES/President's Budget (FY 2007)	43637	35255	5166
Total Adjustments	1986	30089	78
Congressional Program Reductions		-154	
Congressional Rescissions		-357	
Congressional Increases		30600	
Reprogrammings	1986		
SBIR/STTR Transfer			
Adjustments to Budget Years			78

Change Summary Explanation:
FY 2005 - There was a reprogram of a congressional add (for Commercialization of Technologies to Lower Defense Costs) from program element 0603728A, Environmental Quality Technology Demonstration, into this program element for proper execution (+$2,007,000) and reprogram of funds (-$21,000) to higher priority requirements.

FY 2006 - There were 14 congressional interest projects (+$30,600,000) added (Solid Waste Sustainment, Plasma Energy Pyrolysis System, Transportable Detonation Chamber, Aberdeen Proving Ground Asbestos Conversion Facility, Sustainable Installations, Environmental Management System (EMS) Pilot, Environmental Security Initiative, Casting Emission Reduction Program (CERP), Vanadium Technology Program, and Environmental Quality Technology Dem/Val Adds (which includes the Mission Critical Environment, Safety and Occupational Health (ESOH) Technology Transition, Battlefield Plastic Biodiesel, No Rinse Decontamination of Battlefield Equipment, Rapid Response Biochemical (Decontamination Green) and Magna Water District Perchlorate and Arsenic Treatment)).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603779A - Environmental Quality Technology Dem/Val**	**035**

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
035	NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE	4608	4915	5166	5171	5174	5174	5174	0	44531

A. Mission Description and Budget Item Justification: The National Defense Center for Environmental Excellence (NDCEE) was established by Congress in 1990 with a directive to "serve as a national leadership organization to address high priority environmental problems for the Department of Defense (DoD), other government organizations, and the industrial community." The NDCEE Program is a national resource for developing and disseminating advanced environmental technologies. The NDCEE is used to demonstrate environmentally acceptable technology to industry; validate new technology prior to transferring that technology; and assist in the training of potential users as part of that technology transfer process. The NDCEE is a DoD resource for environmental quality management and technology validation. This program is managed by the Army on behalf of the Office of the Assistant Deputy Under Secretary of Defense for Environment (ADUSD-E).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Management and operations of the NDCEE by the prime contractor.	1200	1200	1200
Industrial base integration, operation of the NDCEE environmental technology facility, and environmental information analysis.	400	500	500
Conduct demonstration/validation of environmentally acceptable technologies that enhance military readiness and reduce production, operating, and/or disposal costs.	2608	2815	3066
NDCEE Government program management during contract negotiations and execution and during project formulation, execution, and technology transfer.	400	400	400
Total	4608	4915	5166

C. Acquisition Strategy The NDCEE is a national asset focused on DoD applications that include technology transfer to appropriate DoD organizations. The NDCEE fosters an outreach program to describe its products and capabilities that include publication of results and participation in professional meetings, symposia, conferences, and appropriate coordination with industry. The management strategy for the NDCEE centers on a DoD Executive Advisory Board (EAB) chaired by the DoD NDCEE Executive Agent on behalf of the ADUSD (ESOH) and composed of senior DoD leadership to oversee NDCEE operations. The EAB is supported by an EAB Working Group (EABWG) that includes staff members from each of the offices represented on the EAB. The EABWG coordinates all NDCEE activities and reports back to the EAB Principals. The EABWG is, in turn, supported by a Technical Working Group (TWG) that addresses the details of NDCEE program execution. The contracting strategy of the NDCEE is based on using an NDCEE Contracting Officer's Representative to validate all the contractual portions of the NDCEE and by technical monitors (TM) to oversee the technical aspects of each contracted task. A prime contractor operates NDCEE test facility(s) to validate environmentally compatible technologies on a representative "shop floor". The NDCEE accounts for and conducts work for: (1) direct funded Army tasks; (2) reimbursable tasks from within DoD and from other Government agencies; and (3) Congressionally directed and funded tasks.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603779A - Environmental Quality Technology Dem/Val

PROJECT
035

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
Not applicable.			0	0		0		0		0	0	0
Subtotal:			0	0		0		0		0	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
Technical Data	C; CPFF	Concurrent Technologies Corporation (CTC), Johnstown, PA	3500	1600	2Q	1700	2Q	1700	2Q	Continue	Continue	Continue
Subtotal:			3500	1600		1700		1700		Continue	Continue	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
Development Testing	C; CPFF	Concurrent Technologies Corp.	2466	0		0		0		0	2466	2466
Development Testing	C; CPFF	Concurrent Technologies Corp.	5619	2608	2Q	2815	2Q	3066	2Q	Continue	Continue	Continue
Subtotal:			8085	2608		2815		3066		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
Program Management Support	Allotment	Office of the Assistant	2387	400	2Q	400	2Q	400	2Q	Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603779A - Environmental Quality Technology Dem/Val**	**035**

		Sec Army (Installations and Environment)										
Subtotal:			2387	400		400		400		Continue	Continue	Continue
Project Total Cost:			**13972**	**4608**		**4915**		**5166**		**Continue**	**Continue**	**Continue**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL**	**355**

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
355 WIN-TACTICAL - DEM/VAL	94991	98057	158157	203075	248791	214792	123619	0	1267606

A. Mission Description and Budget Item Justification: Warfighter Information Network-Tactical (WIN-T) is the Army's communications system for reliable, secure, and seamless video, data, imagery, and voice services that enables decisive combat actions. It will be focused on moving information in a manner that supports commanders, staffs, functional units, and capabilities-based formations - all mobile, agile, lethal, sustainable, and deployable. It will be optimized for offensive and joint operations so that the theater combatant commander will have the capability to perform multiple missions simultaneously with campaign quality. WIN-T will establish an environment in which commanders at all echelons will have the ability to operate with virtual staffs and analytical centers that are located at remote locations throughout the battlespace. As a key system supporting the Army's Current and Future Force, WIN-T meets the pressing need for efficient battlefield bandwidth utilization, optimal data throughput, on-the-move critical information exchange, and rapid infrastructure modernization. WIN-T operates as the principal means to frame the tactical infosphere that encompasses the Modular Force's areas of influence. The tactical infosphere will operate while mobile via its robust networking, and be able to pass relevant information for system of systems combined arms capabilities in all terrain and under all environmental conditions. Future Combat Systems (FCS), Joint Tactical Radio System (JTRS), satellite terminals and other Department of Defense (DoD) Command, Control, Communications & Computers, Intelligence (C4I) programs are relying on WIN-T for seamless integration into the DoD Global Information Grid (GIG). WIN-T will be optimized for offensive and joint operations, while providing the Theater Combatant the capability to plan, prepare, and execute multiple missions and tasks simultaneously with campaign quality utilizing a mobile throughput feature. It will be a framework conforming to established standards and protocols for the network while interfacing with and/or replacing equipment in current forces. The WIN-T outmodes Mobile Subscriber Equipment (MSE) and Tri-Services Tactical Communications (TRI-TAC) capabilities and builds upon functionality provided by Joint Network Node (JNN).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Prepare technical assessment and research studies.	993	1056	1072
Prepare/coordinate contractual and milestone documentation, perform program support and management efforts, and conduct System Design Review (SDR) and Preliminary Design Review (PDR).	5536	5878	5506
Continues final portion of Phase 2 System Development and Demonstration (SDD). The Prime Contractor and major subcontractors provide final architecture, Modeling and Simulation (M&S), system design, preliminary design and prototypes to support tests and milestone efforts.	73653	76072	136659
Provide test support to include M&S and Development Test/Operational Test (DT/OT).	7690	6101	6223
Provide system engineering and technical support to the WIN-T program.	7119	8950	8697
Total	94991	98057	158157

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL**	**355**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	95321	131081	152490
Current BES/President's Budget (FY 2007)	94991	98057	158157
Total Adjustments	-330	-33024	5667
Congressional Program Reductions		-31600	
Congressional Rescissions		-1424	
Congressional Increases			
Reprogrammings	-330		
SBIR/STTR Transfer			
Adjustments to Budget Years			5667

Change Summary Explanation:
FY06 Congressional Program Reductions(-$31600) to higher priority requirements.

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
B79100 - WIN-Tactical Program (OPA)	0	100175	0	0	0	362818	505059	10936562	11904614

Comment: The WIN-T program is currently being rebaselined, the new strategy reflects the program entering the Production Phase in FY10. The FY06 Procurement funds will need to be reprogrammed to RDTE to suppport technology development for the rebaselined program.

D. Acquisition Strategy In August 2002, two separate competitive contracts were awarded to General Dynamics Government Systems Corporation and Lockheed Martin Mission Systems to perform Pre-Milestone B efforts which included system engineering tasks, program management tasks and engineering services necessary to conduct initial requirements analyses and generate network architecture designs. The 30 July 2003, Milestone B Defense Acquisition Board approved entry of the WIN-T program into the System Development and Demonstration (SDD) Phase, resulting in the contract SDD option awards to further develop the architecture, produce prototypes, conduct modeling and simulation, and support a Development Test/Operational Test 1QFY06.

On 10 September 2004, the Defense Acquisition Executive authorized a revised acquisition approach for the WIN-T program. The new approach combines the two contractors into a single team with General Dynamics as the prime and Lockheed Martin as a major subcontractor. Formal direction to start work on the combined approach was sent to both contractors on 15 September 2004. The Lockheed Martin contract was terminated for convenience on 26 September 2004. An amendment to the Acquisition Strategy has been developed and approved by the Army Acquisition Executive.

The Training and Doctrine Command (TRADOC) was directed to provide the program with a Capabilities Development Document (CDD) versus and Capabilities Production Document (CPD). These combined events resulted in the submission of a Program Deviation Report (PDR) on 7 Oct 05. The Program Management Office (PMO) is currently undergoing a rebaseline and assessing its impacts.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL

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
Phase 1 Pre Milestone B	CPFF/T&M	Lockheed Martin Mission Systems, Gaithersburg, MD	21185	0		0		0		0	21185	0
Phase 1 Pre Milestone B	CPFF/T&M	General Dynamics Government Systems Corp, Taunton, MA	13306	0		0		0		0	13306	0
Phase 2 SDD	CPFF/T&M	Lockheed Martin Mission Systems, Gaithersburg, MD	39962	0		0		0		0	39962	0
Phase 2 SDD	CPFF/CPAF/T&M	General Dynamics Government Systems Corp, Taunton, MA	35826	73653	1-4Q	76072	1-4Q	136659	1-4Q	0	0	0
Subtotal:			110279	73653		76072		136659		0	74453	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
WIN-T Technical Assessment and Research Studies	Various	Various	1541	993	1-4Q	1056	1-4Q	1072	1-4Q	Continue	0	0
Systems Engineering and Technical Support	Various	Various	11877	7119	1-4Q	8950	1-4Q	8698	1-4Q	Continue	0	0
Subtotal:			13418	8112		10006		9770		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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL

PROJECT
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Modeling and Simulation and Testing	Various	Various	4270	7690	1-4Q	6101	1-4Q	6223	1-4Q	Continue	0	0
Subtotal:			4270	7690		6101		6223		Continue	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Documentation Preparation & PM Support	Various	Various	4965	3656	1-4Q	4129	1-4Q	3650	1-4Q	Continue	0	0
Conducted Source Selection Evaluation Board and Conduct Should Cost Effort	Various	Various	326	0		0		0		0	0	0
Travel, licenses, facilities, etc.	Various	Various	1640	891	1-4Q	890	1-4Q	908	1-4Q	Continue	0	0
MITRE Support	PWD	MITRE, Eatontown, NJ	3365	989	1-4Q	859	1-4Q	947	1-4Q	Continue	0	0
Subtotal:			10296	5536		5878		5505		Continue	0	0
Project Total Cost:			**138263**	**94991**		**98057**		**158157**		**Continue**	**74453**	**0**

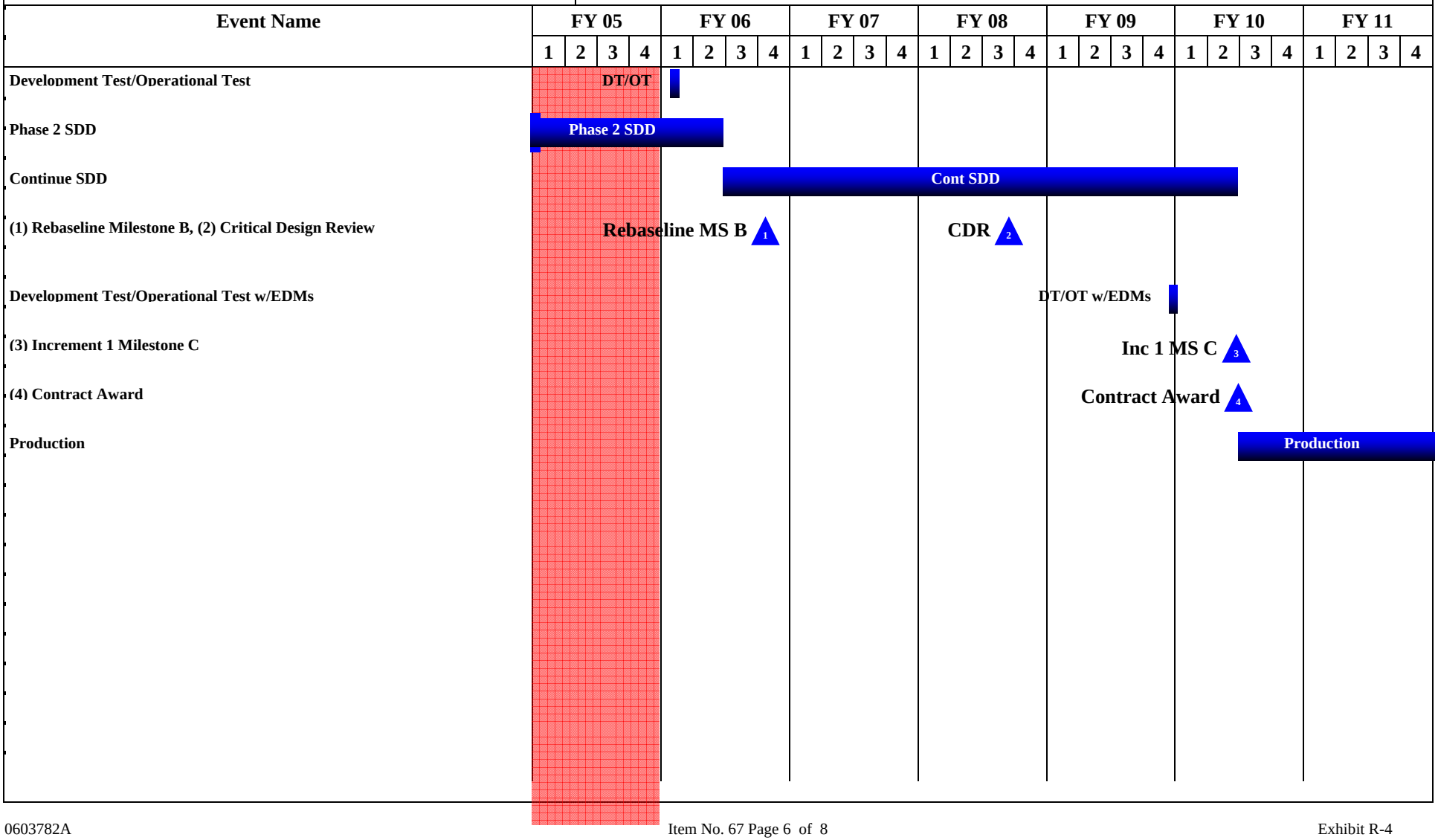
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL

PROJECT
355



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603782A - WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL

PROJECT
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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Phase 2 SDD Option	1-4Q	1-2Q					
Rebaseline Milestone B		4Q					
Continued System Development and Demonstration Contract		2-4Q	1-4Q	1-4Q	1-4Q	1-2Q	
Critical Design Review				3Q			
Development Test/Operational Test (DT/OT)		1Q					
Development Test/Operational Test w/EDMs					4Q		
Increment 1 Milestone C						3Q	
Production Contract Award						3Q	
Production Contract						3-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603790A - NATO Research and Development**	**691**

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
691 NATO RSCH & DEVEL	4598	4832	4946	5136	5235	5330	5428	0	42674

A. Mission Description and Budget Item Justification: This program implements the provisions of Title 10 U.S. Code, Section 2350a, Cooperative Research and Development (R&D) Projects: Allied Countries. The objective is to improve, through the application of emerging technologies, the conventional defense capabilities of the United States and our cooperative partners, including the North Atlantic Treaty Organization (NATO), U.S. major non-NATO allies and Friendly Foreign countries. Through technology sharing and joint equipment development these projects help reduce U.S. acquisition costs and leverage important technologies for the Army Transformation and the development of the Future Combat system. Cooperative efforts also improve multinational force compatibility with potential coalition partners through the development and use of similar equipment and improved interfaces. The program focuses specifically on international cooperative technology demonstration, validation, and interoperability of Army weapon and command, control, communications and information (C3I) systems. Projects are implemented through international agreements with foreign partners that define scope, cost and work sharing arrangements, management, contracting, security, data protection and third party transfers. Funds are used to pay for only the U.S. work share that occurs in the United States at U.S. Government and U.S. contractors' facilities.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Multilateral Interoperability Program (MIP) (Partners: Germany, France, United Kingdom, Canada, Italy): Continued integration work from the Command and Control Systems Interoperability Program (C2SIP) into an Advanced Concept Technology Demonstration (ACTD) to achieve NATO levels four (messaging) and five (database) interoperability and also extend the effort into a sustainable program to incorporate lessons learned into national systems.	450	600	640
International Agreement Tracking System (IATS)/International Online (IO) Development and Implementation, NATO/International Cooperative R&D Policy Development, and Report to Congress Pursuant to 10 USC 2350a, prepare and provide to USD(A&T) the Army section of the Report to Congress on the International Cooperative Research and Development Program.	740	802	808
Low Level Air Defense Interoperability (LLAPI) (Partners: Major NATO Allies): The objective of this program is to successfully demonstrate Command and Control (C2) interoperability among the participant nations' Short Range Air Defense (SHORAD) assets for automated air picture exchange.	200	200	200
Network Enabled Shared Awareness (NESA) (Potential Partners: United Kingdom, France, Italy, Sweden, Spain and Germany) NESA would develop concepts, methods and standards that will make better use of existing information; share data in an interoperable environment; leverage national operational picture capabilities; and enable progressive development of interoperability of data, databases, applications and systems networks. NESA will show that information sharing can be accomplished through developing an architecture and interoperability framework (horizontal and vertical) needed to meet coalition operations and by rapid prototyping and demonstrations of Net-Centric warfighter services. This project would produce a National Operational Concepts (OPCON) and CONOPS (BDE and below). The end result would be integration of national C2 and Net-Centric Systems of Record (SORs)into an NCES environment. Included would be a report on NESA military operational utility. This would provide architectures and seed funding to SORs to accelerate migration. Benefits would include lessons learned on NESA implications for coalition operations.	460	500	506
Combat Identification (Partners: UK, Germany, France and Italy): Combat ID will pursue the extension of tasks required for implementing the associated NATO Standardization Agreement (STANAG 4579), allied participation in Coalition Combat ID Advanced	100	100	100

Concept Technology Demonstrator (ACTD), will pursue the NATO Staff Requirement and a STANAG for the Dismounted Soldier ID.			
Simulation and Command and Control (C2) Information System Connectivity Experimentation (SINCE) (Partner: Germany): Continues to define and demonstrate a generic solution for interfacing and networking Brigade/Battalion (BDE/BN) Command and Control Information Systems (C2IS) and applicable Modeling and Simulation (M&S) systems as required to support Coalition Force Collaborative Mission Management Experimentation.	400	0	0
Senior National Representatives (Army) (SNR-(A)) Projects (Partners: France, Germany, United Kingdom and Italy): Supports harmonization of programs at various levels: exchanging information, identifying knowledge gaps and conducting feasibility studies to further promote cooperative development; standardizing, fielding and roadmapping various processes; distributing the workload among the different nations. The Military Operation in Urban Terrain (MOUT) study will benefit the Five Power nations as they identify requirements and materiel solutions for Multinational forces in and around urban terrain. The Sturctured Technology Demo (STD) hosted by the U.S. reps to Land Group 6, NATO Army Armaments Group (NAAG), will provide and opportunity to observe and demonstrate the current and future capability of participaing NATO nations with a view to assisting future operational and materiel interoperability.	995	1100	1100
Technology Research and Development Projects (TRDP) (Partners: United Kingdom, Germany, France, Canada, Australia, Netherlands, Korea, Norway): The scope of this MOU encompasses R&D collaboration on basic, exploratory and advanced Land Warfare Concepts and Technologies that are focused on Future Combat System enabling technologies, the maturation of which may lead to the development of technologically superior conventional weapon systems.	780	930	952
Artillery Command and Control Interoperability (ASCA) (Partners: France, Germany, Italy, UK): The Participants in this program will develop an automated software interface between their national field artillery command and control systems. The nations will be able to receive and provide mutual fire support (i.e. cannon and rocket fire) in combined operations more rapidly and with minimal errors.	300	300	320
Joint Tactical Radio System (JTRS) (Partners: Japan, Sweden, UK): The participants in these programs will develop and implement Software-enabled radios as replacements to current radio systems. The projects shall be focused on maintaining interoperability as the countries pursue their own separate software radio programs. The project agreements (PAs) will include a joint development of software radio specifications, separate development and testing of software waveforms, and joint interoperability testing using the system assets developed as part of the agreements.	173	300	320
Total	4598	4832	4946

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603790A - NATO Research and Development**	**691**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	4600	4902	4994
Current BES/President's Budget (FY 2007)	4598	4832	4946
Total Adjustments	-2	-70	-48
Congressional Program Reductions		-21	
Congressional Rescissions	-2	-49	
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			-48

D. Acquisition Strategy All projects are test or technical demonstrations to feed into potential new requirements in support of Army Transformation to the Future Force or as product improvements to the Current Force.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603790A - NATO Research and Development

PROJECT
691

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
Multilateral Interoperability Program (MIP)	CPFF	C3S, CSC Fort Washington, PA	861	100	1Q	150	1Q	150	1Q	0	1261	0
International Agreement Tracking System (IATS) - Software Development	CPFF	JIL Information Systems Vienna, VA	1311	520	2Q	552	2Q	560	2Q	0	2943	0
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone Ars, AL	437	115	1Q	115	1Q	115	1Q	0	782	0
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	CECOM, Ft. Monmouth, VA	69	346	2Q	346	2Q	346	2Q	0	1107	0
Combat Identification	MIPR	CECOM, Ft. Monmouth, VA	787	25	1Q	25	1Q	25	1Q	0	862	0
Simulation & C2 Information System Connectivity Experimentation (SINCE) - C2 Systems	MIPR	CECOM, Ft. Monmouth, VA	1417	140	1Q	0	1Q	0		0	1557	0
Senior National Representatives (Army) (SNR[A])	TBD	TBD	2997	690	2Q	761	2Q	761	2Q	0	0	0
TRDP	TBD	TBD	0	312	2Q	300	2Q	300	2Q	0	0	0
Artillery Command and Control Interoperability (ASCA)	MIPR	CECOM, Ft. Monmouth, NJ	344	208	1Q	208	1Q	208	1Q	0	968	0
Joint Tactical Radio System (JTRS)	MIPR	PM JTRS, Rosslyn, VA	50	100	1Q	150	1Q	150	1Q	0	450	0
Subtotal:			8273	2556		2607		2615		0	9930	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
MIP	MIPR	CECOM Ft. Monmouth, NJ	208	100	1Q	150	1Q	190	1Q	0	648	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603790A - NATO Research and Development

PROJECT
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IATS	MIPR	RDECOM, Ft. Belvoir, VA	300	116	1Q	126	1Q	125	1Q	0	667	0
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone Ars, AL	244	41	1Q	41	1Q	41	1Q	0	367	0
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	CECOM, Ft. Monmouth, VA	15	77	1Q	77	1Q	83	1-3Q	0	252	0
Combat Identification	MIPR	CECOM Ft. Monmouth, NJ	439	25	1Q	25	1Q	25	1Q	0	514	0
Simulation and C2 Information System Connectivity Experimentation (SINCE)	MIPR	CECOM Ft. Monmouth, NJ	384	100	1Q	0	1Q	0		0	484	0
SNR(A)	MIPR	TBD	642	154	1Q	169	1Q	169	1Q	0	1134	0
TRDP	MIPR	TBD	0	313	1Q	300	1Q	309	1Q	0	0	0
Artillery Command and Control Interoperability (ASCA)	MIPR	CECOM Ft. Monmouth, NJ	73	46	1Q	46	1Q	66	1Q	0	231	0
Joint Tactical Radio System (JTRS)	MIPR	PM JTRS, Rosslyn, VA	25	50	1Q	75	1Q	95	1Q	0	245	0
Subtotal:			2330	1022		1009		1103		0	4542	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
MIP	MIPR	CECOM Ft Monmouth, NJ	147	100	1Q	150	1Q	150	1Q	0	547	0
IATS	MIPR	RDECOM, Ft. Belvoir, VA	201	77	1Q	84	1Q	83	1Q	0	445	0
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone Ars, AL	99	13	1Q	13	1Q	13	1Q	0	138	0
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	AMSAA, Aberdeen Proving Ground, NJ	10	20	1Q	52	1Q	52	1Q	0	134	0
Combat Identification	MIPR	CECOM Ft Monmouth,	419	25		25	1Q	25	1Q	0	494	0

		NJ										
Simulation and C2 Information System Connectivity Experimentation (SINCE)	MIPR	CECOM Ft Monmouth, NJ	291	100	1Q	0		0		0	391	0
SNR(A)	MIPR	TBD	405	103	1Q	113	1Q	113	1-2Q	0	734	0
TRDP	MIPR	TBD	0	0		0		0		0	0	0
ASCA	MIPR	CECOM Ft Monmouth, NJ	50	31	1Q	31	1Q	31	1Q	0	143	0
Joint Tactical Radio System (JTRS)	MIPR	CECOM Ft Monmouth, NJ	12	10	1Q	38	1Q	38	1Q	0	98	0
Subtotal:			1634	479		506		505		0	3124	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
MIP	MIPR	PEO C3S, Ft. Monmouth, NJ	86	100	1Q	150	1Q	150	1Q	0	486	0
IATS	MIPR	RDECOM, Ft. Belvoir, VA	98	37	1Q	41	1Q	41	1Q	0	217	0
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone, Ars, AL	143	31	1Q	31	1Q	31	1Q	0	236	0
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	CECOM, Ft. Monmouth, VA	5	17	1Q	25	1Q	25	1Q	0	72	0
Combat Identification	MIPR	CECOM, Ft. Monmouth, NJ	357	25	1Q	25	1Q	25	1Q	0	432	0
Simulation and C2 Information System Connectivity Experimentation (SINCE)	MIPR	CECOM, Ft. Monmouth, NJ	192	100	1Q	0	1Q	0	1Q	0	292	0
SNR(A)	MIPR	TBD	217	46	1Q	56	1Q	56	1Q	0	375	0
TRDP	MIPR	TBD	0	155	1Q	329	1Q	342	1Q	0	0	0
Artillery Command and Control	MIPR	CECOM, Ft.	24	15	1Q	15	1Q	15	1Q	0	69	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603790A - NATO Research and Development

PROJECT
691

Interoperability (ASCA)		Monmouth, NJ										
JTRS	MIPR	PM JTRS, Rosslyn, VA	12	15		38		38		0	103	0
Subtotal:			1134	541		710		723		0	2282	0
Project Total Cost:			**13371**	**4598**		**4832**		**4946**		**0**	**19878**	**0**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
4 - Advanced Component Development and Prototypes	**0603801A - Aviation - Adv Dev**

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		22809	7146	6542	6218	6757	8984	8926	Continuing	Continuing
079	JT SURVIVABILITY INVES	957	0	0	0	0	0	0	0	0
B32	ADV MAINT CONCEPTS/EQ	15679	6160	6542	6218	6757	8984	8926	Continuing	Continuing
B45	AIRCREW INTEGRATED SYS-AD	6173	986	0	0	0	0	0	0	18357

A. Mission Description and Budget Item Justification: This PE provides advanced development aviation support of tactical programs associated with air mobility, advanced maintenance concepts and equipment, and Aircrew Integrated Systems (ACIS). This program demonstrates the feasibility and maturity of new technology and gains understanding in order to evaluate utility of this technology to expedite delivery of new capabilities for Army Aviation rotary wing assets. Additionally, the Aviation Ground Support Equipment (AGSE) assets developed enhance the functionality of current and future aircraft by improving the efficiency of maintenance and servicing operations through validating new maintenance concepts to improve man and machine interfaces, enhance aircraft maintenance processes, reduce Operation and Support (O&S) cost and insert diagnostics technologies to replace obsolete and unsupportable equipment.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603801A - Aviation - Adv Dev

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	16017	6249	6614
Current BES/President's Budget (FY 2007)	22809	7146	6542
Total Adjustments	6792	897	-72
Congressional Program Reductions		-72	
Congressional Rescissions	-13	-31	
Congressional Increases		1000	
Reprogrammings	6805		
SBIR/STTR Transfer			
Adjustments to Budget Years			-72

The $986 Congressional plus up for FY 06 for Pennsylvania NG was placed on project B45 and should be placed on project B32.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603801A - Aviation - Adv Dev**	**B32**

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
B32	ADV MAINT CONCEPTS/EQ	15679	6160	6542	6218	6757	8984	8926	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program demonstrates the feasibility and maturity of new technology and gains understanding in order to evaluate utility of this technology to expedite delivery of new capabilities for Army Aviation rotary wing assets. Additionally, the Aviation Ground Support Equipment (AGSE) assets developed enhance the functionality of current and future aircraft by improving the efficiency of maintenance and servicing operations through validating new maintenance concepts to improve man and machine interfaces, enhance aircraft maintenance processes, reduce Operation and Support (O&S) cost and insert diagnostics technologies to replace obsolete and unsupportable equipment. This program provides for development of rapid battle repair procedures, tools development to speed the return of aircraft to a full mission status and development of new equipment for aerial recovery of damaged aircraft. Included in this program are projects such as: diagnostics/prognostic monitoring systems, Battle Damage Assessment and Repair (BDAR) procedures and tools, support to modernized aircraft, Aviation Turbine Engine Diagnostics System (ATEDS), Flexible Engine Diagnostic System (FEDS), Unit Maintenance Aerial Recovery Kit (UMARK), Standard Towing System (SATS), Shop Equipment Contact Maintenance (SECM), Aviation - Sets, Kits, Outfits and Tools (A-SKOT) redesign, Aviation Vibration Analyzer II (AVA-II) and development of the modular Aviation Ground Power Unit (AGPU), Generic Aircraft Nitrogen Generator (GANG), and development support for tools needed to provide maintenance support to modernized/future force aircraft.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Aviation Turbine Engine Diagnostic System (ATEDS)	7097	2428	1093
Battle Damage Assessment and Repair System (BDAR)	0	100	100
Standard Aircraft Towing System (SATS)	484	200	510
Generic Aircraft Nitrogen Generator (GANG)	0	0	100
Flexible Engine Diagnostic System (FEDS)	0	0	118
Shop Equipment Contact Maintenance (SECM) Modernization	350	890	1346
Maintenance Platform & Tow Bar Modernization	150	0	0
Aviation Ground Power Unit (AGPU) Modular Integration	5030	1000	1075
Unit Maintenance Aerial Recovery Kit (UMARK)	0	150	100
Aviation - Sets, Kits, Outfits and Tools (A-SKOT)	0	305	900
Aviation Vibration Analyzer II (AVA-II)	278	0	0
Management Support Services	941	250	275
Technical Engineering Services	1249	700	800
RDT&E Project Test Support	100	137	125
Total	15679	6160	6542

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Aircraft Procurement, Army(APA) SSN AZ3100	34922	61993	64683	75526	68228	67407	62759	CONT	CONT

C. Acquisition Strategy This project is an aggregate of advanced maintenance concepts-related projects. While the detailed acquisition strategy varies from project to project, the general strategy for each individual project is to complete the development effort through Government test (developmental and operational). Program documentation for milestone decision is prepared, as appropriate, concurrently with the development effort.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603801A - Aviation - Adv Dev

PROJECT
B32

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
ATEDS - Software development and demonstration	Various	PIF/Boeing/GE, Mesa, AZ	1651	4078	1-4Q	0		0		5729	5729	5729
ATEDS - Multi Engine/Integration	Various	PIF/Boeing/GE, Sikorsky/GE, Honeywell; PIF, Redstone Arsenal, AL	1563	3019	1-4Q	2428	2-3Q	1093	2Q	Continue	Continue	Continue
BDAR System	MIPR	PIF, Redstone Arsenal, AL	0	0		100	2Q	100	2Q	Continue	Continue	Continue
SATS	MIPR	PIF/AATD, Ft. Eustis, VA	300	484	1Q	200	2Q	510	2Q	Continue	Continue	Continue
GANG	MIPR	AATD, Ft. Eustis, VA	0	0		0		100	2Q	0	100	0
FEDS	MIPR	Navy, Lakehurst, NJ	0	0		0		118	2Q	0	118	0
SECM	MIPR	PIF, Redstone Arsenal, AL	450	350	1Q	890	3Q	1346	2Q	Continue	Continue	Continue
Maintenance Platform & Towbar Modernization	MIPR	AATD, Ft. Eustis, VA	200	150	1Q	0		0		0	350	0
AGPU Modular Integration	Various	AM General, Detroit, MI/Solectra, Boston, MA, (Applied Geo Tech (AGT)/AAI Corp, Choctaw, MS	773	5030	1-4Q	1000	2Q	1075	2Q	Continue	Continue	Continue
UMARK	MIPR	PIF	0	0		150	3Q	100	2Q	0	250	0
A-SKOT	MIPR	AATD, Ft. Eustis, VA	0	0		305	2Q	900	2Q	Continue	Continue	Continue
AVA-II	MIPR	PIF, Redstone Arsenal, AL	1055	278	2-3Q	0		0		0	1333	0
Subtotal:			5992	13389		5073		5342		Continue	Continue	Continue

II. Support Costs	Contract	Performing Activity &	Total	FY 2005	FY 2005	FY 2006	FY 2006	FY 2007	FY 2007	Cost To	Total	Target

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603801A - Aviation - Adv Dev

PROJECT
B32

	Method & Type	Location	PYs Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Complete	Cost	Value of Contract
Technical Engineering Services	MIPR	AATD, Ft. Eustis, VA	3058	1249	1Q	700	1-3Q	800	1-3Q	Continue	Continue	Continue
Subtotal:			3058	1249		700		800		Continue	Continue	Continue

Remarks: None

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
RDT&E Project Test Support	MIPR	ATEC	0	100	3Q	137	1-3Q	125	1-3Q	Continue	Continue	Continue
Subtotal:			0	100		137		125		Continue	Continue	Continue

Remarks: None

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
Program Management Support	FFP/Cost Reimb and Inhouse	AGSE & Science Applications Intl Corp, San Diego, CA	949	941	1-4Q	250	1-4Q	275	1-4Q	Continue	Continue	Continue
Subtotal:			949	941		250		275		Continue	Continue	Continue

Remarks: None

Project Total Cost:			**9999**	**15679**		**6160**		**6542**		**Continue**	**Continue**	**Continue**

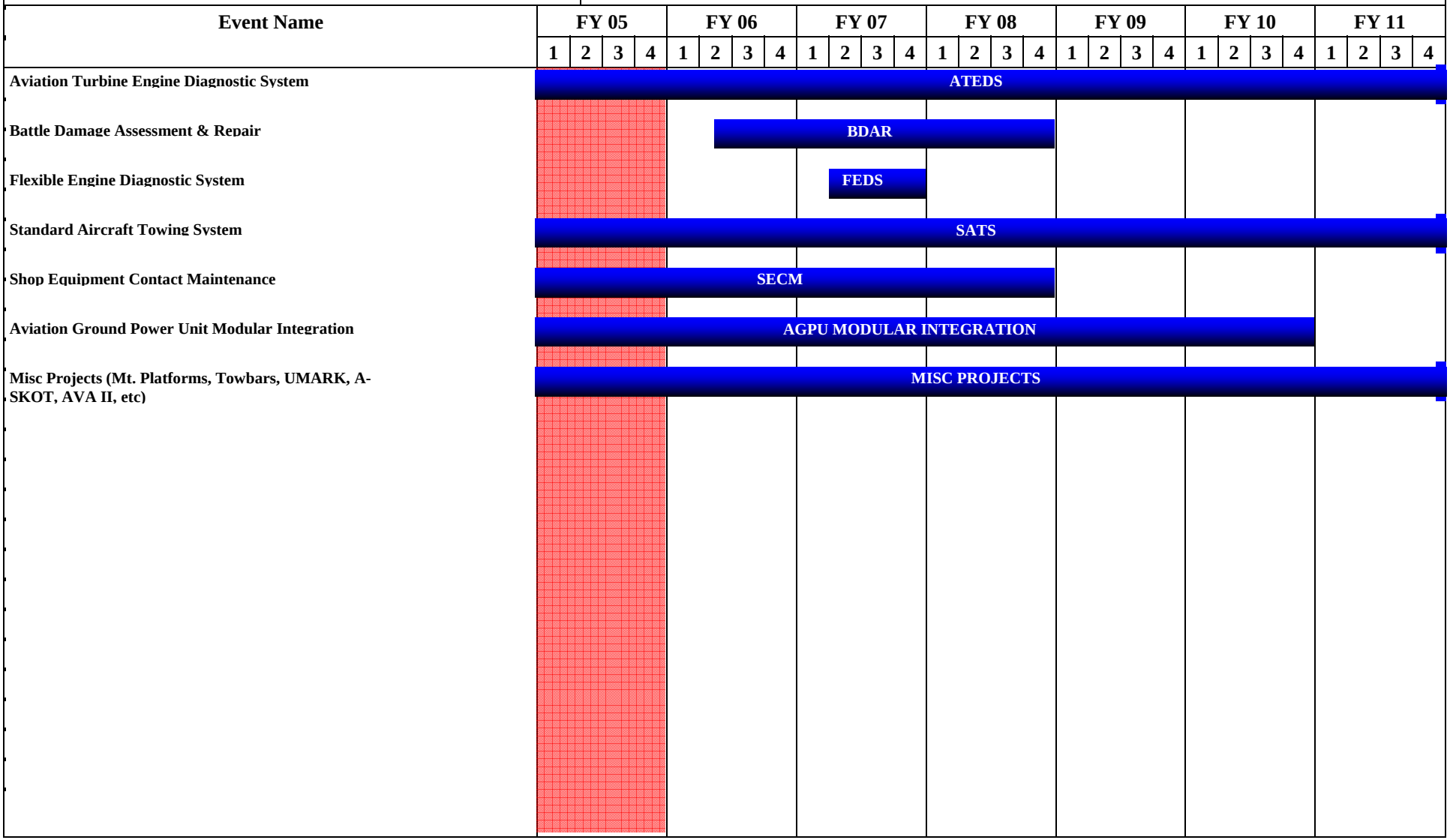
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603801A - Aviation - Adv Dev

PROJECT
B32



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603801A - Aviation - Adv Dev

PROJECT
B32

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
AVIATION TURBINE ENGINE DIAGNOSTIC SYSTEM (ATEDS)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
BATTLE DAMAGE ASSESSMENT & REPAIR (BDAR)		2-4Q	1-4Q	1-4Q			
STANDARD AIRCRAFT TOWING SYSTEM (SATS)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
GENERIC AIRCRAFT NITROGEN GENERATOR (GANG)			1-4Q				
FLEXIBLE ENGINE DIAGNOSIC SYSTEM (FEDS)			2-4Q				
SHOP EQUIPMENT CONTACT MAINT (SECM) MODERNIZATION	1-4Q	1-4Q	1-4Q	1-4Q			
MAINT PLATFORM & TOWBAR MODERNIZATION	1-4Q						
AVIATION GROUND POWER UNIT (AGPU) MODULAR INTEGRATION	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	
UNIT MAINT AERIAL RECOVERY KIT (UMARK)		3-4Q	1-4Q				
AVIATION-SETS, KITS, OUTFITS AND TOOLS (A-SKOT)		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
AVIATION VIBRATION ANALYZER II (AVA-II)	1-4Q						
MANAGEMENT SUPPORT SERVICES	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
TECHNICAL ENGINEERING SERVICES	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
RDT&E PROJECT TEST SUPPORT	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

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	9543	13184	13216	12692	13276	19180	19216	Continuing	Continuing
526	MARINE ORIEN LOG EQ AD	115	2949	3099	3103	3105	3104	3104	0	29329
G11	ADV ELEC ENERGY CON AD	1448	1820	2053	2192	2391	1148	1158	0	15100
G14	MATERIALS HANDLING EQUIPMENT - AD	0	196	205	207	212	207	207	0	1544
K39	Field Sustainment Support AD	4157	4954	3267	3520	3985	11275	11272	Continuing	Continuing
K41	WATER AND PETROLEUM DISTRIBUTION - AD	3823	3265	4592	3670	3583	3446	3475	0	30250

A. Mission Description and Budget Item Justification: This program element supports advanced component development and prototypes of new and improved technologies for combat support and combat service support equipment essential to sustaining combat operations. Advancements in watercraft, bridging, electric power generators and batteries, potable water, material-handling, environmental control, shelter systems, cargo aerial delivery, field service systems, mortuary affairs equipment and petroleum equipment are necessary to improve safety and increase the tactical mobility, operational capability, lethality and survivability on the digital battlefield and to provide for greater sustainment while reducing the logistics support burden.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	15993	13375	12878
Current BES/President's Budget (FY 2007)	9543	13184	13216
Total Adjustments	-6450	-191	338
Congressional Program Reductions	-330	-58	
Congressional Rescissions		-133	
Congressional Increases			
Reprogrammings	-6120		
SBIR/STTR Transfer			
Adjustments to Budget Years			338

Change Summary Explanation: Funding - FY05: Reduced ($6.120) Funds reduced to support a higher Army requirement.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603804A - Logistics and Engineer Equipment - Adv Dev**	**526**

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
526	MARINE ORIEN LOG EQ AD	115	2949	3099	3103	3105	3104	3104	0	29329

A. Mission Description and Budget Item Justification: This project supports advanced component development and prototype equipment for the Army's Logistics-Over-The-Shore (LOTS) missions. The primary mission of Army Watercraft Systems is inherently tied to the required capability to move tonnage/cargo from major sea going vessels to the shore in support of LOTS/Joint Logistic over the Shore (JLOTS) and various watercraft missions. The Army utilizes a combination of Modular Causeway Systems (MCS), Barge Derricks (BD), Barges, Landing Craft (Landing Craft Utility (LCU), Logistic Support Vessel (LSV), Landing Craft Mechanized (LCM-8) and Tug Boats to offload deep draft vessels. The time phased mix of numbers and types of vessels outlined are essential in maintaining a given level of capability to support JLOTS operations. This capability is only as strong as the weakiest link and takes the full combination of all assets to accomplish. Also included in this combined capability is the Harbormaster Command and Control Center (HCCC) which will provide continuous command, control, and coordination of vessel activities in support of LOTS/JLOTS using communication over tactical, commerical and satellite systems; real-time vessel tracking, in-transit visiblity, movement tracking, and full joint interoperability in support of Battlespace Awareness (BA) and Command and Control (C2) activities within the LOTS/JLOTS missions/exercises.

Joint Enable Theater Access-Sea Ports of Debarkation (JETA-SPOD) assists to identify and develop Service and Joint warfighting requirements and capabilities to gain theater access for the rapid deployment of Joint forces. The Lightweight Modular Causeway System (LMCS) is transported on and rapidly employed by the Army's Theater Support Vessel (TSV) and High Speed Vessel (HSV). It increases the number of ports interfaced with by bridging the gap between shore and point off-shore of sufficient depth for TSV/HSV to operate.

Funding for the JETA-SPOD Advanced Concept Technology Demonstration (ACTD) will be used to support core requirements for the LMCS component of the program that includes Operational Testing/Military Utility Assessment (MUA). Funding will provide a more robust and broader MUA designed to adequately test and assess the LMCS for military utility under the lead of the USPACOM ACTD Operational Manager (OM). This will allow the OM to maximize the warfighter support of the ACTD. The risk will be mitigated ensuring the technology receives optimum test and evaluation to meet the warfighting operational requirements. Funding will permit the development of an additional 50-60 foot section. The result is that the additional section will allow expanded technical development, testing, and utility assessment for the multiple operational uses and employment methods of the LMCS (eg. Army Watercraft, JHSV, wet gap crossing, aerial delivery). More operationally useful residuals will also be availabe to USAPACOM at the end of the ACTD.

Harbor Master Command and Control Center (HCCC) will provide Command, Control and Communications capability to the Transportation Harbormaster Operations Detachment (THOD) with joint interoperability to tactically control vessels conducting intra-theater movements (management vessel movements and waterfront facilities). The HCCC System will provide the THOD with the joint capability to communicate between the Army, Navy, Air Force, United States Marine Corps (USMC), Coast Guard, Coalition, civilian and host nation ships via High Freqency (HF), Ultra High Frequency (UHF), Very High Frequency (VHF), (secure and non-secure voice and data), tactical and satellite modes.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007

FY06-FY07: JETA-SPOD	0	1899	2099
FY06-FY07: Initiates HCCC Design.	0	1000	1000
FY05: Completed Theater Support Vessel (TSV) advanced development to include programmatic documentation (i.e. TEMP, threat assessment, acquisition strategy, etc.)	115	0	0
FY06 Medium Tug-Market Survey	0	50	0
Total	115	2949	3099

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0604804A, 461, Marine Oriented Logistics, Engineering	54737	0	0	0	0	0	0	CONT	CONT
OPA 3, R97500, Causeway Systems	4483	8879	8974	9031	12187	12478	12669	CONT	CONT

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
526

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
TSV Studies/Development	PWD	Naval Underwater Warfare Center, Newport, R.I.	3286	0		0		0		Continue	3286	0
TSV - composite prototype hull design	MIPR	Naval Underwater Warfare Center, Newport, R.I.	4211	0		0		0		0	4211	0
Medium Tug Market Survey	MIPR	TBS	0	0		50	2-3Q	0		0	50	0
HCCC Design	PWD	TBD	0	0		400	1-2Q	300		0	700	0
JETA-SPOD-Lightweight Modular Causeway System (LMCS)	MIPR	USAPACOM J14-12, Camp Smith, Hawaii	0	0		1249	1-2Q	1399		Continue	2648	0
Subtotal:			7497	0		1699		1699		Continue	10895	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
TSV/Matrix Support	MIPR	TACOM CBU, Warren, MI	4366	0		0		0		Continue	4366	0
TSV - composite prototype hull design	MIPR	CASCOM, Ft. Lee, VA	5240	0		0		0		Continue	5240	0
TSV/Matrix Support	MIPR	TARDEC, Warren, MI/ICI	170	0		0		0		0	170	0
TSV/In-house	MIPR	PM Force Projection, Warren, MI	2190	0		0		0		Continue	2190	0
HCCC	MIPR	TACOM, PSID, Warren, MI	0	0		50	1-2Q	100		Continue	150	0
JETA-SPOD-LMCS	MIPR	TACOM, PSID, Warren, MI	0	0		250	1-2Q	250	1-2Q	Continue	500	0
Subtotal:			11966	0		300		350		Continue	12616	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
526

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
TSV	MIPR	DTC/ATEC, MD	1071	0		0		0		Continue	1071	0
TSV	MIPR	PM WIN-T	1500	0		0		0		0	1500	0
HCCC	MIPR	USAFTCFE, Ft. Eustis, VA	100	0		350		300		Continue	750	0
Subtotal:			2671	0		350		300		Continue	3321	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
TSV/In-house	MIPR	PM Force Projection, TACOM, Warren, MI	510	115		0		0		0	625	0
HCCC	MIPR	PM Force Projection, TACOM, Warren, MI	0	0		200		300		Continue	500	0
JETA-SPOD-LMCS	MIPR	PM Force Projection, TACOM, Warren, MI	0	0		400		450		Continue	850	0
Subtotal:			510	115		600		750		Continue	1975	0

Project Total Cost:	**22644**	**115**		**2949**		**3099**		**Continue**	**28807**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
526

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) HCCC Design Contract Award						1																						

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603804A - Logistics and Engineer Equipment - Adv Dev**	**526**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
HCCC Design Contract Award		2Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603804A - Logistics and Engineer Equipment - Adv Dev**	**G11**

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
G11 ADV ELEC ENERGY CON AD	1448	1820	2053	2192	2391	1148	1158	0	15100

A. Mission Description and Budget Item Justification: The Mobile Electric Power (MEP) program was established by the Department of Defense to develop a modernized, standard family of mobile electric power sources for all Services throughout the Department of Defense. This project provides concept and technology development that will improve the performance, mobility, readiness and survivability of the next generation power sources in support of the Army. It support initiatives that are essential to the development and fielding to modernized Mobile Electric Power (MEP) sources from 0.5 KW to 920 KW that comply with environmental statutes and provide lower noise, improved fuel and electrical efficiency, significantly reduced weight, enhanced portability, improved reliability, and maintainability.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05: Developed Small Tactical Electric Power (STEP) proof of principle prototypes/test technologies	1448	0	0
FY06: Continues STEP proof of principle prototype development	0	1820	0
FY07: Tests STEP proof of principle prototype and transition to System Development and Demonstration	0	0	1880
FY07: Initiates Large Advanced Mobile Power Sources (LAMPS) Program/components	0	0	173
Total	1448	1820	2053

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDT&E:PE0604804A, 194 Engine Driven Generators	5239	7625	14514	6818	4465	1721	1730	CONT	CONT
OPA 3, Generators and Associated Eq. MA9800	128929	42648	69468	107999	208991	198497	168542	CONT	CONT

C. Acquisition Strategy Complete advanced development and transition to system development and demostration phase (Milestone B) and subsequent transition to production (Milestone C).

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
G11

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
STEP Components	MIPR	CECOM - Belvoir	971	0		0		0		0	971	0
STEP Prototypes	MIPR	CECOM - Belvoir	0	880	1Q	1249	2Q	790	2Q	0	0	0
LAMPS Components	MIPR	CECOM - Belvoir	0	0		0		173	2Q	Continue	0	0
Subtotal:			971	880		1249		963		Continue	971	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
STEP Components	MIPR	CECOM-Belvoir	670	0		0		0		0	670	0
STEP Prototypes	MIPR	CECOM-Belvoir	0	400	1Q	271	1Q	200	1Q	0	871	0
Subtotal:			670	400		271		200		0	1541	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
STEP Components	MIPR	CECOM-Belvoir	748	41	1Q	0		0		0	0	0
STEP Prototypes	MIPR	CECOM-Belvoir	0	0		150	2Q	740	2Q	0	890	0
Subtotal:			748	41		150		740		0	890	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
STEP Components	In-house	PEO In-house	301	0		0		0		0	301	0

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
G11

STEP Prototypes	In-House	PEO In-house	0	127	1Q	150	1Q	150	1Q	0	427	0
Subtotal:			301	127		150		150		0	728	0
Project Total Cost:			**2690**	**1448**		**1820**		**2053**		**0**	**4130**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
G11

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
STEP Program																												
(1) Develop Proof of Principle Prototype (Comm. Components), (2) Complete Proof of Principle Prototype, (3) Complete Test and Evaluation	1							2		3																		
(4) Transfer to System Development & Demonstration										4																		
LAMPS Program																												
(5) Initiate LAMPS Program										5																		
(6) Complete Engineering Assessment and Component Market Survey, (7) Test and Assess Commercial Components, (8) Continue Prototype Development, (9) Test & Assess Prototypes														6				7				8				9		

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
G11

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Develop STEP proof of principle prototype using best available commercial components	1Q						
Complete STEP proof of principle prototypes		4Q					
Complete test and evaluation of STEP proof of principle prototypes/perfornace spec			2Q				
Transfer STEP program to System Development and Demonstration			2Q				
Initiate Large Advanced Mobile Power Sources (LAMPS) Program			2Q				
Complete engineering assessment and component market surveys for LAMPS				2Q			
Test and assess commercially available components for LAMPS					1Q		
Continue LAMPS prototypes						1Q	
Test and assess LAMPS prototypes							1Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603804A - Logistics and Engineer Equipment - Adv Dev**	**G14**

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
G14 MATERIALS HANDLING EQUIPMENT - AD	0	196	205	207	212	207	207	0	1544

A. Mission Description and Budget Item Justification: This project supports Advanced Component Development and Prototypes of Material Handling Equipment (MHE) and stays abreast of current needs and available technologies to be integrated into military MHE. This program develops selected technologies and transitions to procurement a series of MHE items. Categories of MHE include warehouse forklifts, cranes and tow tractors, rough terrain forklifts, container handlers and cranes as well as ancillary equipment.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Complete Market Investigation for All Terrain LIfting Army System.	0	146	155
Program support for ATLAS	0	50	50
Total	0	196	205

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0604804A, Logistics and Engineer Equipment, Engineering Development (H14)	469	492	517	517	518	517	517	0	3547

C. Acquisition Strategy RDTE Logistics Support Equipment - Complete market investigations for ATLAS II Procurement.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603804A - Logistics and Engineer Equipment - Adv Dev**	**K39**

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
K39	Field Sustainment Support AD	4157	4954	3267	3520	3985	11275	11272	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project supports development of critical soldier support and sustainment systems including shelter systems (rigid and soft wall), cargo aerial delivery, field service systems, mortuary affairs equipment, heaters, environmental control units and other combat service support equipment. These systems will fill identified theater distribution and services capability gaps, improve unit sustainability, and increase combat effectiveness. This project also supports Advanced Component Development and Prototyping of Critical Distribution Capabilities to include cargo aerial delivery systems that provide improved safety and accuracy while increasing survivability of aircraft, personnel, and equipment. The project supports the development of tactical environmental control systems that support mobile, joint service platforms for vehicle-mounted command and control systems, medical care capabilities and high tech maintenance shelters and vans. This project develops critical enablers that support the Quartermaster (QM) Force Transformation Strategy and The Army's Modular Capabilities by maintaining readiness through fielding and integrating new equipment. This project also ensures Army Expeditionary Forces are capable of rapid deployment through aerial delivery initiatives and reduces sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands in lift, combat zone footprint, and costs for logistical support .

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY 05: Conducted Design Validation (DV) of Low Cost Aerial Delivery System (LCADS) Low Velocity parachute. Obtained Milestone C for LCADS Low Cost Container. Completed Operational Test (OT) for LCADS High Velocity parachute. Obtained Milestone C for High Velocity parachute. Initiated Developmental Testing (DT) for Low Velocity parachute. FY 06: Complete DT and OT for Low Velocity parachute. Obtain Milestone C for Low Velocity parachute.	824	350	0
FY 05: Obtained 60k British Thermal Unit (BTU) Improved Environmental Control Unit (IECU) Milestone B decision. Completed and released System Design and Development (SDD) contract solicitation. Transitioned program management to PM Mobile Electric Power. FY 06: Award SDD contract, fabricate test prototypes. Begin Production Qualification Testing (PQT) for the 60k IECU. FY 07: Complete PQT, logistics demonstration and user evaluation and obtain Milestone C Full Rate Production decision for 60k IECU.	835	1700	1202
FY 05: Concluded technical feasibility testing of Joint Precision Airdrop System (JPADS) 2k. Supported JPADS 10k Advanced Concept Technology demonstration (ACTD) program. FY 06: Obtain Milestone B for JPADS 2k. Prepare Request for Procurement (RFP) and execute Source Selection process for JPADS 2k. Conduct technical feasibility testing of candidate JPADS 10k technologies. Procure test prototypes and start DV of JPADS 2k. FY 07: Complete DV of JPADS 2k. Transition 2k to System Development and Demonstration (SDD). Obtain Milestone B for JPADS 10k. Prepare RFP and execute Source Selection process for JPADS 10k. Start and complete DV of JPADS 10k.	1653	2904	2065
FY 05: Awarded contract for design and development of Mobile Integrated Remains Collection System (MIRCS).	845	0	0
Total	4157	4954	3267

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, MF9303 Control Unit, Environmental	4702	1724	3862	3492	4556	4064	2842	CONT	CONT

OPA3, M77700 Mobile Intgrated Remains Collection System	0	0	0	9941	17925	18491	3905	CONT	CONT

C. Acquisition Strategy Accelerate Joint Precision Aerial Delivery System (JPADS) product development and testing to transition to System Development & Demonstration and/or Production.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
K39

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
Soldier Support Equipment	In-House	PM Force Sustainment Sys (FSS), Natick	1020	787	1-4Q	704	1-4Q	295	1-4Q	Continue	0	0
Soldier Support Equipment	In-house	CECOM, Ft Belvoir	420	259	1-4Q	278	1-4Q	75	1-4Q	Continue	0	0
Soldier Support Equipment	Contracts	Various	3260	969	1-2Q	246	1-4Q	481	1-4Q	Continue	0	0
Improved Environmental Control Unit (IECU)	In-House	CECOM, Ft Belvoir	0	0		278	1-4Q	175	1-4Q	Continue	0	0
IECU SDD	TBD	TBD	0	0		1142	2-4Q	784	1-4Q	Continue	0	0
Subtotal:			4700	2015		2648		1810		Continue	0	0

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	MIPR	DTC, MD and ATC, MD	200	172	1-4Q	185	1-4Q	116	1-4Q	Continue	673	0
Soldier Support Equipment	MIPR	Yuma Proving Ground, AZ, AEC	1500	1830	1-4Q	1738	1-4Q	1037	1-4Q	Continue	0	0
IECU	TBD	TBD	0	0		228	2-4Q	204	1-4Q	Continue	0	0
Subtotal:			1700	2002		2151		1357		Continue	673	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
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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
Project Management Support	In-House	PM Force Sustainment Sys (FSS), Natick	180	140	1-4Q	103	1-4Q	63	1-4Q	Continue	0	0
Project Management Support	In-House	PM MEP Ft Belvoir	0	0		52	1-4Q	37	1-4Q	Continue	0	0
Subtotal:			180	140		155		100		Continue	0	0
Project Total Cost:			**6580**	**4157**		**4954**		**3267**		**Continue**	**673**	**0**

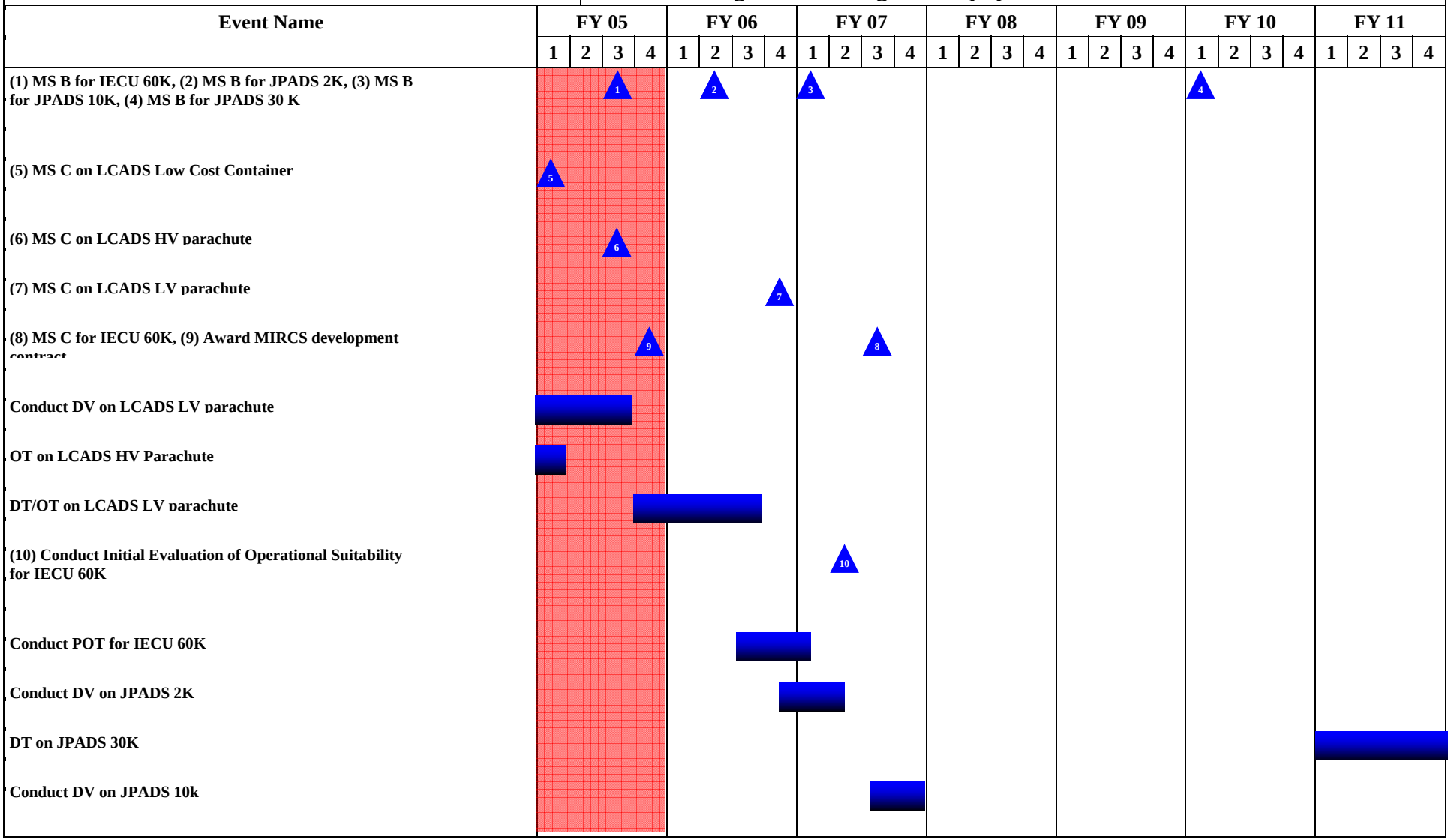
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
K39



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
K39

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Received Milestone C decision on LCADS low cost container.	1Q						
Conducted OT on LCADS HV parachute.	1Q						
Conducted Design Validation (DV) on LCADS Low Velocity (LV) parachute.	1-3Q						
Received Milestone C decision on LCADS HV parachute.	3Q						
Conducted DT on LCADS LV parachute.	4Q	1Q					
Conduct OT on LCADS LV parachute.		1-3Q					
Receive Milestone C decision on LCADS LV parachute.		4Q					
Obtain Milestone B decision for Joint Precision Aerial Delivery System 2k (JPADS) .		2Q					
Conduct DV on JPADS 2k.		4Q	1-2Q				
Obtain Milestone B decision for JPADS 10k.			1Q				
Conduct DV on JPADS 10k.			3-4Q				
Obtain Milestone B for JPADS for 30k.						1Q	
Conduct DT on JPADS 30k.							1-4Q
Obtain Milestone B for IECU 60k.	3Q						
Conduct Production QualificationTesting for IECU 60k.		3-4Q	1Q				
Obtain Milestone C for IECU 60k.			3Q				
Conduct user evaluation for IECU 60k.			2Q				
Initiate JPADS 10k System DT.				1Q			
Complete JPADS 10k System DT.				4Q			
Inititate JPADS 10k System OT.					1Q		
Complete JPADS 10k System OT.					4Q		
Award MIRCS development contract	4Q						

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603804A - Logistics and Engineer Equipment - Adv Dev**	**K41**

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
K41	WATER AND PETROLEUM DISTRIBUTION - AD	3823	3265	4592	3670	3583	3446	3475	0	30250

A. Mission Description and Budget Item Justification: This project develops and demonstrates the potential of prototype equipment and technologies to satisfy petroleum storage, distribution, and quality surveillance system requirements. The Concept and Technology Development program supports the development and enhancement of rapidly deployable Petroleum and Water equipment. The mission includes developing onboard fuels and lubrication quality analysis systems; achieving greater capabilities in the removal of Nuclear, Biological, Chemical (NBC) and other contaminates from water sources; reducing the logistics foot print; developing water reutilization systems to reduce the requirement for transport of water into the theatre (this includes the water from exhaust); and material and systems to decrease the logistics foot print and employment time for the transfer of liquid logistics in the theatre. The Army fights with clean fuel and drinking water. This vital equipment enables the Army to achieve its transformation vision by providing the Army with the means to be highly mobile and self-sustaining in very hostile theaters of operations. Future Force operations demand that combat systems be rapidly deployable to the theater, rapidly emplaced upon arrival, and rapidly relocated to support a fast moving non-linear battlefield. The RIFTS is a bulk fluid distribution system which will consist of four major modules: conduit deployment/retrieval module (Block I), automated pumping station (APS), command and control module (C2M) with leak detection capabilities, and computer based planning aid (Block II). The state-of-the-art technology in Block II will significantly enhance the Army's bulk fuel distribution capabilities over the Inland Petroleum Distribution System (IPDS). IPDS pumps, due to their age and condition, are only marginally supportable. The APS will increase mobility by becoming smaller in size and provide fuel throughput of 850,000 gallons of liquid per day. The C2M and the computer based planning aid will increase alertness and responsiveness by providing a quick optimum route for system layout and provide real time system operational status. The leak detection capability will provide fast and precise location of leak points.

Justification: FY07 funding will focus on further development and maturation of these essential component technologies. RIFTS Block II will provide significantly enhanced capabilities and a sharply reduced logistics footprint, which is critical to the Warfighter. The RIFTS will be the primary means of transferring bulk fuel from theater to corps or even the division rear area because it can be rapidly emplaced and used for early entry. If the RIFTS Block II is not funded, these key capabilities will either not be available or will be severely limited in their effect. Deployability, responsiveness, and logistic footprint would all be negatively impacted. Without a full RIFTS capability, line haul tank trucks (5,000 gallon (5K)) would be required for early entry sustainment, resulting in a larger logistical footprint and congestion on the Main Supply Route (MSR). Currently it takes 170 (5K) tank trucks and 340 soldiers to transfer 850 thousand (850K) gallons of fuel per day. Also, significantly more money will have to be dedicated towards RESET/refitting IPDS if the RIFTS is not funded.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Continues Pre-Planned Product Improvements (P3I) to evaluate water purification components as improvements to the Lightweight Water Purifier (LWP), Tactical Water Purification System (TWPS).	804	0	1533
FY07: Initiates, develop improved water quality analysis equipment for LWP and TWPS.	0	0	1000
FY05-FY06: Conducts Production Qualification Testing (PQT) for the Camel	1829	190	0
FY05-FY07: Continues development of Advanced Petroleum Test Kit (PTK) and initiate performance testing.	487	63	500

FY05-FY06: Continues development Rapidly Installed Fuel Transfer System (RIFTS) Block I which includes components and high pressure conduit.	703	3012	0
FY07: RIFTS Block II development of components which includes automated pumping station (APS), command and control module (C2M) with leak detection capabilities, and computer based planning aid.	0	0	1059
FY07: Fuel Systems P3I - investigates and integrates new technologies to improve Army petroleum quality and handling system performance and sustainment.	0	0	500
Total	3823	3265	4592

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0604804.L41, Logistics and Engineer Equipment - Engineering Development	8018	2156	7299	3610	3681	3644	3675	CONT	CONT
OPA 3, R05600, Water Purification Systems	59467	8768	9769	29628	33367	33138	20967	CONT	CONT
OPA 3, MA6000, Distribution Systems, Petroleum & Water	62077	59477	67867	98726	155464	201052	204458	CONT	CONT

C. Acquisition Strategy Develop engineering prototypes or select Non-Developmental Item based on market surveys and proposals from industry. Competitive; sole source contraction.

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
K41

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
Water Purification Components (P3I)	MIPR	NFESC, Port Hueneme, CA	0	101	1-2Q	0		200	1Q	Continue	301	Continue
Water Purification Components (P3I)	Purchase Orders	TBS	182	0		0		333	1-4Q	Continue	515	Continue
Water Purification Components (P3I)	In-House	TARDEC, Warren, MI	408	0		0		50	1Q	Continue	458	Continue
Water Purification Components (P3I)	Task Order Contract	ICI, Dayton, OH	0	0		0		50	2Q	Continue	50	Continue
Advanced Petroleum Test Kit	In-House	TARDEC, Warren, MI	458	45	1Q	63	1Q	200	1Q	Continue	766	Continue
Water Analysis for TWPS/LWP	In-House	TARDEC, Warren, MI	0	0		0		400	1Q	Continue	400	Continue
Water Analysis for TWPS/LWP	Purchase Order	TBS	0	0		0		200	2-4Q	Continue	200	Continue
Water from Engine Exhaust	CPFF	Lexcarb, Lexington KY	250	0		0		0		250	250	250
FSSP (P3I)	In-House	TARDEC, Warren, MI	151	0		0		0		151	151	151
Rapidly Installed Fuel Transfer System (RIFTS) Block I	C-CPFF	Southwest Research Institute, San Antonio, TX	77	703	1-4Q	3002	1Q	0		Continue	0	Continue
RIFTS Block II	C-CPFF	Southwest Research Institute, San Antonio, TX	0	0		0		1059	1Q	Continue	0	Continue
Fuel Systems Components (P3I)	In-House	TARDEC, Warren, MI	0	0		0		105	1Q	Continue	105	Continue
Fuel Systems Components (P3I)	TBD	TBS	0	0		0		320	2Q	Continue	320	Continue
Subtotal:			1526	849		3065		2917		Continue	3516	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
Water Purification Components	In-House	TARDEC, Warren, MI	100	603	1Q	0		100	1Q	Continue	803	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
K41

(P3I)												
Advanced petroleum test kit	In-House	TACOM, Warren, MI	65	0		0	1Q	75	1Q	Continue	140	Continue
Camel	In-House	TARDEC, Warren, MI	0	0		90	1Q	0		Continue	90	Continue
Subtotal:			165	603		90		175		Continue	1033	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
Water Purification Components (P3I)	In House	TARDEC, Warren, MI	379	100	1Q	0		400	1-4Q	Continue	879	Continue
Advanced Petroleum Test Kit	MIPR	ATEC, Aberdeen Proving Ground	0	0		0		200	1Q	Continue	200	Continue
Advanced Petroleum Test Kit	In-house	TARDEC, Warren, MI	65	442	1Q	0		25	1Q	Continue	532	Continue
Water Analysis for TWPS/LWP	In House	TARDEC, Warren, MI	0	0		0		200	1Q	Continue	200	Continue
Water Analysis for TWPS/LWP	MIPR	CHPPM	0	0		0		200	1Q	Continue	200	Continue
Camel	MIPR	YPG, Yuma, AZ	0	1829	1-2Q	110	1-2Q	0		Continue	0	Continue
Water Purification Components (P3I)	MIPR	NFESC	0	0		0		400	1Q	Continue	400	Continue
Subtotal:			444	2371		110		1425		Continue	2411	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 Petroleum Test Kit	In-House	TACOM, Warren, MI	70	0		0		75	1Q	Continue	145	Continue
Subtotal:			70	0		0		75		Continue	145	Continue
Project Total Cost:			**2205**	**3823**		**3265**		**4592**		**Continue**	**7105**	**Continue**

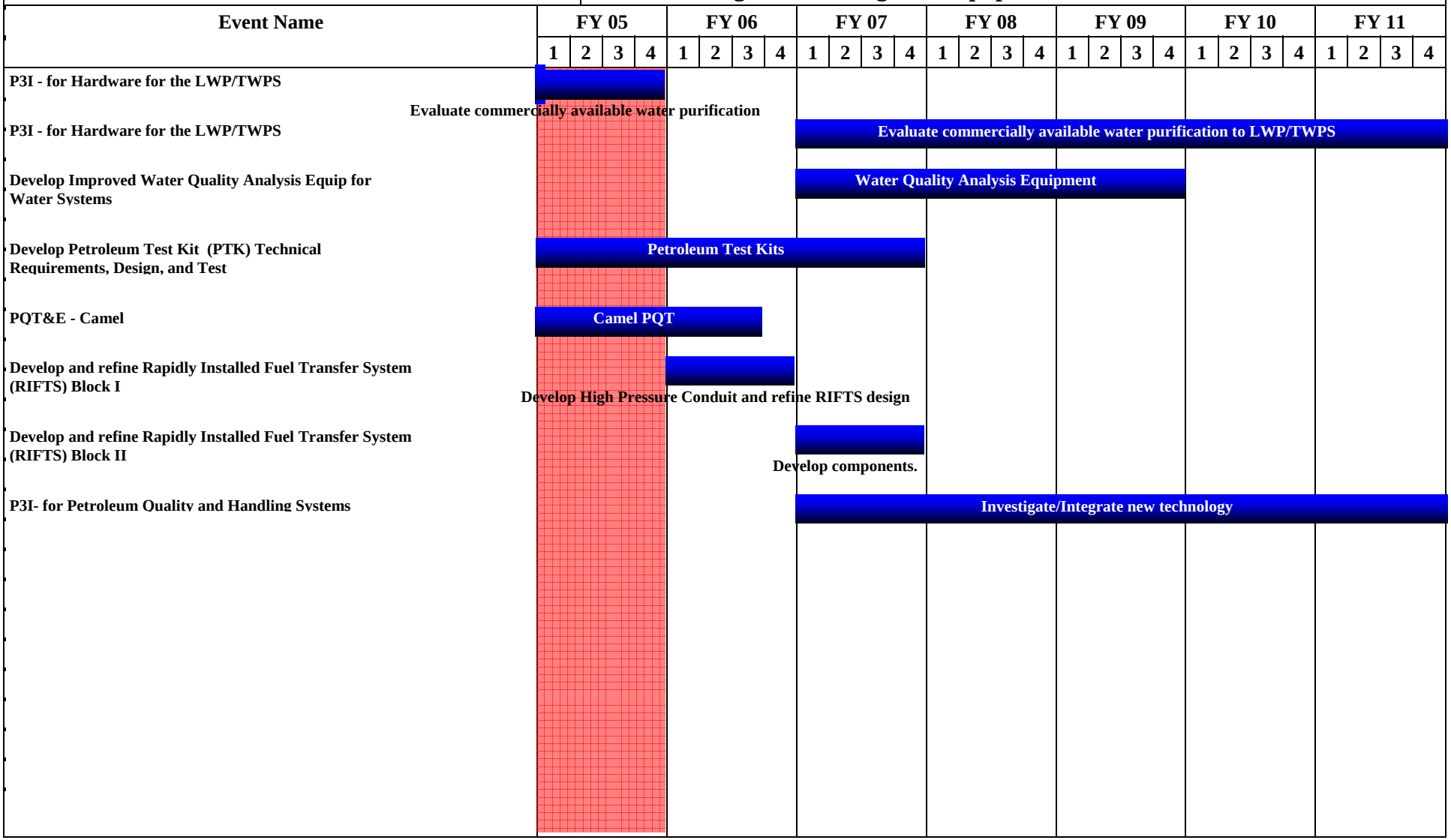
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
K41



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603804A - Logistics and Engineer Equipment - Adv Dev

PROJECT
K41

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
(P3I) Evaluate commercially available water purification components as improvements to LWP & TWPS.	1-4Q						
(P3I) Evaluate commercially available water purification components as improvements to LWP & TWPS.			1-4Q	1-4Q	1-4Q	1-4Q	2-3Q
Develop improved Water Quality Analysis Equipment for LWP and TWPS			1-4Q	1-4Q	1-4Q		
Develop technical requirements, design, and test of Advanced Petroleum Test Kits (PTK).	1-4Q	1-4Q	1-4Q				
Develop high pressure conduit and refine Rapidly Installed Fuel Transfer Sys (RIFTS) design Block I.		1-4Q					
(P3I) Investigate/integrate new technology for petroleum quality and handling systems			1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Camel Testing	1-4Q	1-3Q					
Develop automated pumping station and other components for RIFTS Block II.			1-4Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603805A - Combat Service Support Control System Evaluation a**	**091**

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
091 CBT SVC SPT CONTRL SYS	6117	10507	8645	8555	8430	2967	2152	Continuing	Continuing

A. Mission Description and Budget Item Justification: The Battle Command Sustainment Support System (BCS3) is the logistics Command and Control (C2) solution for U.S. land forces. BCS3 provides commanders the capability to execute end-to-end distribution and deployment management and brings better situational awareness resulting in better decision-making capability to warfighters. It enables warfighters to target, access, scale and tailor critical logistics information in near-real time. BCS3 provides more effective means to gather and integrate asset and in-transit information to manage distribution and deployment missions. BCS3 combines distribution management to include commodity and convoy tracking, and deployment management into a logistics Common Operating Picture (COP) for one mission-focused visual display.

BCS3 has been adopted and integrated into Joint and strategic logistics command and control processes. BCS3 is the only near-term end-to-end logistics COP solution for the Joint commander. BCS3 will maintain its core capabilities and continue to advance in development while integrating into the Joint command and control architecture. This continued development will enable decision superiority via advanced collaborative information sharing achieved through interoperability.

BCS3 has immediate, high pay-off benefit to warfighters and additional future growth in its capabilities. BCS3 is a force multiplier - a precision tool for logistics planning and execution that provides warfighters with the necessary tools to succeed.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Add Version 4.6.3 (Initial Combat Power)	0	0	0
Add Version 4.6.3.1 (ABCS 6.3D) Development	0	0	0
Support to Stryker Brigade Combat Team ((SBCT)/Warfighting Experiments/Counter Attack Corps)	0	0	0
Support to Training Development (Performance Support System/Distributed Training (SS/DTV))	0	0	0
Continued Development of Joint, Logistics Info Systems (LIS) Interfaces and maintain interoperability requirements as well as COE upgrades and Security	2338	4240	5457
LCOP Integration	858	1678	0
LCOP/JDLM Simulation	521	1123	836
CAPES Integration	515	775	0
Operational Testing	0	323	126
Training Development	128	568	381
PM Office	1757	1800	1845
Total	6117	10507	8645

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603805A - Combat Service Support Control System Evaluation a**	**091**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	6138	10659	8481
Current BES/President's Budget (FY 2007)	6117	10507	8645
Total Adjustments	-21	-152	164
Congressional Program Deductions			
Congressional Rescissions	-5		
Congressional Increases			
Reprogrammings	-16		
SBIR/STTR Transfer			
Adjustments to Budget Years		-152	164

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Procurement, OPA 2 (W34600)	48816	10013	31986	26315	12556	12273	5155	CONT	CONT

Comment:

D. Acquisition Strategy The BCS3 acquisition strategy uses a spiral development process that is structured for capabilities to mature and evolve over successive software versions. Versions 1 and 2 served as proof of principle. They provided initial division-level CSS functional capability on common hardware. Version 3 was built on the capabilities of the two previous versions and provided an Initial Operational Capability at Division and Corps level to include initial horizontal interoperability with other Battlefield Functional Area (BFA) systems. Version 4 development included expansion to echelons above Corps (EAC) but has recently undergone additional modification to include BCS3 functionality. BCS3 leverages key identified CSS functionality from the original capability and integrates it with ABCS systems and with numerous national level databases to provide multi-echelon CSS planning and enhanced combat power analysis capabilities. The objective software will provide functionality from tactical (down to maneuver brigade) to strategic level and extend capabilities to Joint, allied and coalition forces.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603805A - Combat Service Support Control System Evaluation a

PROJECT
091

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
Software Development	SS/TM	Tapestry Solutions, San Diego, CA	0	0	1-2Q	4690	1-2Q	4895	1-2Q	Continue	Continue	Continue
Software Development	SS/TM	Northrop Grumman, Carson, CA	124416	4232	1-2Q	3126	1-2Q	1398	1-2Q	Continue	Continue	Continue
Training Development	C/TM	Lockheed Martin, Tinton Falls, NJ	11928	128	1-2Q	568	1-2Q	381	1-2Q	Continue	Continue	Continue
ABCS SE&I Effort	MIPR	PEO C3T, Ft Monmouth, NJ	7686	0		0		0		0	7686	7686
GFE	MIPR	Various	3601	0		0		0		0	3601	3601
Subtotal:			147631	4360		8384		6674		Continue	Continue	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
CECOM, Matrix	MIPR	FT. Monmouth , NJ & Ft. Belvoir, VA	5154	0		0		0		0	5154	5154
Technical Support	MIPR	EER, Fort Lee, VA	8321	0		0		0		0	8321	8321
Acquisition Support	MIPR	LMI, McLean, VA	1075	0		0		0		0	1075	1075
Subtotal:			14550	0		0		0		0	14550	14550

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
GOVT	MIPR	VARIOUS	5575	0		0		0		0	5575	5575
Dev. Testing & Eval.	MIPR	EPG, VARIOUS	1028	0		0		0		0	1028	1028
Oper. Testing	MIPR	ATEC, VARIOUS	1868	0		323	1-4Q	126	1-4Q	Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603805A - Combat Service Support Control System Evaluation a**	**091**

Subtotal:			8471	0		323		126		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
Program Office Management	In House	FT. BELVOIR, VA	21044	1757	1-4Q	1800	1-4Q	1845	1-4Q	Continue	Continue	Continue
Subtotal:			21044	1757		1800		1845		Continue	Continue	Continue
Project Total Cost:			**191696**	**6117**		**10507**		**8645**		**Continue**	**Continue**	**Continue**

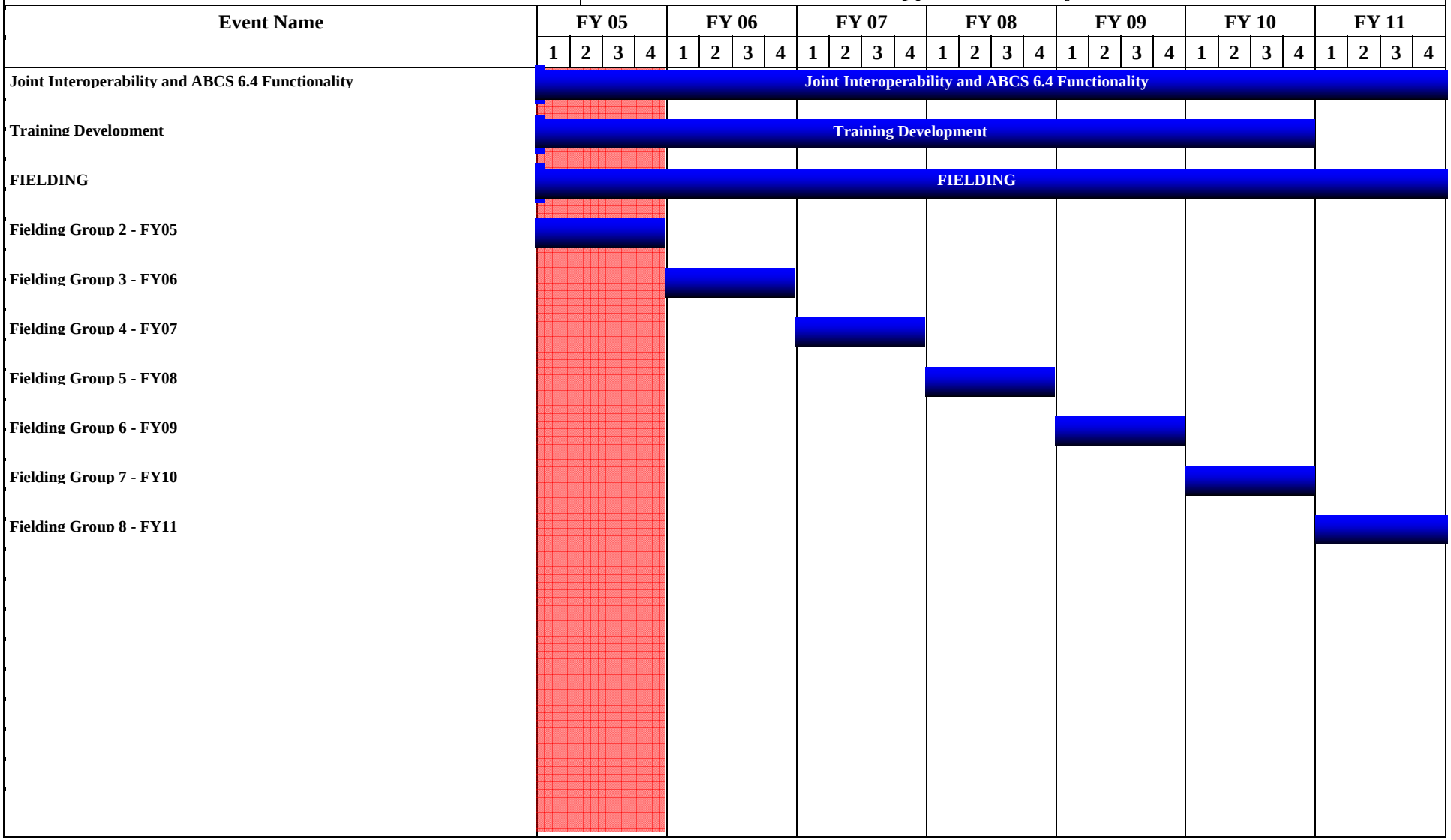
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603805A - Combat Service Support Control System Evaluation a

PROJECT
091



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603805A - Combat Service Support Control System Evaluation a

PROJECT
091

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Support to Stryker Brigade Combat Team (SBCT)	1-4Q	1-4Q					
Support to Training Dev PSS/DTV							
BCS3 Development							
LCOP Integration	1-4Q	1-4Q					
CAPES Integration	1-4Q	1-4Q					
LCOP/JDLM Simulation	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
Continued Development of Joint, Logistic Info System (LIS) Interfaces and Maintain Interoperability	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Training Development	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	
Operational Testing	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
Program Management	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603807A - Medical Systems - Adv Dev

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	20277	23149	11973	13160	22085	21287	10870	0	146448
808	DOD DRUG & VACC AD	5251	6253	5490	6309	5915	5718	5627	0	50654
811	MIL HIV VAC&DRUG DEV	0	144	149	151	150	142	141	0	1005
836	COMBAT MEDICAL MATL AD	7322	5612	3814	4784	14200	13729	3411	0	60661
837	SOLDIER SYS PROT-AD	712	938	2520	1916	1820	1698	1691	0	13207
A01	COMBAT SUPPORT HOSPITAL - MOBILE SURGICAL UNIT	0	4041	0	0	0	0	0	0	6429
MD4	FUTURE MEDICAL SHELTER	5078	5175	0	0	0	0	0	0	11592
MD8	ELECTROSOMOTIC PAIN THERAPY SYSTEM (CA)	957	986	0	0	0	0	0	0	1943
MD9	PORTABLE OXYGEN GENERATOR (CA)	957	0	0	0	0	0	0	0	957

A. Mission Description and Budget Item Justification: This program element (PE) funds advanced development of medical materiel within the early system integration portion of the System Development and Demonstration phase of the acquisition life cycle. The PE supports transition of Science and Technology initiatives, prototypes, or candidate technologies into the first scale-up, integrated models for initial technical and operational test and evaluation, when applicable. These programs are aligned to meet Future Force (F2) requirements stressed within the concept documents and organizational structures. The PE provides funding for early Phase 1 and 2, U.S. Food and Drug Administration (FDA) regulated, human clinical trials. The major enablers supported by this PE are:

Infectious disease vaccines and preventive drugs that will reduce the risk of service members contracting debilitating or fatal diseases, an increasing risk with the growing potential for urban warfare and its associated disease hazards. Disease and non-battle injuries (DNBI) are the largest contributors to the level 3 medical footprint, and significant reductions of the medical footprint in theater is achieved by reducing the number of DNBI affected soldiers. More importantly, reduced patient evacuations within F2 units is a force multiplier, because timely replacement of these uniquely skilled and combat tested soldiers will be nearly impossible.

Combat Casualty Care devices and biologics, with two major focuses: enhance forward care at the first responder level and reduce the footprint of medical organizations for greater mobility and easier sustainment. The F2 concept places soldiers into a more austere environment with lengthened evacuation times (both arrival and transit). Supporting medics and first responders require greater lifesaving and extended stabilization capability to save lives. Reduction in weight, cube, and sustainment requirements, allows medical units to increase mobility and maintain contact with their supported Units of Action.

Soldier Performance Enhancers in the form of drugs or diagnostics that allow commanders to increase soldiers' cognitive awareness and stamina. Enhancers have a direct relationship to increased soldier capabilities and a potential to reduce casualties.

Military Human Immunodeficiency Virus (HIV) Vaccine and Drug Development - funds militarily relevant HIV medical countermeasures. These include advanced component

development of multiple candidate vaccines and drugs for large-scale field testing.

This program is managed by the U.S. Army Medical Research and Materiel Command.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
4 - Advanced Component Development and Prototypes	**0603807A - Medical Systems - Adv Dev**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	20286	10134	11842
Current BES/President's Budget (FY 2007)	20277	23149	11973
Total Adjustments	-9	13015	131
Congressional Program Reductions		-102	
Congressional Rescissions		-233	
Congressional Increases		13350	
Reprogrammings	-9		
SBIR/STTR Transfer			
Adjustments to Budget Years			131

FY2006 - Congressional Plus-Up ($13,350) - Electro-oamotic Pain Theraphy System for Adjustable Rate Implanatable Drug Delivery ($1,000); Leishmania Diagnostic Test ($1,000); Lightweight Trauma Module ($1,000); Non-Invasive Medical Sensors - Enhanced ($1,000); Combat Support Hospital - Mobile Surgical Unit ($4,100); Future Medical Shelter System - 21st Century Military Hospital System ($5,250).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603807A - Medical Systems - Adv Dev**	**808**

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
808 DOD DRUG & VACC AD	5251	6253	5490	6309	5915	5718	5627	0	50654

A. Mission Description and Budget Item Justification: This project funds technical development of candidate medical countermeasures for infectious diseases that occur within militarily relevant areas of the world. Current products fall within three major areas: vaccines, drugs, and diagnostic kits. The funds support Phase 1 and 2 human clinical trials for safety and small-scale efficacy testing. This work, which is performed in military laboratories or civilian pharmaceutical firms, is directed toward the prevention of disease, early diagnosis if contracted, and speeding recovery once diagnosed. These trials are required to meet U.S. Food and Drug Administration (FDA) regulatory approval guidance, a mandatory obligation for all military products placed into the hands of medical providers or service members. Priority is based upon four major factors: (1) the extent of the disease within the Combatant Commands' theater of operations, (2) the clinical severity of the disease, (3) the technical maturity of the proposed solution, and (4) the affordability of the solution (development and production).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Reviews, evaluations, and trials of malarial/anti-malarial vaccines, drugs, and diagnostics: In FY05, began an FDA mandated Phase 3 Malaria Rapid Diagnostic Device (MRDD) clinical trial in the United States. Initiated a Phase 1/2 trial of the Recombinant Plasmodium falciparum Malaria Vaccine plus Adjuvant (RTS,S) in Kenya. In FY06 complete MRDD Phase 3 clinical trial and conduct a Milestone C IPR to transition MRDD to Full-Rate Production and Deployment, resulting in fielding of state-of-the-art malaria diagnostic capability for military physicians. Conduct a Critical Design Review (CDR) to determine if the Recombinant Plasmodium falciparum Malaria Vaccine plus Adjuvant (RTS,S) should continue as a single vaccine or be de-transitioned to Technology Development for testing with other Malaria vaccine candidates. In FY07, transition the anti-malarial drug, Artesunate (for intravenous treatment of severe and complicated malaria) to System Development and Demonstration (Milestone B) and initiate Phase 2b efficacy studies.	2596	3243	4000
Trials, evaluations, and reviews for grouped infectious disease vaccines and drugs (Dengue and Leishmania): In FY05, completed Phase 2 testing of the Dengue Tetravalent Vaccine (DTV) in Thailand and initiated analysis of results. Completed analysis of the data from a Phase 2 field trial of the current formulation of the Paromomycin/Gentamicin Topical Antileishmanial Cream. Awarded a contract for the production of a formulation of the Antileishmanial Topical for pivotal field testing and licensure. In FY06, conduct a Critical Design Review and initiate Phase 2b efficacy studies of the DTV; conduct a Critical Design Review and initiate pivotal field trials of the Paromomycin/Gentamicin Topical Antileishmanial Cream. In FY07, continue field trials of both the Antileishmanial Topical and the DTV.	2655	3010	1490
Total	5251	6253	5490

C. Acquisition Strategy Test and evaluate in-house and commercially developed products in extensive government-managed clinical trials to gather data required for FDA licensure and Environmental Protection Agency registration.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603807A - Medical Systems - Adv Dev

PROJECT
808

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
No product/contract costs greater than $1M individually			3850	471		480		486		Continue	0	Continue
Subtotal:			3850	471		480		486		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
No product/contract costs greater than $1M individually			698	158		270		162		Continue	1131	Continue
Subtotal:			698	158		270		162		Continue	1131	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
No product/contract costs greater than $1M individually			17120	3782		4349		3892		Continue	25395	Continue
Subtotal:			17120	3782		4349		3892		Continue	25395	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
No product/contract costs greater than $1M individually			3710	840		1154		950		Continue	5820	0
Subtotal:			3710	840		1154		950		Continue	5820	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603807A - Medical Systems - Adv Dev**	**808**

Project Total Cost:	**25378**	**5251**		**6253**		**5490**		**Continue**	**32346**	**0**

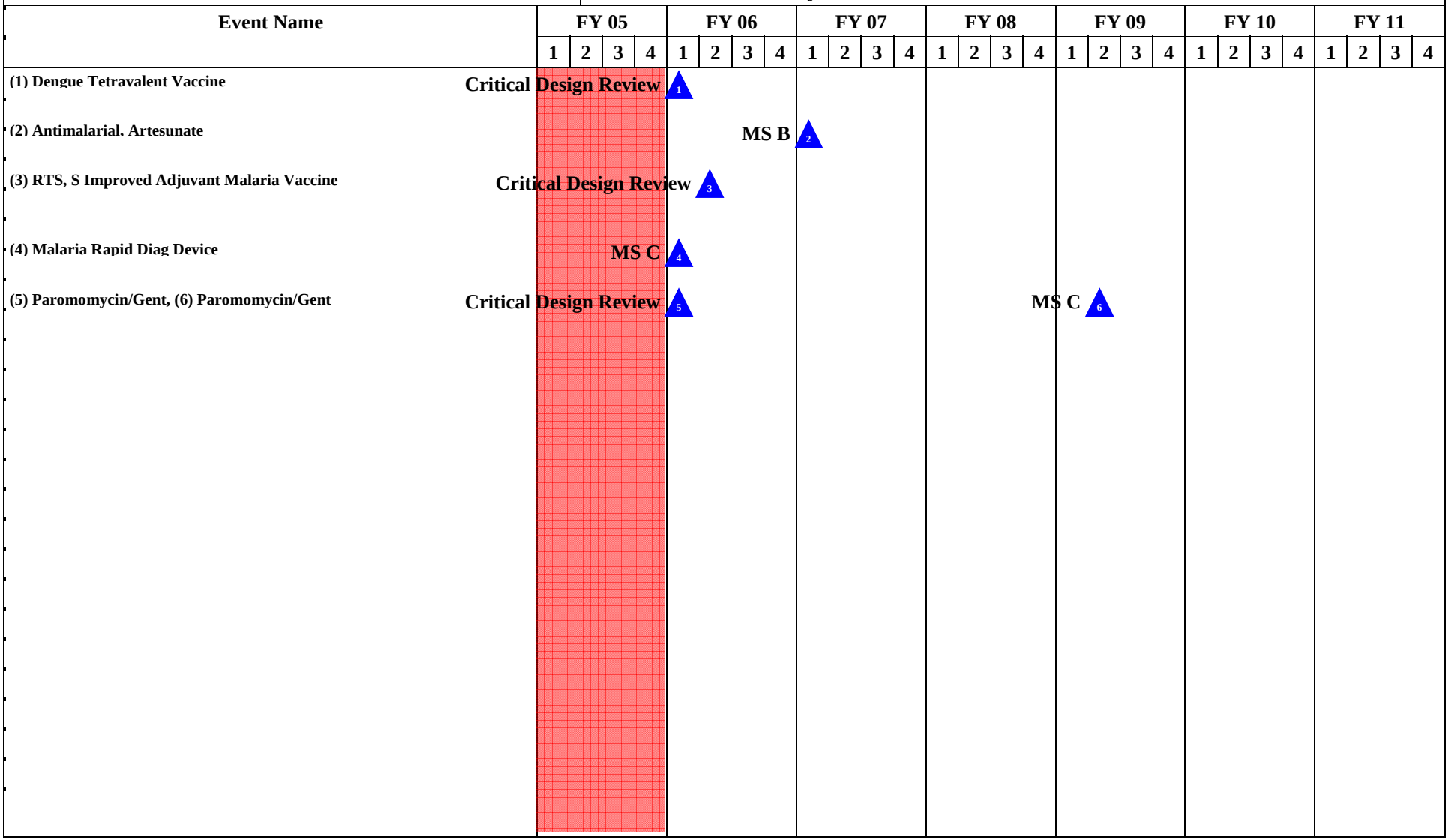
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603807A - Medical Systems - Adv Dev

PROJECT
808



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603807A - Medical Systems - Adv Dev**	**808**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Paromomycin/Gentamicin (Critical Design Review) (MS C)		1Q			2Q		
RTS,S/Improved Adjuvant (P. falciparum) Malaria Vaccine (Critical Design Review)		2Q					
Malaria Rapid Diagnostic Device (MS C)		1Q					
Dengue Tetravalent Vaccine (Critical Design Review)		1Q					
Antimalarial, Artesunate (MS B)			1Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603807A - Medical Systems - Adv Dev**	**836**

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
836 COMBAT MEDICAL MATL AD	7322	5612	3814	4784	14200	13729	3411	0	60661

A. Mission Description and Budget Item Justification: This project funds technical development of candidate medical products for the advancement of combat casualty care; especially far forward on the battlefield for first responders, combat life savers, and field medics. This funds Phase 1 and 2 human clinical trials for safety and efficacy of devices unique to military operational requirements. These products will decrease mortality rates increase soldiers' morale and willingness to place themselves in danger. Additionally, several products will reduce the medical organizational sustainment footprint through smaller the weight and cube and equipment independence from supporting materials. Priority is given to those products that provide the greatest clinical benefit balanced with the technical and financial risks.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
(1) Hemostatic Dressing (HD): In FY05, established contract with new subject matter expert of fibrin hemostat technologies and identified HD manufacturing equipment requirements. Began business case analysis to determine affordability, manufacturability, and commerciality of current and emerging fibrin hemostat technologies. In FY06, complete report on affordability, manufacturability, and commerciality of current and emerging fibrin hemostat technologies. (2) Chitosan Control Dressing (CCD): In FY05, continued work on development of long-term internal use dressing. Began development of new antimicrobial chitosan burn dressing.	428	250	0
Conduct/Perform development, testing and Milestone reviews for field medical treatment and treatment aid devices:(1)Ceramic Oxygen Generator (COG):In FY05, fabricated first portable oxygen generator prototype. In FY06, conduct user and technical testing. Conduct Milestone B. In FY07, develop engineering pre-production prototype and obtain FDA clearance. (2)Ventilatory Assist Device (VAD):In FY05, conducted technical and user testing, and made required modifications. Held Milestone C review. Supported the fielding process.(3)One-Handed Tourniquet (OHT):In FY05, completed project. (4)Non-Contact Respiration Monitor (NCRM):In FY05, completed prototype, conducted user evaluation and determined that product is not a requirement at this time. (5)Rotary Valve Pressure Swing Adsorption Oxygen Generator (RVPSAOG):In FY05, reduced oxygen generator weight and size. Found potentially more reliable air compressor. In FY06, Conduct Milestone B review. Develop engineering pre-production prototype. Conduct technical and user testing and evaluation. In FY07, conduct Milestone C review. Initiate low rate production. (6)Battery Powered IV Fluid Warmer: In FY05, delivered prototype units for test evaluations. In FY06 first quarter, completed technical testing. FDA testing to commence at WRAIR. Begin user evaluation. Conduct Milestone B. (7)Future Medical Shelter System (FMSS):In FY05, performed test and evaluation on future medical shelter system. Began working on 2nd Generation concept based on test results. Completed phase 1 for the concept of the Operating Room Module. (8)Future Combat System (FCS):In FY05, continued work in the System Design and Development phase. In FY06, begin preparing the System Functional Review. Requirements were finalized for the Medical Vehicle and a brass board litter system was constructed. (9)Electroosmotic Pain Therapy System (EPTS):In FY05, fabricated prototype units. Obtained animal use approval. In FY06, initiate FDA requirement testing.	6894	5362	3814
Total	7322	5612	3814

C. Acquisition Strategy Evaluate commercially developed materiel in government-managed tests for hardening or other modification.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603807A - Medical Systems - Adv Dev**	**836**

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
No other contract exceeds $1M			11824	0		1918		61		0	13803	0
Subtotal:			11824	0		1918		61		0	13803	0

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

Remarks: No product/contract costs greater than $1M individually.

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									

Remarks: No product/contract costs greater than $1M individually.

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
No product/contract costs greater than $M individually.			10660	7322		3694		3753		0	0	0
Subtotal:			10660	7322		3694		3753		0	0	0
Project Total Cost:			**22484**	**7322**		**5612**		**3814**		**0**	**13803**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603807A - Medical Systems - Adv Dev

PROJECT
836

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) Ceramic Oxygen Gen, (2) Ceramic Oxygen Gen					MS B 1				MS C 2																			
(3) Ventalitory Assist Device	MS C 3																											
(4) One-handed Tourniquet	MS C 4																											
(5) Rotary Valve Pressure Oxy Gen, (6) Rotary Valve Pressure OxyGene					MS B 5				MS C 6																			
(7) Battery-powered IV Fluid Warmer, (8) Battery-powered IV Fluid Warmer					MS B 7				MS C 8																			

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603807A - Medical Systems - Adv Dev

PROJECT
836

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Ceramic Oxygen Generator Systems (MS B, MS C)		3Q	4Q				
Ventilatory Assist Device (MS C)	2Q						
One-Handed Tourniquet (MS, C)	3Q						
Rotary Valve Pressure Swing Oxygen Generator (MSB, MS C)		3Q	4Q				
Battery-powered IV Fluid Warmer (MS B, MS C)		3Q	3Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603807A - Medical Systems - Adv Dev**	**837**

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
837 SOLDIER SYS PROT-AD	712	938	2520	1916	1820	1698	1691	0	13207

A. Mission Description and Budget Item Justification: This project supports the conceptual and technical development of preventive medicine materiel including devices and medicines in order to provide protection, sustainment, and enhancement of the physical and psychological capabilities of soldiers across all conditions of combat. Focus is on the reduction of personnel losses due to preventable disease and non-battle injuries through the development of environmental and physiological performance monitors and other preventive medicine countermeasures.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
In FY05, began termination phase of contract for Leishmania skin tests: In FY06, conduct a Design Readiness Review and close out Leishmania skin test contract.	442	438	0
Provide funding for the Air Worthiness Certification of the Special Medical Emergency Evacuation Device (SMEED) and Life Support for Trauma and Transport (LSTAT) Next Generation.	270	500	2520
Total	712	938	2520

C. Acquisition Strategy Test and evaluate materiel in government-managed trials to meet fielding requirements.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603807A - Medical Systems - Adv Dev

PROJECT
837

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
No product/contract costs greater than $1M individually			1447	342		458		1203		Continue	2939	0
Subtotal:			1447	342		458		1203		Continue	2939	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
No product/contract costs greater than $1M individually			79	23		35		75		Continue	178	0
Subtotal:			79	23		35		75		Continue	178	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
No product/contract costs greater than $1M individually		Research and development; stability and potency testing	356	127		160		456		Continue	907	0
Subtotal:			356	127		160		456		Continue	907	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
No product/contract costs greater than $1M individually			885	220		285		786		Continue	1850	0
Subtotal:			885	220		285		786		Continue	1850	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603807A - Medical Systems - Adv Dev**	**837**

Project Total Cost:	**2767**	**712**		**938**		**2520**		**Continue**	**5874**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603807A - Medical Systems - Adv Dev

PROJECT
837

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) Leishmania Skin Test					Design Readiness Review ▲ 1																							

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603807A - Medical Systems - Adv Dev**	**837**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Leishmania Skin Test		3Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603827A - Soldier Systems - Advanced Development

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	0	12119	10605	18439	14559	16211	16415	0	86401
S51	AIRCREW INTEGRATED SYS AD	0	3325	3497	3579	3677	4111	4109	0	22298
S52	SOLDIER SUPPORT EQUIPMENT - AD	0	194	205	205	204	414	414	0	1636
S53	CLOTHING AND EQUIPMENT	0	6924	6903	9668	9184	6512	6718	0	45909
S54	SMALL ARMS IMPROVEMENT	0	1676	0	4987	1494	5174	5174	0	16558

A. Mission Description and Budget Item Justification: This is a new Program Element (PE) manages the soldier as a system in order to increase combat effectiveness, test and deliver tangible products that save soldiers' lives, and improve soldiers' quality of life. Starting in FY06, the following program elements and associated projects have been consolidated in this program element: PE 0603801 (Project DB45 ACIS Advanced Development); PE 0603747 (Project DC09 Soldier Support Equipment and Project D669 Clothing and Equipment); and PE 0603802 (Project AS2 Small Arms Improvements and Project AS3 Objective Individual Combat Weapons). The consolidation complies with guidance provided in the FY05 Appropriation Act provided by Congress. Combining these program elements into one common program element streamlines the management and efficiency of developing and testing soldier systems.

Project S51 (Aircrew Integrated Systems) was created upon transition from PE 0603801 (Project DB45 Aircrew Integrated System) in FY06. This project supports component development and prototyping of critical soldier support systems and other combat service support equipment that will improve unit sustainability and combat effectiveness. This project transitions from PE 0603801A.

Project S52 funding (Soldier Support Equipment) supports component development and prototyping of critical soldier support systems and other combat service support equipment that will improve unit sustainability and combat effectiveness. This project was created upon transition from PE 0603747A (Project DC09 Soldier Support Equipment) in FY06.

Project S53 funding (Clothing and Equipment) supports development of state-of-the-art technology to improve tactical and non-tactical clothing and individual equipment to enhance the lethality, survivability, and mobility of the individual Soldier. This project was created upon transition from PE 0603747A (Project 669 Clothing and Equipment) in FY06.

Project S54 (Small Arms Improvement) - Funding profile starts in FY06. This project was created upon transition from PE 0603802 (Project AS2 Small Arms Improvements) in FY06. Provides funds to develop system integration of subsystems and components and emerging technology designed to enhance lethality, target acquisition, fire control, training effectiveness and reliability for current and future small arms weapon systems and ammunition.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603827A - Soldier Systems - Advanced Development

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	0	10595	10443
Current BES/President's Budget (FY 2007)	0	12119	10605
Total Adjustments	0	1524	162
Congressional Program Reductions		-53	
Congressional Rescissions		-123	
Congressional Increases		1700	
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			162

Change Summary Explanation: Funding - 2006 Congressional increase of $1.7M for New Metal Coating for Greaseless Weapons.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603827A - Soldier Systems - Advanced Development**	**S51**

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
S51	AIRCREW INTEGRATED SYS AD	0	3325	3497	3579	3677	4111	4109	0	22298

A. Mission Description and Budget Item Justification: This project supports advanced component development and prototyping of critical soldier support systems with improved aviator safety, survivability, and human performance that amplify the warfighting effectiveness, and facilitates full-spectrum dominance of the Army aircraft including the AH-64 Apache/Longbow, CH-47 Chinook, UH/HH-60 Blackhawk, Light Utility Helicopter, and Armed Reconnaissance helicopter. These programs include soldier systems and equipment which are unique and necessary for the sustainment, survivability, and performance of Army aircrews and troops on the future integrated battlefield. The Air Warrior program will provide the aircrew with a system approach to noise protection, three-dimensional audio and external audio capability, crash and post-crash survivability, concealment and environmental protection, ballistic protection, night vision and heads-up display, directed energy eye protection and flame/heat protection. Air Warrior enables the Army Aviation Warfighter to meet the approved Operational Requirements Document mission length of 5.3 hours with aviators in full chemical/biological protective gear. Preplanned block improvements integrating new technologies into the Air Warrior system will continue to enhance and maximize aircrew mission performance, comfort, aircrew station interface, safety, and survivability. These funds also resource improved laser protection against emerging new threat systems and product improvement of existing helmets to improve performance and increased commonality. Maximum advantage will be taken of simulation to reduce program technical risk through early user evaluation and to reduce program design and test cost and schedules.

Funds for prior year efforts were funded in PE 0603801A (Project B45 - Aviation Advanced Development).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Concept exploration of pilot situational awareness and cognitive decision aiding tools.	0	1225	1106
Explore technology to upgrade environmental control and waste management systems.	0	500	502
Concept exploration of helmet technologies and helmet mounted devises.	0	1350	1477
Continue advanced component development of Air Warrior preplanned technology improvements.	0	250	412
Total	0	3325	3497

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, A PE 0603801A PROJ DB45 Adv Dev	6173	0	0	0	0	0	0	0	13274
RDTE, A PE 0604801A PROJ DC45-EMD	3236	0	0	0	0	0	0	CONT	CONT
RDTE, A PE 0604601A PROJ S61-EMD	0	2216	2326	2562	2662	2751	2852	CONT	CONT
Aircraft Procurement, Army SSN AZ3110 - ACIS	32267	31820	35346	42727	39430	57404	42849	CONT	CONT

C. Acquisition Strategy Technologies developed under the System Integrator contract will integrate the Air Warrior (AW) Block 3 features. Specifically these Block 3 capabilities will include a fully compliant Modular Integrated Helmet and Display System (MIHDS), Chemical, Biological (CB) waste disposal system and upgrades to AW block 2 components as emerging technologies become available. The MIHDS helmet will provide a day heads up display, nuclear flash protection, external audio, don in flight CB protection and Agile laser eye protection. The System Integrator contract is a 5 year delivery order cost plus fixed fee and was awarded in August 2004.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603827A - Soldier Systems - Advanced Development

PROJECT
S51

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
Air Warrior Block Improvements Concept Development	C - CPFF	General Dynamics Decision Systems	0	0		2387	1Q	2523	1Q	0	0	0
Subtotal:			0	0		2387		2523		0	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
Matrix Support	MIPR	Various Government	0	0		444	1-4Q	465	1-4Q	0	0	0
Subtotal:			0	0		444		465		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									

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
PM Administration	Allotment	Various Government	0	0		494	1-4Q	509	1-4Q	0	0	0
Subtotal:			0	0		494		509		0	0	0

Project Total Cost:			**0**	**0**		**3325**		**3497**		**0**	**0**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603827A - Soldier Systems - Advanced Development

PROJECT
S51

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Block 3 Component Development and Demonstration	Block 3 RDT&E																											
(1) VCOP Components Demo in Adv Prototyping Engr Experimentation Sim							1																					

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603827A - Soldier Systems - Advanced Development**	**S51**

Schedule Detail	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Advanced Component Development of Air Warrior Block 3 improvements.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
VCOP components demonstration in Adv. Prototyping Engr. Experimentation (APEX) simulator.		3Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603827A - Soldier Systems - Advanced Development**	**S52**

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
S52	SOLDIER SUPPORT EQUIPMENT - AD	0	194	205	205	204	414	414	0	1636

A. Mission Description and Budget Item Justification: Not applicable for this item.

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603827A - Soldier Systems - Advanced Development**	**S53**

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
S53 CLOTHING AND EQUIPMENT	0	6924	6903	9668	9184	6512	6718	0	45909

A. Mission Description and Budget Item Justification: FY07 funding supports the project development and state-of-the-art technology to improve tactical and non-tactical clothing and individual equipment to enhance the survivability, mobility and sustainment affecting the individual Soldier. This project transitioned from PE 0603747 (Project 669 Clothing and Equipment) in FY06.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY06: Army Combat Uniform (ACU) II: Conducts technical research and performs laboratory evaluation of enhancements to the ACU that may incorporate permetherin, fire retardant, water repellent and antimicrobial protection.	0	1146	0
FY06: Fully Integrated Combat Helmet (FICH): Continues Product Improvement of helmet components in support of fielding and developmental efforts. Researches technologies to mitigate the effects of high-speed ballistic blunt trama and low-rate impact (crash) protection. Integrates communications headset technologies into the helmet, incorporating hearing protection, radio/intercom and face-to-face communication.	0	777	0
FY06: Modular Lightweight Load Carrying Equipment (MOLLE): Continues design improvements to existing fielded systems as a result of constantly evolving tactics, techniques and procedures for the loadbearing system.	0	548	0
FY06: Modular Boot System: Completes Technical testing initiated in FY05 (under 603747.669) to downselect to one boot that will replace multiple Organizational Clothing and Individual Equipment (OCIE) boots. Completes User test.	0	1091	0
FY06: Soldier Body Armor (SBA) Enhancements: Initiates efforts to investigate technologies that will verify structural integrity of existing ballistic plates and collaborate with industry to mature non-ceramic ballistic materials.	0	747	0
FY06: Organizational Clothing and Individual Equipment (OCIE)Modernization/Moisture Management: Initiates efforts to explore fabric blends, weaves and treatments to assess water repellency, breathability, wearable sensors, mechanical stretch, comfort and durability impacts. Conducts market surveys.	0	373	0
FY06: Combat Eye Protection (CEP): Initiates efforts to leverage and incorporate laser eye protection technology advancements (i.e., scratch and fog resistance) into ballistic goggles and spectacles and assess capability improvements.	0	547	0
FY06: Chemical Protective Ensemble: Initiates development to reduce bulk/weight of current level A/B suit (Self-Contained Toxic Environmental Protective Outfit(STEPO)/Improved Toxicological Agent Protective Ensemble (ITAP)), increase cooling and improve movement capabilities. Builds test samples and performs physical testing and chemical agent testing.	0	483	0
FY06: Self Regulating Thermal Systems (Cold Weather Clothing System/Sleeping System/Medical Blanket): Initiates effort for a Non-layered ensemble that is capable of providing comfort in a wide temperate range. Develops adaptive material and system design features combined with the capability of thermostatic control of the heat/insulation properties of the item by the wearer.	0	667	0
FY06: Army Combat Environmental Clothing System (ACECS): Continues to identify new fabrics, treatments and constuction methods to increase the performance of the Cold Wet Weather Clothing System. Constructs garments for initial technical testing.	0	299	0

FY06: Nuclear, Biological, and Chemical (NBC) Hydration System: Completes User test evaluation on Hydration on the Move initiated in FY05 (under 0603747.669). Initiates NBC Hydration Block II to provide the capability to hydrate hands free while in an NBC environment using commercial off the shelf (COTS) on the move hydration concept of operation. Completes user test evaluation on hydration on the move. Builds samples and performs physical properties and chemical agent testing.	0	246	0
FY07: Individual Soldier Ballistic Protection: Leverages advanced ballistic materials to increase Soldier survivability while decreasing weight, cube and cost. Integrates and enhances the capabilities of Soldier Body Armor, Combat Eyewear, Bomb Suit, Face Shield, Blast Protective Footwear and Combat Helmet capabilities providing head-to-toe protection from current and emerging ballistic/blast threats. Conducts test and evaluation of prototype ballistic ensembles. Develops commonality at the component and subsystem levels to provide a modular layered/integrated ballistic protection system.	0	0	2483
FY07: Soldier Uniforms and Clothing: Leverages advancements in materials, nanotechnology, fabrication techniques, moisture management, flame resistance, antimicrobial treatments, insect protection, extreme environmental protection and advancements in chem/bio protection to increase the capabilities and durability of tactical and non-tactical clothing. Conducts test and evaluation of prototypes. Develops commonality across as broad a spectrum of users as possible to provide a modular integrated uniform/clothing system from skin out and head-to-toe.	0	0	1846
FY07: Individual Equipment: Leverages advancements in technology for load bearing equipment, hydration technologies including water filtration and NBC hydration, and other mission essential and/or mission specific equipment for Soldiers. Initiates Test and evaluate prototype systems. Develop as much commonality as feasible across a broad spectrum of users and mission scenarios.	0	0	1719
FY07: Soldier Cooling: Develops, tests and evaluates advanced lightweight, low power cooling systems for use with NBC and ballistic protection ensembles. Conducts trade-off analyses and system integration providing Soldiers enhanced ability to conduct missions for longer periods of time in extreme environments.	0	0	855
Total	0	6924	6903

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0604713.DL40, Clothing and Equipment	5114	0	0	0	0	0	0	0	5114
RDTE, 0603747.669, Clothing and Equipment	7946	0	0	0	0	0	0	0	7946
RDTE, 0604601A.S60, Clothing and Eq	0	7805	9222	9466	9387	5998	6101	CONT	CONT
OMA, 121017, Central Funding and Fielding	146876	150897	167266	112788	96765	98513	50068	CONT	CONT

C. Acquisition Strategy Programs will pursue normal transition to System Development and Demonstration (SDD) and production. This Project will continue to exercise competitively awarded contracts using best value source selection procedures.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603827A - Soldier Systems - Advanced Development

PROJECT
S53

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
Various	MIPRS	Natick Soldier Center, Natick, MA	0	0		2000	1-2Q	1198	1-2Q	Continue	0	0
Various	Contracts	Various	0	0		2168	1-2Q	2510	1-2Q	Continue	0	0
Subtotal:			0	0		4168		3708		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
Misc Support Costs	MIPR	Various	0	0		1000	1-2Q	1000	1-2Q	Continue	0	0
Subtotal:			0	0		1000		1000		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
Various	MIPRS	Various	0	0		400	1-4Q	655	1-4Q	Continue	0	0
Subtotal:			0	0		400		655		Continue	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
In-House Support		PM CIE Ft Belvoir, VA	0	0		1356	1-4Q	1540	1-4Q	Continue	0	0
Subtotal:			0	0		1356		1540		Continue	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603827A - Soldier Systems - Advanced Development**	**S53**

Project Total Cost:	**0**	**0**		**6924**		**6903**		**Continue**	**0**	**0**

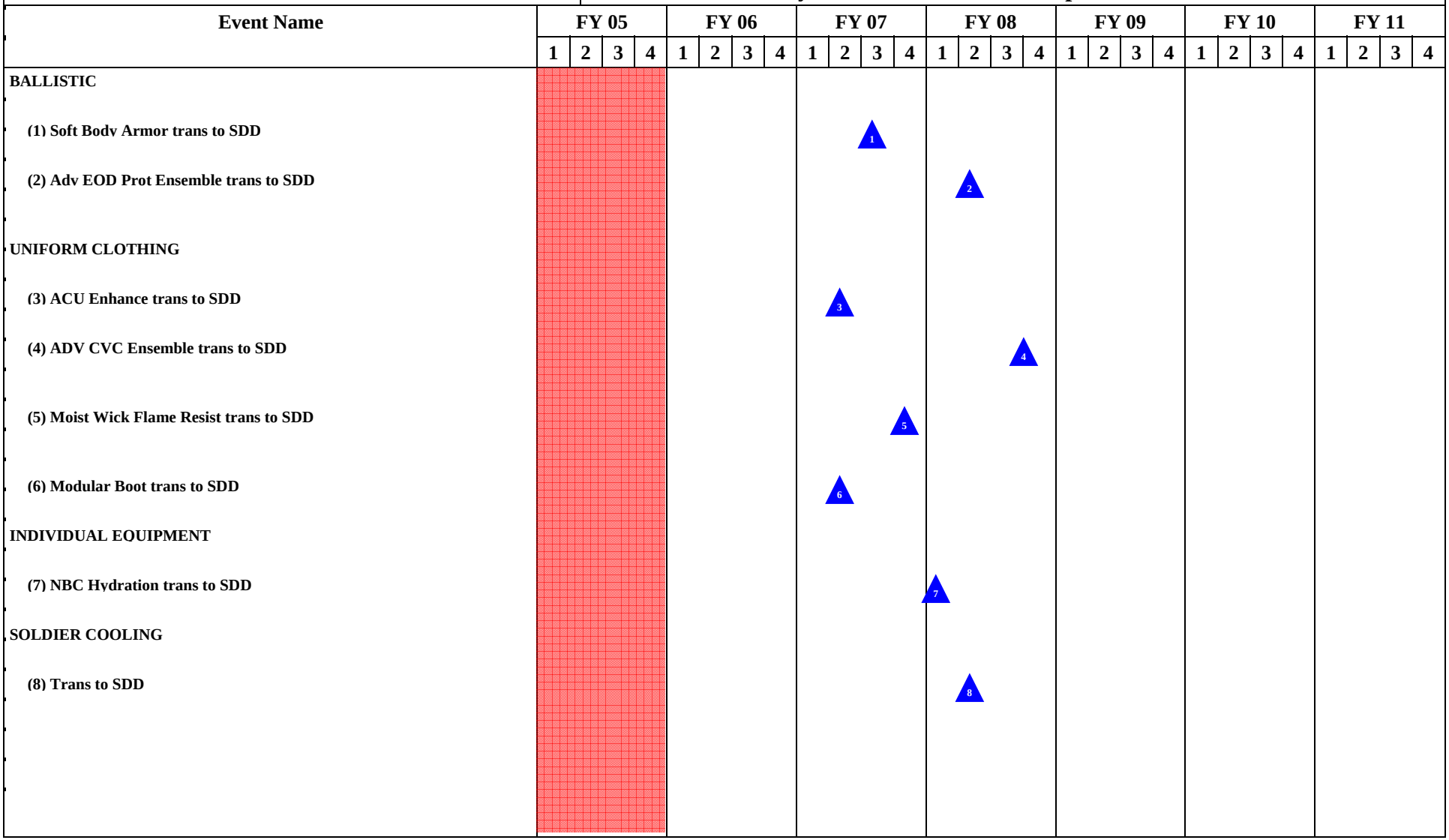
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603827A - Soldier Systems - Advanced Development

PROJECT
S53



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603827A - Soldier Systems - Advanced Development

PROJECT
S53

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Army Combat Uniform User Evaluation Test		1-4Q					
NBC Hydration System User Evaluation Test		1Q					
Modular Boot System Technical Test		1-2Q					
BALLISTIC - SOFT BODY ARMOR TEST & EVAL			1-2Q				
BALLISTIC - SOFT BODY ARMOR TRANS TO SDD			3Q				
BALLISTIC - ADV EOD PROT ENSEMBLE TEST & EVAL			2-4Q	1Q			
BALLISTIC - ADV EOD PROT SENSEMBLE TRANS TO SDD				2Q			
UNIFORM CLOTHING - ACU ENHANCEMENTS TEST & EVAL			1Q				
UNIFORM CLOTHING - ACU ENHANCEMENTS TRANS TO SDD			2Q				
UNIFORM CLOTHING - ADV CVC ENSEMBLE TEST & EVAL			3-4Q	1-2Q			
UNIFORM CLOTHING - ADV CVC ENSEMBLE TRANS TO SDD				4Q			
UNIFORM CLOTHING - MOIST WICK FLAME RESIST UNDERGARMENTS TEST & EVAL			1-3Q				
UNIFORM CLOTHING - MOIST WICK FLAME RESIST UNDERGARMENTS TRANS TO SDD			4Q				
UNIFORM CLOTHING - MODULAR BOOT TEST & EVAL			1Q				
UNIFORM CLOTHING - MODULAR BOOT TRANS TO SDD			2Q				
INDIVIDUAL EQUIPMENT - NBC HYDRATION TEST & EVAL			1-4Q				
INDIVIDUAL EQUIPMENT - NBC HYDRATION TRANS TO SDD				1Q			
SOLDIER COOLING - TEST & EVAL			2-4Q	1Q			
SOLDIER COOLING - TRANS TO SDD				2Q			

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603850A - Integrated Broadcast Service (JMIP/DISTP)**	**472**

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
472	INTEGRATED BROADCAST SERVICE (JMIP/DISTP)	4292	2723	1135	0	0	0	0	0	12046

A. Mission Description and Budget Item Justification: The Integrated Broadcast Service (IBS) is the worldwide DoD standard network for transmitting tactical and strategic intelligence and targeting data within a common format and migrating to a single family of Joint Tactical Terminals (JTT) for improved operational jointness. The JTT is a totally integrated Joint Program (all services and Special Operations Command (SOCOM)) which was created to consolidate and replace existing IBS terminal functionality/capability, with a "common family" of common Integrated Broadcast Service-Modules (CIBS-M) (both hardware and software). This is required to implement the IBS Plan and consolidate/eliminate duplicative efforts. The JTT program leverages, early tech-based efforts initiated by organizations such as the National Reconnaissance Office (NRO). For efforts that contribute to increased value in performance or sustainment, management control will transition to the JTT Joint Program Office (JPO) and capabilities will be integrated into the CIBS-M family of hardware and software modules. The CIBS-M family of modules will be the "sole" provider, ensuring continued IBS interoperability to a variety of tactical receivers across DoD and the services. This program funds the design, development, test and evaluation of initial CIBS-M hardware and software modules, as well as implementing performance enhancements to the family of JTT equipment, and to training, equipping and supporting the warfighter with improved Joint Readiness and Interoperability. This family of modules disseminates encrypted intelligence broadcasts to commanders in a network centric environment. As recommended by the Analysis of Alternatives study concerning the JTT capabilities migration to JTRS, JTT will convert legacy IBS waveforms (IBS-Interactive, IBS-Simplex) to a Software Communication Architecture (SCA) compliant equivalent and deliver those waveforms to the JTRS Joint Program Office (JPO) for inclusion in the JTRS waveform library. JTT will integrate the SCA compliant objective IBS waveform into the JTT system as it becomes available from the JTRS JPO.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Develop and test modules for Software Communications Architecture (SCA) compliant legacy waveforms for JTRS.	2000	0	0
Develop Integrated Broadcast Service (IBS) Common Message Format (CMF) to support migration to the IBS Worldwide standard DOD Network	2292	2723	1135
Total	4292	2723	1135

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603850A - Integrated Broadcast Service (JMIP/DISTP)**	**472**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	4294	2762	0
Current BES/President's Budget (FY 2007)	4292	2723	1135
Total Adjustments	-2	-39	1135
Congressional Program Reductions		-12	
Congressional Rescissions		-27	
Congressional Increases			
Reprogrammings	-2		
SBIR/STTR Transfer			
Adjustments to Budget Years			1135

Change Summary Explanation: Funding - FY 2007: Funds support testing of the Integrated Broadcast Service (IBS) Common Message Format (CMF) to support migration to the IBS Worldwide standard DoD Network.

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
V29600 Other Procurement, Army - JTT/CIBS-M (Tiara),	13702	9862	972	975	721	0	0	0	26232

Comment:

D. Acquisition Strategy Modifications for the design, development and delivery to JTRS JPO of JTRS SCA compliant legacy IBS waveforms has been awarded to Boeing under an existing Air Force contract, to complete ongoing work funded by USAF Airborne Intelligence System Program Office. The CMF development has been awarded to the JTT Original Equipment Manufacturer (OEM). As the broadcast networks continue to evolve and modify their formats and protocols, the JTT program will support IBS and various existing and future radios and host systems.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603850A - Integrated Broadcast Service (JMIP/DISTP)

PROJECT
472

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
JTRS SCA/IBS Modules	MIPR	Air Force/Boeing	2552	1429	1-4Q	0		0		0	3981	3712
Common Message Format	CPFF	Raytheon, St. Petersburg, FL	0	2223	1-4Q	2103	1-4Q	0		0	0	2320
Subtotal:			2552	3652		2103		0		0	3981	6032

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	CECOM/RDCOM, Ft. Monmouth, NJ	720	240	1Q	220	1Q	205	1Q	0	0	0
Subtotal:			720	240		220		205		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
IOT&E support	MIPR	Various	1402	0		0		250	1Q	0	1652	0
JITC DAMA Certification of JTT	MIPR	JITC	400	0		0		235	1Q	0	0	0
Certification of CMF	MIPR	Various	0	0		200	4Q	250	1Q	0	450	0
JTEL Certification of SCA	MIPR	SPAWAR, CA	0	200	4Q	0		0		0	200	0
Subtotal:			1802	200		200		735		0	2302	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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603850A - Integrated Broadcast Service (JMIP/DISTP)

PROJECT
472

Program Management	In House	PM JTT, Ft. Monmouth, NJ	782	200	1Q	200	1Q	195	1Q	0	0	0
Subtotal:			782	200		200		195		0	0	0
Project Total Cost:			**5856**	**4292**		**2723**		**1135**		**0**	**6283**	**6032**

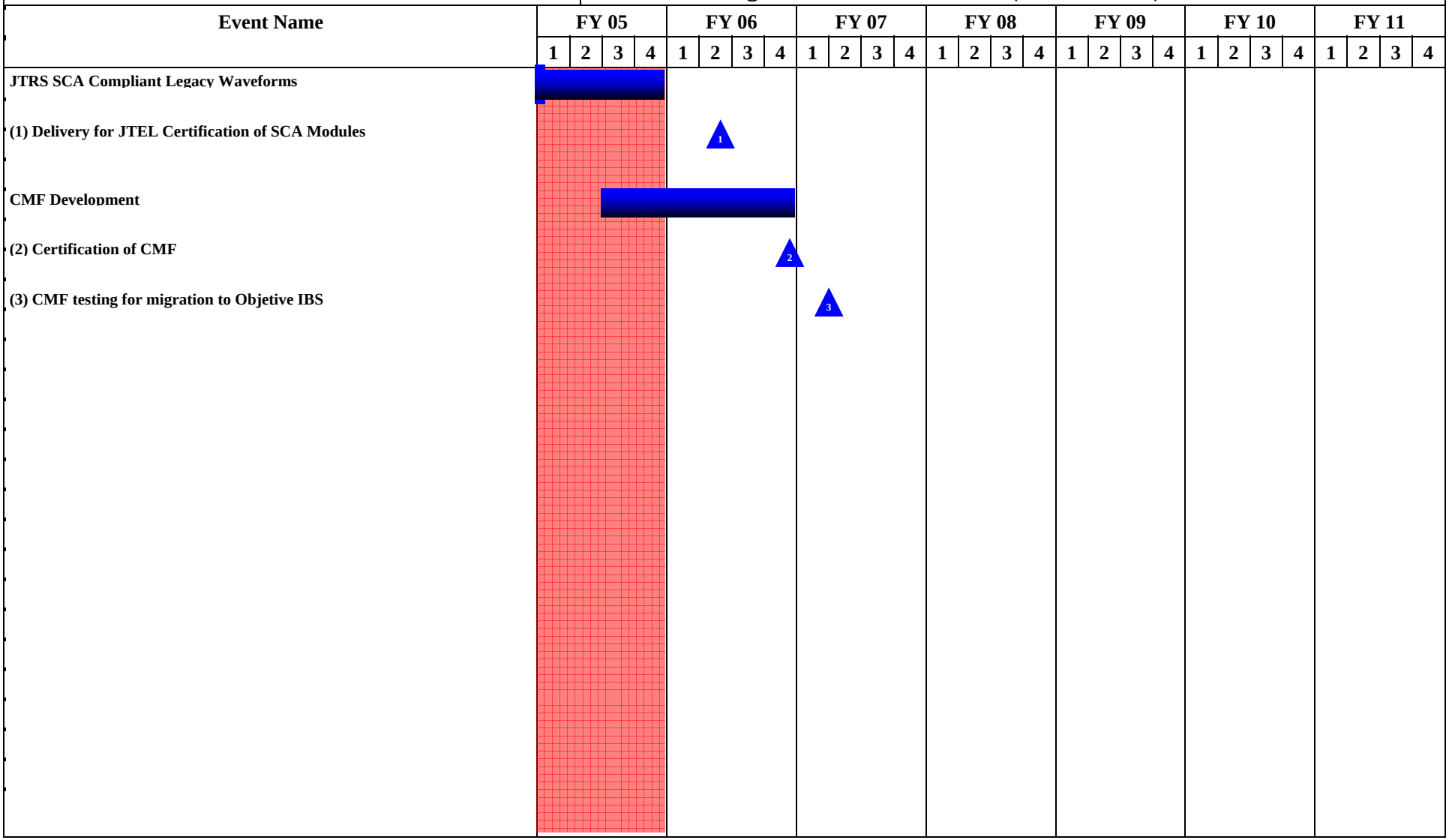
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603850A - Integrated Broadcast Service (JMIP/DISTP)

PROJECT
472



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603850A - Integrated Broadcast Service (JMIP/DISTP)

PROJECT
472

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Dev of SCA Compliant Legacy Waveforms for JTRS	1-4Q						
JTEL Certification of SCA Modules		2Q					
Common Message Format (CMF) Development	3-4Q	1-4Q					
Certification of CMF		4Q					
CMF testing for migration to Objective IBS			1Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603869A - Meads Concepts - Dem/Val**	**01B**

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
01B	MEDIUM EXTENDED AIR DEFENSE SYSTEM (MEADS)	251298	0	0	0	0	0	0	0	488121

A. Mission Description and Budget Item Justification: The MEADS program was approved by the Defense Acquisition Executive (DAE) in an August 2000 Acquisition Decision Memorandum (ADM) to begin a Risk Reduction Effort (RRE) phase. This extended the Project Definition/Validation (PD/V) phase by three years to focus on integrating the PAC-3 missile into the MEADS system concept, identifying and reducing technical risk, developing a cost and schedule consensus for Design and Development (D&D) among the partner nations (Germany, Italy, and United States), and to refine the MEADS concept. In July 2001, MEADS International (MI) was awarded a thirty-two and half month RRE contract. Additional key elements of the RRE scope included full harmonization of the threat and requirements and developing a negotiated Memorandum of Understanding (MOU) for the D&D phase. A 29 July 03 DAB IPR endorsed pursuit of Joint Requirements Oversight Council (JROC) approval of the MEADS requirements and directed further refinement of cost and acquisition strategy development. The Army Requirements Oversight Council (AROC) met on 06 August 2003 and approved the MEADS International Common Operating Requirements (ICOR). A Risk Reduction Effort Modification (RREM) phase was executed in February 2004 as a bridging effort between the RRE and D&D Phases. On 1 July 2004, the DAB approved Milestone B for all three increments of the Patriot/MEADS CAP with a First Unit Equipped date by FY2015. The Acquisition Program Baseline (APB) and Acquisition Strategy were also approved for System Development and Demonstration (SDD). The United States and Italy signed the D&D MOU on September 24, 2004 and September 27, 2004, respectively. The NATO MEADS Management Agency (NAMEADSMA) awarded the MEADS D&D letter contract to MEADS International on September 28, 2004, initiating the MEADS D&D phase. The D&D letter contract definitization process was completed in February 2005. The MOU was amended in March 05 by the U.S. and Italy to allow the German Parliament additional time for their signature decision and on April 22, 2005 Germany signed the MOU. NAMEADSMA awarded a $3.4B D&D definitized contract to MEADS International on May 31, 2005. Within the Combined Aggregate Program there are two synergistic efforts: an international MEADS development effort managed by NAMEADSMA, and a U.S. effort to inject MEADS major end-items into the PATRIOT system in an incremental fashion.

The FY06 RDTE budget postures the Army to move forward with a Patriot/MEADS Combines Aggregate Program (CAP) under PE0604869A for FY06 and beyond. The CAP will provide for the evolution of the Patriot/PAC-3 system to the MEADS objective system through the early introduction of the MEADS Major End Items into the existing PATRIOT force that will be developed and fielded in three acquisition increments.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continued the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational and management budgets to manage the Risk Reduction Effort (RRE), Risk Reduction Effort Modification (RREM) contract and began the Design and Development (D&D) Phase contract to design, develop, build, test and evaluate the production representative MEADS hardware.	129521	0	0
Implemented program integration efforts that will examine Department of Defense (DOD) Joint Integrating Concept and Army Transformation Future Force mix and integration issues; supported Patriot / MEADS CAP in the test and evaluation of Air and Missile Defense (AMD) task force interoperability and Army System-of-Systems (in a netted and distributed architecture); supported development and maintenance of Joint Data Network interface requirements; and appropriate planning of MEADS manpower, training, human factors, safety issues, cost reduction initiatives, and protection of U.S. background technology.	56477	0	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603869A - Meads Concepts - Dem/Val**	**01B**

Continue management, support and salaries for the national and international program offices.	4000	0	0
Continued single canister and engage on remote development. Includes US only efforts to support Missile Segment Enhancement.	61300	0	0
Total	251298	0	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
4 - Advanced Component Development and Prototypes	**0603869A - Meads Concepts - Dem/Val**	**01B**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	251414	0	0
Current BES/President's Budget (FY 2007)	251298	0	0
Total Adjustments	-116	0	0
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings	-116		
SBIR/STTR Transfer			
Adjustments to Budget Years			

The Patriot/MEADS CAP RDTE funding are combined and under PE 0604869A beginning in FY06.

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 0604865A, PAC-3	60408	0	0	0	0	0	0	0	60408
PE 0203801, Patriot Product Improvement	32067	15957	10770	11051	11297	12227	12734	CONT	CONT
SSN C49100, PAC-3 Missile	496990	483260	489067	472907	478795	0	0	0	2421019
SSN C50001, Patriot/MEADS CAP	0	0	0	89735	65296	429735	674386	CONT	CONT
PE 0102419, JLENS	79279	105888	264491	465214	353856	335490	301143	0	1905361
SSN BZ0525, OPA, JLENS	0	0	0	0	0	30471	476728	0	507199
PE 654802, Project S23 SLAMRAAM	63084	35587	26961	10132	0	0	0	0	135764
SSN C81001, SLAMRAAM	2438	19061	22039	59314	82656	82143	60979	0	328630
PE 0604820, SENTINEL	5848	5008	2527	2622	0	0	0	0	16005
SSN WK5057, OPA, SENTINEL	10566	8289	15125	20914	33394	33239	25314	0	146841
PE 0603327, Project E88, Integrated Fire Control AMD	19984	24480	41746	47995	50096	0	0	0	184301

Comment: PAC-3 / MEADS CAP RDTE funding are combined and under PE0604869A in FY06 and beyond. This PE is an integral part of the Air, Space and Missile Defense System of Systems (SoS) including Integrated Fire Control (IFC), JLENS, Patriot/MEADS Combined Aggregrate Program (CAP), SLAMRAAM, JTAGS, SENTINEL and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

D. Acquisition Strategy As a result of the 1 July 2004, the Defense Acquisition Board Milestone B approval for MEADS and all three increments of Patriot/MEADS Combined Aggregate Program with a First Unit Equipped date by FY2015. The NATO MEADS Management Agency (NAMEADSMA) awarded the Design and Development (D&D) contract to MEADS International (MI) in September, 2004. This will develop the objective MEADS system to eventually replace PATRIOT. The US will field this capability in three increments as the Major End Items mature. Increment 1 will re-host the current BMC4I capabilities of the PATRIOT into a smaller TOC. Increments 2 and 3 will subsequently develop remaining major end items such as the MEADS Lightweight/Near Vertical Launcher (reducing airlift requirements), improved BMC4I (integrating SLAMRAAM capability as an early Integrated Air and Missile Defense (IAMD) Program benefits) and software upgrades, the MSE missile (increasing the battlespace), further BMC4I and software upgrades and the new surveillance and fire control radars (providing full 360 degree coverage and further reducing airlift requirement). This PE funded efforts prior to FY06 and is now provided only for completeness. Subsequent RDT&E efforts are funded within PE 0604869A (Patriot/MEADS CAP).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604201A - AIRCRAFT AVIONICS

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	72521	13259	61946	71307	85450	99440	56151	0	543466
C94	JT AVIONICS STNDRDZN	11471	0	0	0	0	0	0	0	13393
C97	ACFT AVIONICS	61050	13259	61946	71307	85450	99440	56151	0	530073

A. Mission Description and Budget Item Justification: This Program Element (PE) funds the development of avionics systems required to horizontally and vertically integrate the battlefield. Tasks in this PE support research efforts in the engineering and manufacturing development phases of these systems.

Aviation Tactical Communication Systems (ATCS) is a Rotary Wing Army Aviation Program that requires RDT&E funds for Alternative Communications and Joint Tactical Radio System (JTRS). Alternative Communications are required as a result of delays in the JTRS program and consist of existing radios requiring no development and meet the minimum acceptable communications capability approved by the Vice Chief of Staff of the Army. Radio integration for this program began May 2005 with the delivery of the first radios to Aircraft Software Integration Labs. RDT&E funds are required to continue the integration, testing and certification of Alternative Communications A and B kits into the AH-64D Block II and III, CH-47F/MH-47G, and UH/HH-60M/MH-60M. JTRS is the transformational system that will provide Army Aviation the required interoperability capability for Future Force and Joint Force operations. These RDT&E funds are required to design, develop, integrate, and qualify the aircraft installation kits (A Kits) and to obtain an Airworthiness Release to use the JTRS in Army rotary wing in the AH-64D, CH-47F, UH/HH-60M, ARH and Special Operations Aircraft (SOA).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604201A - AIRCRAFT AVIONICS

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	79356	23451	34714
Current BES/President's Budget (FY 2007)	72521	13259	61946
Total Adjustments	-6835	-10192	27232
Congressional Program Reductions		-134	
Congressional Rescissions		-58	
Congressional Increases		-10000	
Reprogrammings	-6835		
SBIR/STTR Transfer			
Adjustments to Budget Years			27232

Change Summary Explanation:
FY 06 Congressional reduction $10 Million for JTRS program delay and restructure efforts. .192 General Reductions. FY07 $27,232 increase for intergration, testing and certification of Alternative Communication.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604201A - AIRCRAFT AVIONICS**	**C97**

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
C97	ACFT AVIONICS	61050	13259	61946	71307	85450	99440	56151	0	530073

A. Mission Description and Budget Item Justification: This Program Element (PE) funds the development of avionics systems required to horizontally and vertically integrate the battlefield. Tasks in this PE support research efforts in the engineering and manufacturing development phases of these systems.

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The Improved Data Modem (IDM) is the common solution for digitizing Army Aviation. It performs as an internet controller and gateway to Tactical Internet (TI) and Fire Support (FS) internet for Army aircraft. With interfaces supporting a 6 channel transmit/receive terminal, the IDM provides radio connectivity to the ARC-201D/210/220/231, ARC-186, ARC-164, EPLRS, and the Blue Force Tracker's (BFT) MT-2011 Transceiver, as well as, provide 1553 and Ethernet portals for rapid data transfer. This hardware/software solution also provides a flexible, software driven digital messaging system that is interoperable with existing Army and Joint forces battlefield operating systems. The IDM provides Situational Awareness and Variable Message Format messages capability to the cockpit. These RDT&E funds are required to continue a development and integration effort for an Open Systems Architecture IDM solution compatible with the Common Avionics Architecture System (CAAS) cockpit for the CH-47F and HH/UH-60M helicopters. This effort provides the foundation for future open architecture solutions which will reduce space, weight, and power demands not only for the CAAS aircraft but also matures technology for the AH-64D Block III. Funds also begin development and integration of the Future Combat Systems (FCS) database-to database exchange interoperability standard.

The Joint Precision Approach and Landing System (JPALS) is a precision approach and landing system providing joint operational capability for U.S. forces assigned to conventional and special operations missions including those operating from fixed base, ship, tactical, and austere environments. This effort evaluates technical approaches for incorporating JPALS into Army aircraft while considering aircraft environment, electrical power, system space, weight, antenna placement, and electromagnetic compatibility without nullifying low observable capability requirements; also develops fixed base tactical and man pack ground stations. JPALS supports research efforts in the Joint Technology Development (TD) phase of the modified acquisition life cycle approved by the Defense Acquisition Executive in September of 1998.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue A-Kit development, integration and system testing for AH-64D, CH-47F, and UH-60M (ATCS).	50021	5169	40316
Continue Systems Engineering, Antenna Integration Support and Logistics efforts (ATCS).	3946	629	3908

Continue Program Management support for the A-Kit development (ATCS).	1695	399	997
Continue Test and Evaluation Support (ATCS).	1659	627	1940
Continue to provide system engineering, logistics, programmatic, and technical documentation for JPALS land and sea based development efforts and execute joint Army/Navy/Air Force effort to develop a JPALS capable Embedded GPS Inertial (EGI) receiver. (JPALS)	1774	1783	1820
Continue Program Management Support (JPALS)	39	79	96
Continue development and integration of an open systems architecture IDM solution and Future Combat System (FCS) database-to-database exchange (IDM)	1729	4372	12096
Program Management Support (IDM)	0	124	517
Continue Systems Engineering and Logistics efforts (IDM)	187	77	256
Total	61050	13259	61946

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Airborne Avionics SSN AA0700	28773	60769	109266	122276	64954	145859	165387	CONT	CONT

C. Acquisition Strategy This project is comprised of multiple systems:

1) ATCS consist of the integration efforts required for Alternative Communications and JTRS.

Alt Comms - The delays in the JTRS program leave the modernized Army Aviation helicopter production lines for UH-60M Blackhawk, CH-47F Cargo, and the AH-64D Longbow Apache with a lack of critical government furnished communications equipment until FY 2014 when JTRS is projected to be available. Therefore, the Army will continue integration of Alternative Communications using host platform integration labs and Airworthiness certification. Integration and testing/certification are required to support the FY 2007 aircraft production buys. Without Alternative Communications the new production aircraft will have no communications capability and thus will not be operational under any circumstances. Aviation JTRS Interface Control Document and A-kit development continues as part of the transformational system that will provide Army Aviation the required interoperability capability for the future force.

2) IDM - The non-recurring engineering and software development is used to integrate the IDM into an open systems architecture. The initial effort is to develop a data exchange capability with the CAAS processors. The software will be ported into the CAAS eliminating the requirement for the IDM B Kit.

3) JPALS- The JPALS acquisition strategy is to complete the current risk reduction effort and Technology Development (TD) phase which will lead to the development of a JPALS combined land, sea, and avionics specifications. Using this specification, a JPALS prototype ground station will be tested in both benign and jamming environments prior

to MS B in Apr 06. JPALS avionics functionality will be integrated on a GPS card which will be inserted into the Army's existing avionics (EGI). JPALS integration will be synchronized with the integration of M Code into Army platforms in the FY 2013 timeframe.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604201A - AIRCRAFT AVIONICS

PROJECT
C97

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
ATCS integration, development and system testing for AH-64D, CH-47F, UH-60M (ATCS).	Various	Boeing; Mesa, AZ, PA, & CA; Rockwell Collins, Cedar Rapids, IA; Sikorsky; Stratford, CT	54108	50021	3-4Q	5169	1-3Q	40316	1-3Q	Continue	Continue	Continue
Dev/Integration of an open sys architecture IDM solution and FCS database-to-database exchange(IDM)	SS/CPFF	ICI, McLean, VA	0	1729	2Q	4372	1-3Q	12096	1-3Q	Continue	Continue	Continue
Subtotal:			54108	51750		9541		52412		Continue	Continue	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
System Engineering, Antenna Integration Support and Logistics Efforts (ATCS)	Various	Westar, AL; ARINC, AL; GSA, AL; JVYS, AL; LSSI, MD	0	3946	1-3Q	629	1-3Q	3908	1-3Q	Continue	Continue	Continue
System engineering, logistics, and technical support(JPALS)	MIPR	Various	0	1774	1-3Q	1783	1-3Q	1820	1-3Q	Continue	Continue	Continue
Continue Systems Engineering and Logistics Efforts (IDM)	MIPR	Various	0	187	1-3Q	77	1-3Q	256	1-3Q	Continue	Continue	Continue
Subtotal:			0	5907		2489		5984		Continue	Continue	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
Test and Evaluation (ATCS)	MIPR	Various	542	1659	1-3Q	627	1-3Q	1940	1-3Q	Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604201A - AIRCRAFT AVIONICS**	**C97**

Subtotal:			542	1659		627		1940		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
PM Spt (IDM)	MIPR	AMCOM, AL/PM AME, AL	1245	0		124	1-4Q	517	1-4Q	Continue	Continue	Continue
PM Spt (ATCS)	MIPR	AMCOM, AL/PM AME, AL	4475	1695	1-4Q	399	1-4Q	997	1-4Q	Continue	Continue	Continue
PM Spt (JPALS)	MIPR	AMCOM, AL/PM AME, AL	0	39	1-4Q	79	1-4Q	96	1-4Q	Continue	Continue	Continue
Subtotal:			5720	1734		602		1610		Continue	Continue	Continue
Project Total Cost:			**60370**	**61050**		**13259**		**61946**		**Continue**	**Continue**	**Continue**

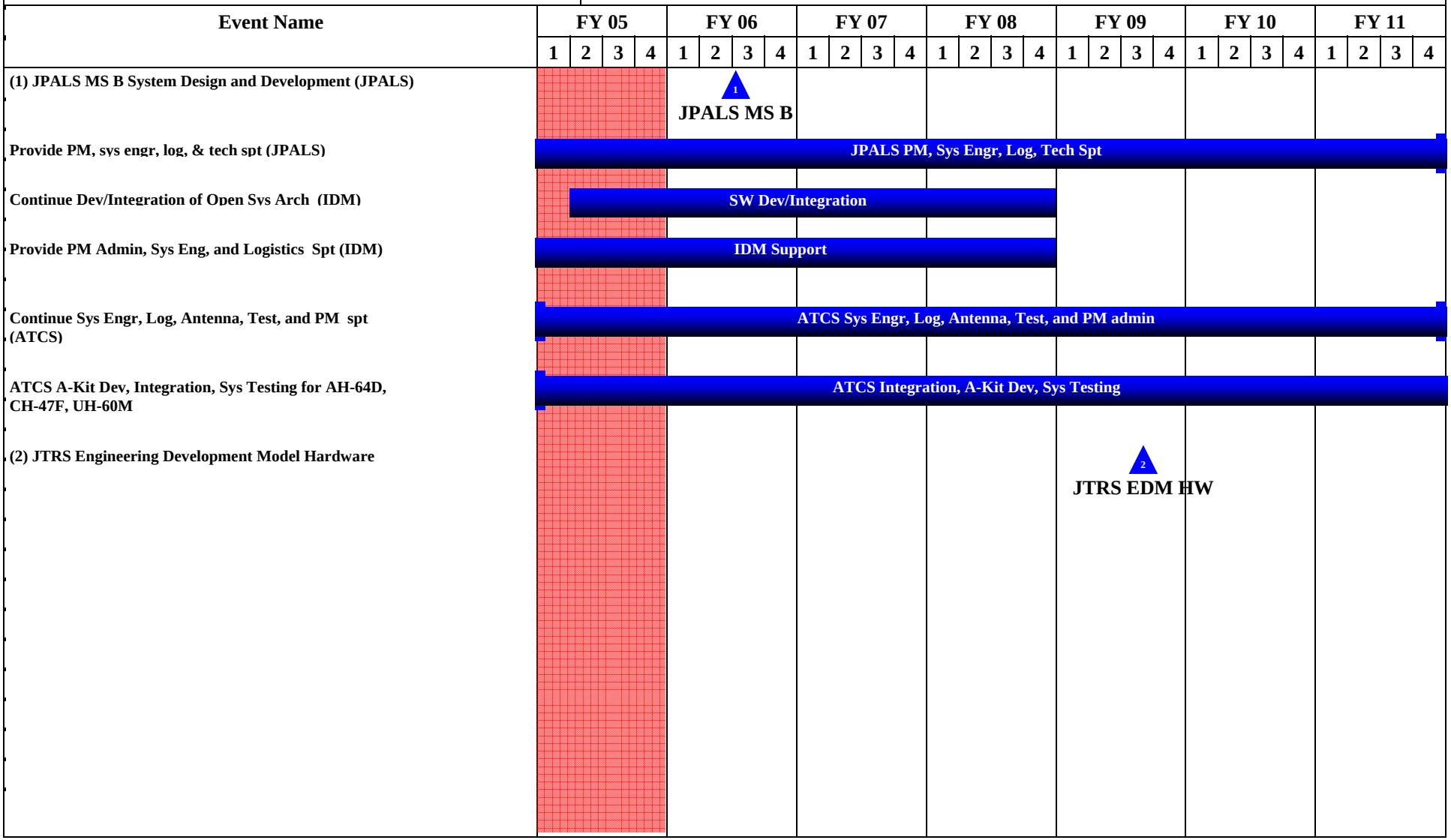
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604201A - AIRCRAFT AVIONICS

PROJECT
C97



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604201A - AIRCRAFT AVIONICS

PROJECT
C97

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
JTRS Engineering Development Model Hardware					4Q		
Continue A-Kit Dev, Integration, and Sys Testing for AH-64D, CH-47F, UH-60M (ATCS)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Continue Test and Evaluation Support (ATCS)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Continue Program Managment support of the A-Kit development (ATCS)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
JPALS MS B System Design and Development		3Q					
Continue PM support, system engineering, logistics, test planning and technical support (JPALS)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Dev/Integration of open sys architecture IDM solution FCS database-to-database exchange (IDM)	2Q	1-4Q	1-4Q	1-4Q			
Continue System Engineering and Logistics Spt (IDM)	1-4Q	1-4Q	1-4Q	1-4Q			
Program Management Support (IDM)		1-4Q	1-4Q	1-4Q			
System Engineering Antenna Integration Support and Logistics Efforts (ATCS)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604220A - Armed, Deployable OH-58D**	**53H**

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
53H	ARMED RECONNAISSANCE HELICOPTER (ARH)	43315	91860	132781	83100	13200	0	0	0	364256

A. Mission Description and Budget Item Justification: The mission of the Armed Reconnaissance Helicopter (ARH) is to provide a robust reconnaissance and security capability for the Joint Combined arms air-ground maneuver team. The ARH is a combination of a modified off-the-shelf (OTS) airframe integrated with a non-development item (NDI) mission equipment package (MEP). The ARH will be fielded to support current forces in the Global War on Terror (GWOT) and will possess the growth potential to bridge the capability gaps to Future Combat Force. The ARH will be a direct replacement for the aging OH58D Kiowa Warrior fleet.

The rapidly reconfigurable ARH provides the space, weight, and power to incorporate the MEP, as Mission, Enemy, Terrain, Troops available, Time and Civilian considerations (METT_TC) dictates, for use in High/hot (4K/95°F with growth potential to 6K/95°F) conditions, complex terrain, and urban environments. The MEP provides a robust communications and navigation suite, advanced state-of-the-art sensor assembly, and self-defense armament capability to fight for, collect, and distribute critical information to all members of the Joint air-ground maneuver team. Specifically, the ARH's robust communication suite when combined with the sensors assembly provides real time delivery of actionable combat information to the joint force while enabling precision employment of Joint sensors and fires.

The ARH will provide a highly deployable, reconnaissance and security capability that will employ immediately upon arrival into theater. The platform will address the capability gaps of interoperability, survivability, versatility, agility, lethality, and sustainability to ensure interoperability over extended ranges, enhance mission effectiveness throughout the operational environment, and focus on system survivability against threats operating in the contemporary operational environment, while reducing the logistical burden on the tactical unit. The fundamental purpose of ARH is to perform reconnaissance and to provide security in combat operations. In doing so, it improves the commander's ability to maneuver and concentrate superior combat power against the enemy at the decisive time and place.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Program Support for Milestone Review Preparation & Source Selection	11342	7313	2895
Aircraft Subsystem Integration and Testing Efforts	29982	71730	112022
Operational Testing and Support	1991	12817	17864
Total	43315	91860	132781

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604220A - Armed, Deployable OH-58D**	**53H**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	43366	13964	0
Current BES/President's Budget (FY 2007)	43315	91860	132781
Total Adjustments	-51	77896	132781
Congressional Program Reductions		-927	
Congressional Rescissions		-419	
Congressional Increases		79242	
Reprogrammings	-51		
SBIR/STTR Transfer			
Adjustments to Budget Years			132781

Change Summary Explanation:
FY06 & FY07 contain funding realignment from APA to RDTE to support the Armed Reconnaissance Helicopter program (+70000/+57427).

FY06 & FY07 funding increases support the Milestone B decision (+7896/+75354).

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
A04203 HELICOPTER, OBSERVATION, Kiowa Warrior Replacement	0	0	141418	354144	648813	634912	580329	0	2359616

Comment:

D. Acquisition Strategy The Milestone B Acquisition Decision Memorandum (ADM) was signed on 27 July 2005. The Armed Reconnaissance Helicopter (ARH) program is in the Systems Development and Demonstration (SDD) phase. SDD contract includes 2 LRIP options. Milestone C review for an LRIP decision is scheduled for 2QTR in FY07.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604220A - Armed, Deployable OH-58D

PROJECT
53H

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
Aircraft Subsystem Integration and Testing Efforts	Cost Plus Incentive Fee	Bell Helicopter Textron, Inc - Fort Worth TX	0	29982	4Q	71730	1-3Q	112022	1-3Q	0	0	0
Subtotal:			0	29982		71730		112022		0	0	0

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Operational Testing and Support	MIPR	Various Activities	0	1991	4Q	12817	1-3Q	17864	1-3Q	0	0	0
Subtotal:			0	1991		12817		17864		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
Program Support for Milestone Review Preparation & Source Selection	Various	PMO ARH, Matrix, Other Government Agencies	0	11342	1-4Q	7313	1-4Q	2895	1-4Q	0	0	0
Subtotal:			0	11342		7313		2895		0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604220A - Armed, Deployable OH-58D**	**53H**

Project Total Cost:	**0**	**43315**		**91860**		**132781**		**0**	**0**	**0**

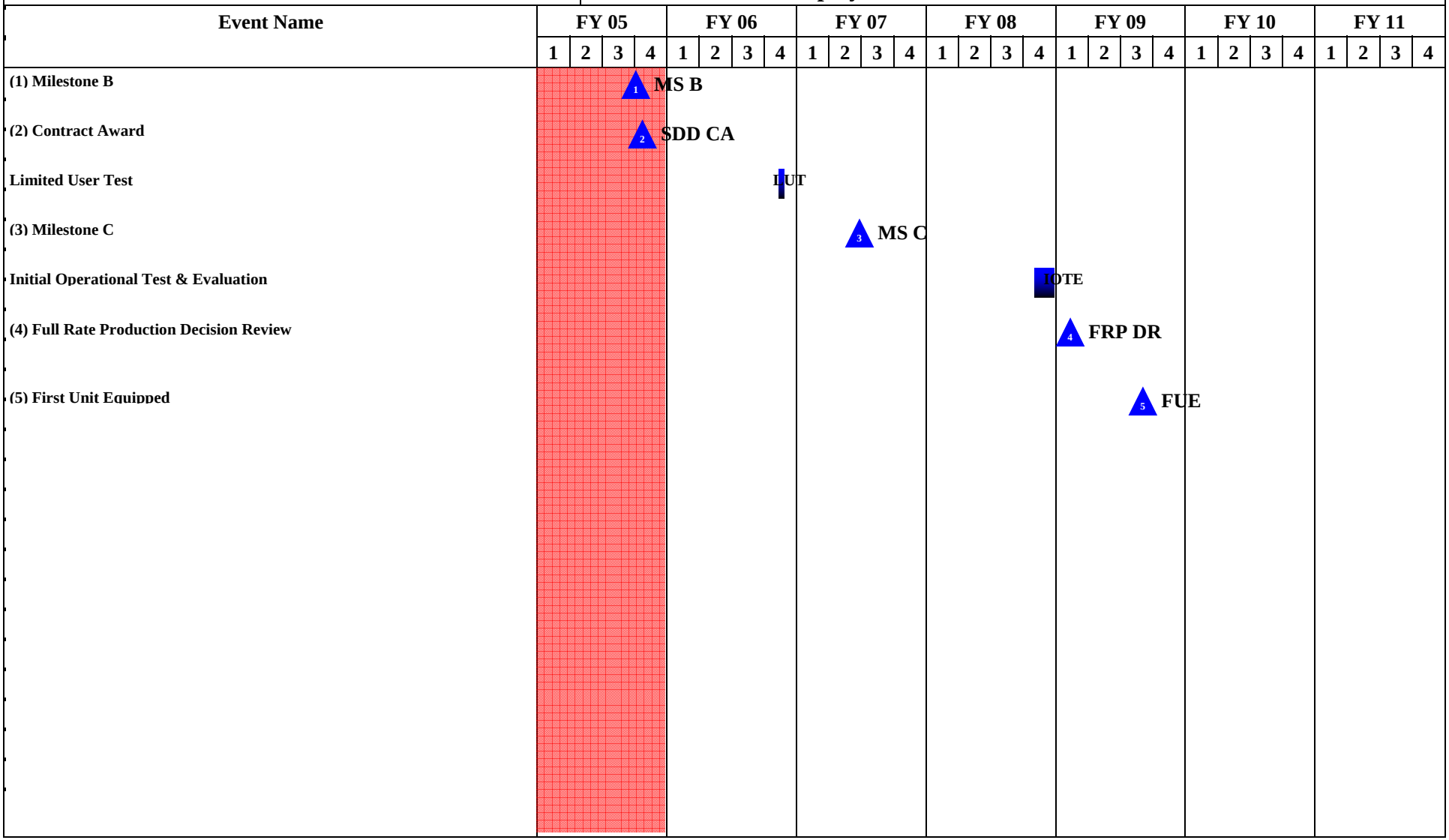
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604220A - Armed, Deployable OH-58D

PROJECT
53H



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604220A - Armed, Deployable OH-58D

PROJECT
53H

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Milestone B	4Q						
SDD Contract Award	4Q						
System Development and Demonstration (SDD)/Testing	4Q	1-4Q	1-4Q	1-4Q			
Milestone C			2Q				
Full Rate Production (FRP)					1Q		
First Unit Equipped (FUE)					3Q		

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)	February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604220A - Armed, Deployable OH-58D**	**53H**

Funding in $000

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Armed Reconnaissance Helicopter (ARH)	37612	71730	32694	3481			
Total Termination Liability Funding:	37612	71730	32694	3481			

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

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	18106	33397	41655	33144	29999	26499	28086	0	280892
665	A/C SURV EQUIP DEV	4205	7236	9160	4097	4098	5174	5691	0	48962
L12	Signals Warfare Development (TIARA)	4089	12879	14685	10684	11099	5174	5174	0	110595
L15	ARAT-TSS	1340	1238	1297	1862	1928	2070	2069	0	16066
L16	TROJAN DEVELOPMENT	1442	1530	1608	1630	1664	1705	1748	0	14071
L20	ATIRCM/CMWS	7030	10514	14905	14871	11210	12376	13404	0	91198

A. Mission Description and Budget Item Justification: This program element encompasses engineering and manufacturing development for tactical electronic warfare (EW), signals warfare (SW), aircraft survivability equipment (ASE), battlefield deception, rapid software reprogramming and protection of personnel and equipment from hostile artillery. EW encompasses the development of tactical EW equipment and systems mounted in both ground and air vehicles. The systems under this program provides the Army with the capability to degrade or deny hostile forces the effective use of their communications, countermortar/counterbattery radars, surveillance radars, infrared/optical battlefield surveillance systems and electronically fused munitions. Existing Army EW systems must be replaced or upgraded to maintain their capability in the face of threats. This program element satisfies requirements for brigade, division, corps and higher commanders to conduct electronic warfare to meet tactical and Special Electronic Mission Aircraft (SEMA), attack/scout, and assault/cargo mission requirements. The Prophet program provides for the development of multifunction ground based and airborne intelligence and electronic warfare systems. Trojan will complete Proof-of-Principle R&D for specific applications in advanced threat signals processing, prototype software upgrades, high frequency (HF) algorithms for compact antenna array technology (CAAT), search and acquisition capabilities for unattended signal collectors, and new digital intelligence collection, processing and dissemination technology. The Army Reprogramming Analysis Team (ARAT) Project will develop, test and equip an Army-wide infrastructure capable of rapidly reprogramming electronic combat software embedded in offensive and defensive weapon systems.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	16515	32179	36032
Current BES/President's Budget (FY 2007)	18106	33397	41655
Total Adjustments	1591	1218	5623
Congressional Program Reductions		-146	
Congressional Rescissions		-336	
Congressional Increases		1700	
Reprogrammings	1591		
SBIR/STTR Transfer			
Adjustments to Budget Years			5623

FY05 Funds realigned to support Prophet Block III SDD efforts. FY 2006 Congressional Increase to Signal Warfare Development of $1.7 Million for Blue Marauder Enhanced Systems.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - EW DEVELOPMENT**	**665**

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
665 A/C SURV EQUIP DEV	4205	7236	9160	4097	4098	5174	5691	0	48962

A. Mission Description and Budget Item Justification: The objective of the Aircraft Survivability Equipment (ASE) Development project is to improve radio frequency (RF) ASE for Army aviation. Milestone Decision Authority (MDA) approved phase 1 of a phased/incremental path forward, this decision was concurred upon by the user and HQDA.

Phase I upgrades the Processor Line Replaceable Unit (LRU) of the AN/APR-39A(V)1 Radar Signal Detecting Set through modernization and reduced parts count. Along with improved maintainability and reliability, performance will be enhanced via increased processing speed and expanded memory. These improvements will result in faster response time, better dense environment capability and improved parameter measurement. Phase 1 serves to make the currently fielded system viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3. Phase 2 initiates development of an improved digital Radar Warning Receiver (RWR) and Phase 3 adds active Electronic Countermeasures (ECM) for selected aircraft.

FY 07 funding completes testing of the AN/APR-39A(V)1 upgrade and begins development of the digital Radar Warning Receiver (RWR).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
In-house and program management administration	705	755	988
Phase I Product Development (AN/APR-39A(V)1 Upgrade)	3500	5481	0
Phase II Product Development (Digital RWR)	0	0	6172
Testing (Qualification, Chamber, etc.)	0	1000	2000
Total	4205	7236	9160

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
AZ3511 SIRFC	0	3651	21125	36564	24003	49152	49237	CONT	CONT

C. Acquisition Strategy The Army Radio Frequency (RF) Aircraft Survivability Equipment (ASE) is managed by Program Director ASE (PD ASE) for integration and installation on Army Aviation platforms. PD ASE proposed a three phased path forward commensurate with user priorities and life cycle management philosophy. Phase 1, approved by MDA, upgrades the currently fielded AN/APR-39A(V)1 Radar Signal Detecting Set which is employed by approximately 3,000 aircraft; awarded sole source via ECP to the existing contractor of the APR-39A. Phase 2 develops an improved digital Radar Warning Receiver for modernized Army platforms by capitalizing on emerging

technologies to provide enhanced aircrew situational awareness. Phase 3 will develop and integrate active Electronic Countermeasures jamming capability for select aircraft. Competition will be considered for the future phases.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
665

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
AN/APR-39(V)1 Upgrade	FFP	Northrop Grumman San Jose, CA	0	3500	3Q	5481	1Q	0		0	0	0
Digital Radar Warning Receiver (RWR)	Comp	TBD	0	0		0		6172	2Q	0	0	0
Subtotal:			0	3500		5481		6172		0	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
Matrix Support	MIPR	Huntsville, AL	0	602	1Q	645	1Q	869	1Q	0	0	0
Contractor Support	C/FFP	Huntsville, AL	0	71	1Q	78	1Q	78	1Q	0	0	0
Subtotal:			0	673		723		947		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
Test and Evaluation	MIPR	ATEC, Alexandria, VA	0	0		250	2-4Q	750	1-2Q	0	0	0
Flight Test/Range Support	MIPR	ECR, Naval Air Warfare Center-WPNS, China Lake, CA	0	0		500	3-4Q	1250	1-2Q	0	0	0
Chamber/E3 Test and Support	MIPR	AED AMCOM	0	0		250	3-4Q	0		0	0	0
Subtotal:			0	0		1000		2000		0	0	0

IV. Management Services	Contract	Performing Activity &	Total	FY 2005	FY 2005	FY 2006	FY 2006	FY 2007	FY 2007	Cost To	Total	Target

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
665

	Method & Type	Location	PYs Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Complete	Cost	Value of Contract
Project Management	In-House	PD ASE	0	32	1-4Q	32	1-4Q	41	1-4Q	0	0	0
Subtotal:			0	32		32		41		0	0	0
Project Total Cost:			**0**	**4205**		**7236**		**9160**		**0**	**0**	**0**

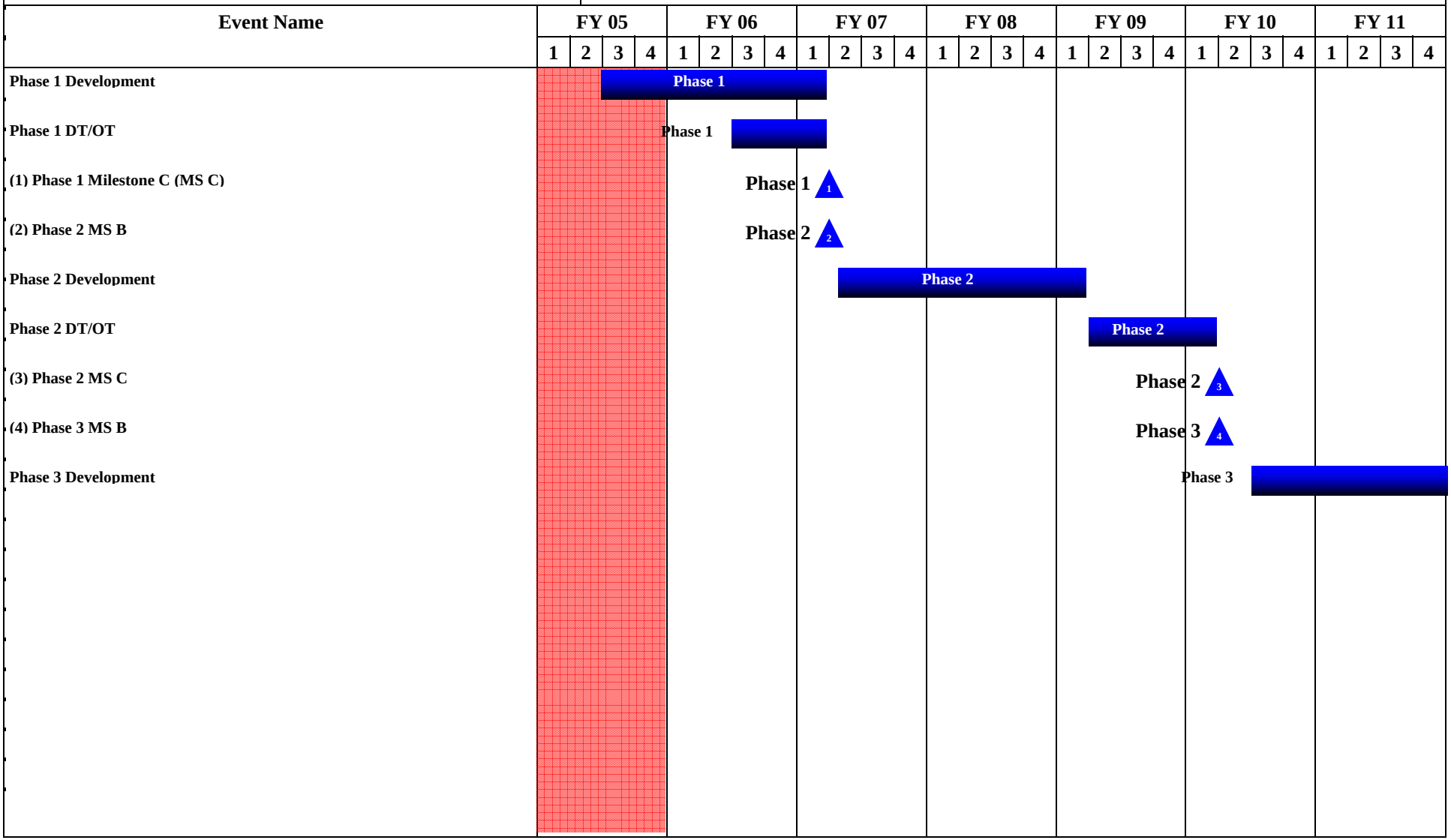
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
665



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
665

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Phase 1 Development	3-4Q	1-4Q	1Q				
Phase 1 DT/OT		3-4Q	1Q				
Phase 1 Milestone C (MS C)			2Q				
Phase 2 MS B			2Q				
Phase 2 Development			2-4Q	1-4Q	1Q		
Phase 2 DT/OT					2-4Q	1Q	
Phase 2 MS C						2Q	
Phase 3 MS B						2Q	
Phase 3 Development						3-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - EW DEVELOPMENT**	**L12**

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
L12	Signals Warfare Development (TIARA)	4089	12879	14685	10684	11099	5174	5174	0	110595

A. Mission Description and Budget Item Justification: Prophet's primary mission is providing 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. Prophet is an integral part of the Army Transformation, providing near real time (NRT) information to the Brigade Commander within his combat decision cycle. It is the tactical commander's sole organic ground-based Signals Intelligence/Electronic Warfare (SIGINT/EW) system for the Division, Brigade Combat Team (BCT), Stryker Brigade Combat Team (SBCT) and Armored Calvary Regiments (ACR). Prophet provides the tactical commander with the next generation SIGINT/EW - radio detection/direction finding and electronic attack capabilities. Prophet stationary and on-the-move direction finding information develops battlespace visualization, intelligence preparation of the battlefield (IPB) and target development for enemy and gray emitters within radio line-of-sight across the brigade area of responsibility. This NRT information when processed provides a key component of the fused intelligence common operating picture (COP). Initially Prophet will interface with the maneuver brigade Analysis Control Team's (ACT) All Source Analysis System (ASAS)-Remote Work Stations (ASAS-RWS) via Prophet Control. Prophet Control is a surrogate for the Distributed Common Ground System-Army (DCGS-A). The ACT forwards the gathered information to the division and armored cavalry Analysis Control Element's (ACE) ASAS. Prophet enables the Brigade Commander to detect signals while the vehicle is moving, a first for a Tactical SIGINT system. Prophet functionality will be resident within the Future Combat System (FCS) and Prophet developed technology as well as Tactics, Techniques and Procedures (TTPs) will be leveraged for the FCS program. Prophet is being developed in a user prioritized block approach: Block I - Electronic Support (ES) (SIGINT), Block II - Electronic Attack (EA), and Block III - Modern Signals. Prophet Block III adds the ability to address modern signals.

FY2007 Funds continue development of Block III, with DT and IOT&E testing in the second half of FY07 to support a FRP Decision in the 1QFY08.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Prophet Block II and III System Development and Demonstration (SDD)	2573	11779	11887
Prepare for and conduct Prophet Block II and III DT/IOT&E	1116	1100	2398
Prepare for Prophet Block II and III LRIP MS C, LUT & FRP decision	400	0	400
Total	4089	12879	14685

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
BZ7326 Prophet Ground (TIARA)	96994	96536	96532	120382	115587	101507	100926	CONT	CONT
PE 030885G Defense Cryptological Program for PROPHET	4015	4040	2872	6565	6560	6781	7116	CONT	CONT
BZ9751 Special Purpose Systems (TIARA) (Prophet Only)	1374	482	3816	2351	2439	2610	3138	CONT	CONT

C. Acquisition Strategy The Prophet Acquisition Strategy is structured to optimize system capability while reducing risk and streamlining business and engineering processes. Block I ES (SIGINT) Engineering and Manufacturing Development (EMD) was a sole source effort which leveraged off existing COTS equipment. Follow-on Block II (EA) and Block III (Modern Signals) efforts were combined into a single SDD phase following an evolutionary acquisition process. Block II/III SDD was competitively awarded in 2QFY03. Following MS C review the Block II(EA) entered LRIP, contract awarded under Cost Plus Incentive Fee, and Block III continued in the SDD phase (using current SDD contract). A Block III (Interim) capability was approved for production under a CPIF contract.
Prophet P3I efforts will utilize competitive contracting to the maximum extent possible.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L12

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
Prophet Block II/III SDD Contract	C-CPIF	General Dynamics Decision Systems, Scottsdale, AZ	30380	2741	1Q	7885	2Q	9573	1Q	0	50579	0
Prophet Block II/III GFE	FFP	Titan Systems	1768	0		0		0		0	1768	0
Prophet Modeling and Simulation	C/T&M	CACI, Alexandria, VA	1000	0		250	2Q	350	1Q	0	1600	0
Leviathon Development and Prototyping	CPFF	Sensytech, Newington, VA	963	0		0		0		0	963	0
Subtotal:			34111	2741		8135		9923		0	54910	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
Matrix Support	MIPR	CECOM, Fort Monmouth NJ	6907	0		463	1-2Q	486	1Q	0	7856	0
Contractor Eng & Spt	C/T&M	Sytex Group, Eatontown, NJ	708	0		150	2Q	150	1Q	0	1008	0
Contractor Eng & Spt	C/T&M	CACI, Eatontown, NJ	2425	0		0		0	1Q	0	2425	0
TSM/NSTO	MIPR	TSM, Ft Huachuaca, AZ	603	0		0		0		0	603	0
Contractor Eng & Spt	C/T&M	Dynetics, Huntsville, AL	60	0		0		0		0	60	0
Contractor Eng & Spt	C/T&M	DSCI, Eatontown, NJ	0	0		114	1Q	120	1Q	0	234	0
Contractor Eng & Spt	C/T&M	TBD	0	0		918	2Q	992	1Q	0	1910	0
Subtotal:			10703	0		1645		1748		0	14096	0

III. Test And Evaluation	Contract Method &	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award	FY 2006 Cost	FY 2006 Award	FY 2007 Cost	FY 2007 Award	Cost To Complete	Total Cost	Target Value of

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L12

	Type				Date		Date		Date			Contract
Prepare for and Conduct Prophet Block II and III DT, LUT/IOTE	MIPR	EPG/AEC	5654	1100	1Q	2512	1-3Q	2398	1Q	0	11664	0
Subtotal:			5654	1100		2512		2398		0	11664	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
Program Management	In-House	PM, Signals Warfare, Fort Monmouth NJ	5504	248	1-4Q	587	1-4Q	616	1-4Q	0	6955	0
Program Support	MIPR	ASPO, Alexandria, VA	204	0		0		0		0	204	0
Subtotal:			5708	248		587		616		0	7159	0
Project Total Cost:			**56176**	**4089**		**12879**		**14685**		**0**	**87829**	**0**

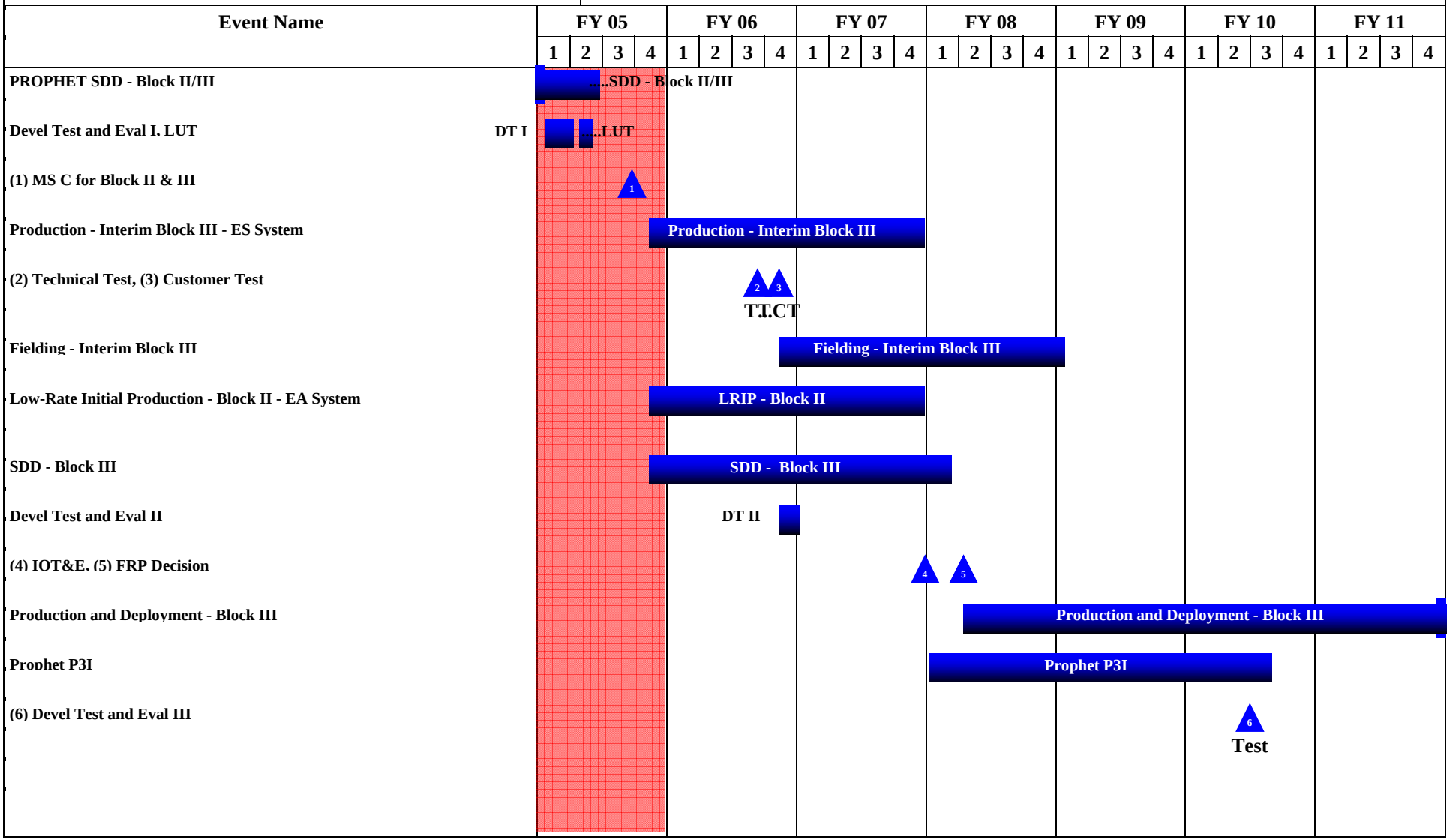
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L12



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L12

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Conduct Block II/III DT/LUT	1-2Q						
Milestone C PROPHET Block II & III	3Q						
Production - Interim Block III - ES System	4Q	1-4Q	1-4Q				
Technical Test		3Q					
Customer Test		4Q					
Fielding - Interim Block III - ES System		4Q	1-4Q	1-4Q	1Q		
Low-Rate Initial Production - Block II - EA System	4Q	1-4Q	1-4Q				
SDD - Block III	4Q	1-4Q	1-4Q	1Q			
Developmental Test and Evaluation		4Q	1Q				
IOT&E				1Q			
FRP Decision				2Q			
Production and Deployment - Block III				2-4Q	1-4Q	1-4Q	1-4Q
Prophet P3I				1Q	1-4Q	1-3Q	
Developmental Test and Evaluation						2Q	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - EW DEVELOPMENT**	**L15**

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
L15 ARAT-TSS	1340	1238	1297	1862	1928	2070	2069	0	16066

A. Mission Description and Budget Item Justification: The Army Reprogramming Analysis Team (ARAT) Target Sensing System (TSS) supports the tactical Commander by providing timely/rapid reprogramming of any Army supported, joint, allied service, Army Electronic Warfare (EW) Integrated Reprogramming (EWIR) or Measurement Intelligence (MASINT) based target acquisition, target engagement, or vehicle/aircraft survivability equipment (ASE). ARAT provides software changes not readily possible by operator input, to respond to rapid deployments or changes in the threat environment. The ARAT Software Engineering (SE) Project Office coordinates the development of ARAT infrastructure to support the needs of all TSS developers and users; develops the capability to conduct real-time hardware and software technical enhancements of validated threat changes; examines and identifies the best technical approaches for development of field reprogramming capabilities of ATSS with commonality at a desired end-state; supports the developments of flagging models; participates in the operational and developmental test design of ATSS; and supports Service and JCS Reprogramming Exercises.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Engineering Development (TSS Survey): Complete the Survey initiated in FY02 to identify TSS requiring support in Army Battlefield Functional Area (BFAs) with a focus on operational, technical, and intelligence aspects. This would include technical information about the actual TSS and their near and far term support requirements for intelligence collection, flagging, and threat analysis, Mission Data Set (MDS), communications, and filed support.	150	150	172
Engineering Development (TSS Survey): Initiate a Target Sensing System (TSS) Survey requiring support in Army Battlefield Functional Area (BFAs) with a focus on operational, technical, and intelligence aspects. This would include technical information about the actual TSS and their near and far term support requirements for intelligence collection, flagging, and threat analysis, Mission Data Set (MDS), communications, and filed support.	0	0	0
Intelligence Support (Platform Intelligence Integration): Analyze capability of using data from US Army Aviation Platform systems to increase tactical situational awareness as well as providing additional intelligence collection data. This would include evaluation of system modifications.	288	250	250
Intelligence Support (Platform Intelligence Integration): Building on the work completed in FY02 determine individual platform benefits vs. potential costs to upgrade systems on each Aviation platform. Initiate lab testing of potential system updates to verify the additional benefit and identify intelligence collection methodology to integrate the collected intelligence data onto an intelligence network.	246	252	255
Database Support (Flagging Model): Work jointly with the USAF at Kelly AFB, TX to complete the conversion of the current flagging database structure shared by the US Army and USAF flagging models to a more modern database structure. In addition, initiate converting the US Army flagging models over to the new database structure.	181	150	130
Database Support (Flagging Model): Work jointly with the USAF at Kelly AFB, TX to initiate the conversion of the current flagging database structure shared by the US Army and USAF flagging models to a more modern database structure.	0	0	0
Dissemination (EWOSS/MLV): Complete an upgrade of EWOSS 2000 communications tool for the field user by improving the classified	0	0	0

connection capability and integrating all aspects of current MLV software as modules within the basic structure. In addition, develop training aids to facilitate the field user being able to successfully use this software without attending a formal training course.			
Dissemination (EWOSS/MLV): Using the upgraded EWOSS 2000 software, define and internally alpha test a common MLV system with flexible data protocols to support the associated cables and protocols required for each US Army TSS being reprogrammed. After completing alpha testing, initiate beta testing with field users including the use of the training aids developed in FY02.	0	0	0
Engineering Development, Intelligence Support, Database Support, & Dissemination (Common Intel Database): Define requirements for a common intelligence database analysis and MDS tool for use by ARAT-TA (Kelly and Eglin AFBs) and ARAT-SE. The functionality must include common user interface, intelligence inputs, modular threat analysis and MDS generator tools, and output formats to support intelligence reporting, RF scenarios inputs and MDS inputs for EWOSS/MLV to leverage the use of existing tools such as the Major Radar Database (MRDB) as much as practical.	200	200	200
Engineering Development, Intelligence Support, Database Support, & Dissemination (Common Intel Database): Using the requirements definition completed in FY02, initiate the development of the common intelligence database analysis and MDS tool. Complete the user interface, database structure, output formats, and placeholders for the internal threat analysis and MDS generator tools.	275	236	290
Total	1340	1238	1297

C. Acquisition Strategy The efforts to be funded in this project will require a combination of systems specific and high-tech knowledge. The contractual services portion for the project will be obtained from both the CECOM SEC competitive omnibus and the RDEC High Tech contracts.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L15

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
Labor (internal Gov't)	Labor (internal Gov't)	CECOM, Fort Monmouth, NJ	1647	518	1-4Q	480	1-4Q	502	1-4Q	Continue	0	Continue
Travel	Travel	TBD/Various sites	154	60		60	1-4Q	60	1-4Q	Continue	334	Continue
Subtotal:			1801	578		540		562		Continue	334	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
Development Support (INSCOM Full Spectrum)	Development Support (INSCOM)	TBD/Various sites	1100	265	1-4Q	303	1-4Q	325	1-4Q	Continue	1993	Continue
Development Support (CECOM RDEC T&E CECOM SEC Omnibus)	Development Support (CECOM)	TBD/Various sites	1512	186	1-4Q	412	1-4Q	390	1-4Q	Continue	2500	Continue
Subtotal:			2612	451		715		715		Continue	4493	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
Labor and ranges	TBD	TBD	500	0		0		0		0	500	0
Subtotal:			500	0		0		0		0	500	0

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

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L15

	Type				Date		Date		Date			Contract
Labor (Int and Contact)	TBD	CECOM and INSCOM	1233	311	1-4Q	0		0		Continue	Continue	Continue
Subtotal:			1233	311		0		0		Continue	Continue	Continue
Project Total Cost:			**6146**	**1340**		**1255**		**1277**		**Continue**	**Continue**	**Continue**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - EW DEVELOPMENT**	**L16**

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
L16	TROJAN DEVELOPMENT	1442	1530	1608	1630	1664	1705	1748	0	14071

A. Mission Description and Budget Item Justification: This project is a Tactical Intelligence and Related Activities (TIARA) program. TROJAN RDT&E supports TROJAN Classic XXI (TCXXI) future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance (ISR) support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of the Objective Force and Future Combat System (FCS), TCXXI will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty (MOS) proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure collaborative architecture.

A key factor for success the Objective Force and FCS will be the ability to collect, process and use information about an adversary while preventing similar information from being disclosed. TROJAN is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. TROJAN operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. This project engineers, tests and evaluates new digital intelligence collection, processing and dissemination technology using the fielded TROJAN systems, prior to the acquisition of those technologies. As part of the Objective C4ISR Architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that TROJAN keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threats

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms.	500	150	300
Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.	0	150	100
Develop prototype QRC Receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGA technologies.	692	302	527
Integrate Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups (RRGs).	250	0	400
Develop hardware/software interface for TCXXI system to ONEROOF storage system	0	350	0
Develop specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy & throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies.	0	578	281
Total	1442	1530	1608

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - EW DEVELOPMENT**	**L16**

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA BA0331 Trojan	5719	6067	7557	7627	7757	7878	8000	0	50605

C. Acquisition Strategy This Acquisition Strategy for the TROJAN Classic XXI System supported by TROJAN RDT&E is to adapt and leverage from Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) products. Additionally leverage off of development by DoD and other Government agencies to the greatest extend possible. TROJAN RDT&E is used to fund the development of enhancing these technologies to meet specific user requirements. The funding for production and fielding of these capabilities are funded under TROJAN BA0331.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L16

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
Develop Prototype QRC Receiver packages	MIPR	CERDEC I2WD Ft Monmouth	1021	842	2-3Q	302		527		Continue	1983	Continue
Develop DF Capabilities for TROJAN RRG	MIPR	CERDEC I2WD Ft Monmouth	250	0	1-2Q	0		400		Continue	650	Continue
Investigate Compression /processing technologies	MIPR	CERDEC I2WD Ft Monmouth	938	100		0		0		Continue	1038	Continue
Develop specialized software enhancements to TROJAN audio streaming	MIPR	CERDEC I2WD Ft Monmouth	0	0	2-3Q	578		281		0	859	0
Develop hardware/software interface to ONEROOF	MIPR	CERDEC I2WD Ft Monmouth	0	0	2-3Q	350		0		0	350	0
Subtotal:			2209	942		1230		1208		Continue	4880	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
Aquire & Apply muliti bandwidth compr Algorithm	MIPR	CECOM I2WD FT Monmouth	500	0		150		100		Continue	750	Continue
Subtotal:			500	0		150		100		Continue	750	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
Integrate/test hardware/software	MIPR	CECOM I2WD FT Monmouth	1000	500	2-3Q	150		300		Continue	1950	Continue
Operational test/eval of enhanced SIG Processing	MIPR	CECOM I2WD Ft Monmouth	429	0		0		0		Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - EW DEVELOPMENT**	**L16**

Subtotal:			1429	500		150		300		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
Subtotal:			0									
Project Total Cost:			**4138**	**1442**		**1530**		**1608**		**0**	**7580**	**0**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604270A - EW DEVELOPMENT**	**L20**

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
L20	ATIRCM/CMWS	7030	10514	14905	14871	11210	12376	13404	0	91198

A. Mission Description and Budget Item Justification: The Advanced Threat Infrared Countermeasure (ATIRCM) is a US Army program to develop, test, and integrate defensive infrared (IR) countermeasures capabilities into existing, current generation host platforms for more effective protection against a greater number of IR- guided missile threats than afforded by currently fielded IR countermeasures. The US Army operational requirements concept for IR countermeasure systems is known as the Suite of Integrated Infrared Countermeasures (SIIRCM). It is an integrated warning and countermeasure system to enhance aircraft survivability against IR guided threat missile systems. The core element of the SIIRCM concept is the Advanced Threat Infrared Countermeasure (ATIRCM), Common Missile Warning System (CMWS) Program. The ATIRCM/CMWS, a subsystem to a host aircraft, is an integrated ultraviolet (UV) missile warning system and an IR Lamp/Laser Jamming and Improved Countermeasure Dispenser (ICMD).

The CMWS also functions as a stand-alone system with the capability to detect missiles and provide audible and visual warnings to the pilot(s); and, when installed with the ICMD, activates expendables to provide a degree of protection. ATIRCM/CMWS is the key IR survivability system for Future Force Army aircraft.

The A-Kit is the modification hardware, wiring harness, cable, etc., necessary to install and interface the ATIRCM/CMWS Mission Kit to each platform. The A-Kit ensures the Mission Kit is functionally and physically operational with the host platform.

The Mission Kit consists of the ATIRCM/CMWS which performs the missile detection, false alarm rejection, and missile declaration functions of the system. The Electronic Control Unit (ECU) of the CMWS sends a missile alert signal to on-board avionics and other Aircraft Survivability Equipment (ASE) such as expendable flare dispensers. Threat missiles detected by the CMWS are handed over to the ATIRCM.

FY07 funding supports testing of the ATIRCM system and begins modernization efforts.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Product Development	0	900	1000
Support Cost	0	0	0
Test and Evaluation	7030	9314	13605
Management Services	0	300	300
Total	7030	10514	14905

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
APA, BA 4 AZ3507 ASE Infrared CM	322569	209252	305631	370472	426528	322112	246620	369937	2709136

C. Acquisition Strategy Funding supports an acquisition strategy of buying CMWS separately from ATIRCM, while installing A-kits on all modernized aircraft. The current production contract is a fixed-priced, five year, Indefinite Delivery, Indefinite Quantity (IDIQ) contract to BAE Systems. Due to acceleration of CMWS, the acquisition strategy has changed to account for separate IOT&E's and Full Rate Production decisions for CMWS and ATIRCM. Based on the Army IOPT's recommendation to the AAE in Nov 05, the CMWS will enter the Full Rate Production and Deployment phase of the acquisition, upon completion of the Beyond LRIP Report to Congress in 2FY06. The AAE approved the ATIRCM path forward in December 05 with the incorporation of the Multi-band Laser into the production baseline. Schedule and costs have been updated to reflect the revised strategy.

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L20

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
AIRCMM	C/CPIF	Thiokol, Brigham City, UT	8451	0		0		0		0	1563	1563
ATIRCM EMD Basic Contract	C/CPAF	BAE Systems, Nashua, NH	23574	0		0		0		0	23574	23574
ATIRCM 6 Lot/EMD/RDT	SS/CPFF	BAE Systems, Nashua, NH	56675	0		0		0		0	56675	56675
ATIRCM	C/CPFF	Cowley, Chantilly, VA	100	0		0		0		0	100	100
Test Facility	C/CPFF	Amherst, Huntsville, AL	1300	0		0		0		0	1300	1300
Modeling and Simulation	C/FFP	CAS, Huntsville, AL	600	0		900	1-2Q	1000	1-2Q	4600	7100	7100
Modernization Efforts	Various	TBD	1062	0		0		0	1-3Q	3209	4271	6944
Tier 2/3 Threat Upgrades	Various		0	0		0		0		13616	13616	14709
Subtotal:			91762	0		900		1000		21425	108199	111965

Remarks: FY99 & Prior funding in Project 665

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
Contractor Support	C/FFP	Huntsville, AL	9554	0		0		0		0	9554	9554
Matrix Support	MIPR	CECOM, Ft Monmouth NJ; AMCOM, Huntsville AL	3055	0		0		0		0	3055	0
Subtotal:			12609	0		0		0		0	12609	9554

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
Technical Support for User Tests	MIPR	Electronic Proving	7548	0		1000	1-4Q	1000	1-3Q	1000	10548	0

		Ground, Ft. Huachuca, AZ										
ATIRCM E2E	MIPR	TSMO	0	0		0		0		0	0	0
ATIRCM ACR3 in support of IOT&E	MIPR	WSMR	0	0		0		0		4000	4000	0
ATIRCM/CMWS IOT&E	MIPR	ATEC and others	9616	1481	1-4Q	0		0		3000	14097	0
Test Support	MIPR	ATTC, Ft. Ruckel, AL; RTTC, Redstone Ars, AL	4849	39	1-4Q	3000		500	1-3Q	6527	14915	0
Test Support	C/FFP	Westar, Huntsville, AL and Neer/Thomsen, Huntsville, AL	3222	297	1-4Q	0		0		0	3519	3519
Test Support With Live Missile Firing. Data Gathering and System Evaluation	MIPR	PM, Instrumentation Targets and Threat Simulators (ITTS) and 46th Test Wing, Eglin AFB, FL	2800	1150	1-4Q	0		0		0	3950	0
Test Support	C/FFP	BAE Systems, Eglin AFB, FL	0	0		1000	1-4Q	1000	1-3Q	1000	3000	3000
SMEOS Phase 2	C/FFP		0	296	1-4Q	0		0		0	296	296
Simulation And Evaluation	MIPR	TSMO, Redstone Arsenal, AL	0	65	1-4Q	0		0		0	65	0
Missiles and Telemetry Kits for Testing	MIPR	Various	0	3702	1-4Q	2000	1-2Q	2200	1-3Q	4100	12002	0
Guided Weapons Evaluation Facility (GWEF)	MIPR	46th Test Wing, Eglin AFB, FL	0	0		0		200	1-3Q	900	1100	0
ATIRCM Test Flights	MIPR	ATTC, Ft. Ruckel, AL; RTTC, Redstone Ars, AL	0	0		2314	1-2Q	0		2200	4514	0
Tier I Threat Verification Testing/Missile Shots	MIPR	Various	0	0		0		3500	1-3Q	2000	5500	0
Tier I Threat Verification Testing/FAR Trolling	MIPR	ATTC, Ft. Ruckel, AL; RTTC, Redstone Ars, AL	0	0		0		1500	1-3Q	1500	3000	0
AWR Testing	MIPR	ATTC, Ft. Ruckel, AL;	0	0		0		1200	1-3Q	0	1200	0

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L20

		RTTC, Redstone Ars, AL										
Delta A-Kit for UH-60	MIPR	Various	0	0		0		1000	1-3Q	0	1000	0
Captive Seeker Test	MIPR	TBD	0	0		0		0		1200	1200	0
Sled Test #2	MIPR	TBD	0	0		0		0		1000	1000	0
PM Jammer Test	MIPR	TBD	0	0		0		0		809	809	0
MBL Testing	MIPR	Various	0	0		0		1505	1-3Q	0	1505	0
Subtotal:			28035	7030		9314		13605		29236	87220	6815

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
Project Management	In house support	PM AES, Huntsville, AL	5336	0		300	1-4Q	300	1-4Q	1200	7136	0
Congressional Adjustments			0	0		0		0		0	0	0
Subtotal:			5336	0		300		300		1200	7136	0
Project Total Cost:			**137742**	**7030**		**10514**		**14905**		**51861**	**215164**	**128334**

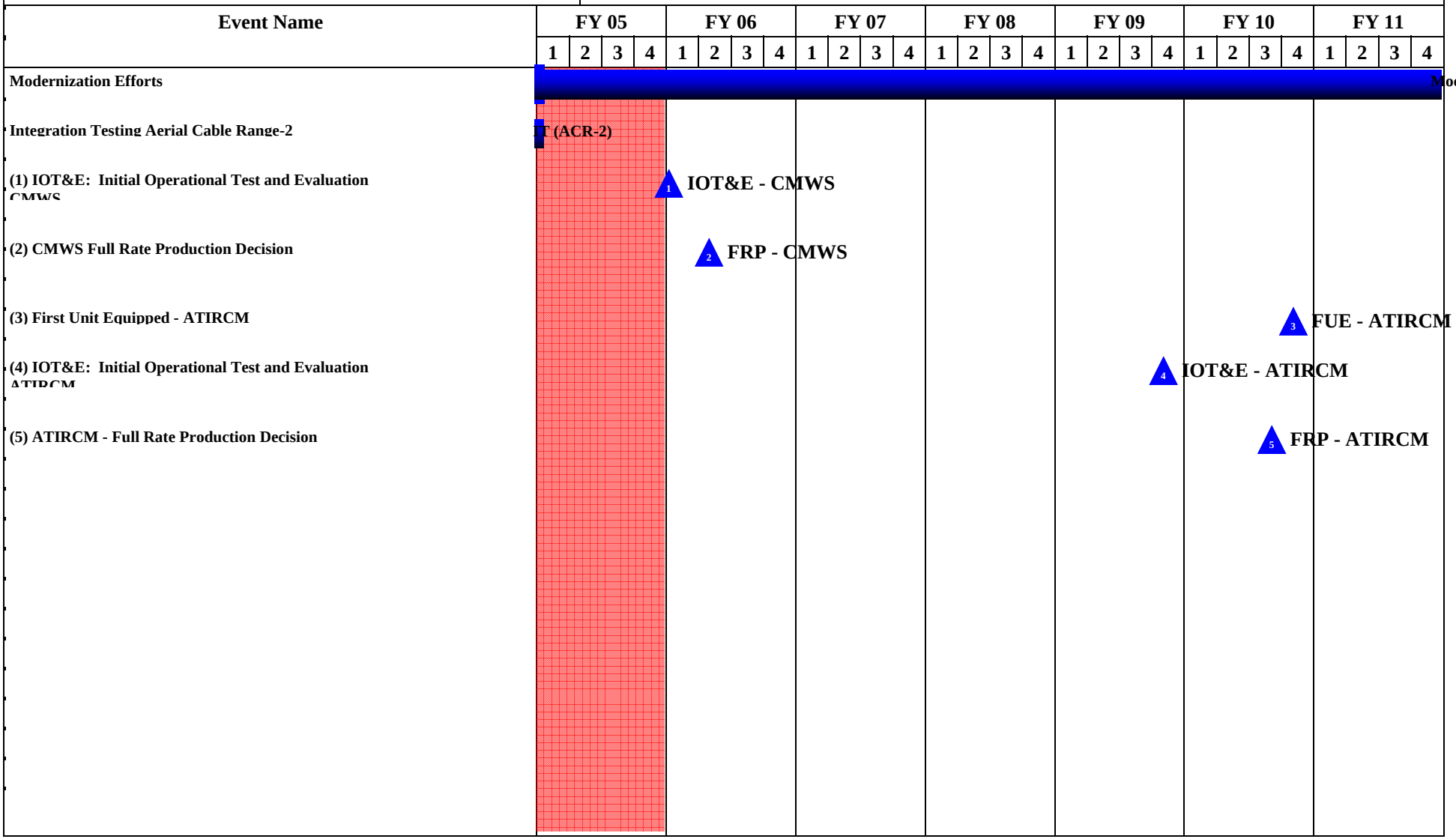
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L20



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604270A - EW DEVELOPMENT

PROJECT
L20

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Incremental Improvements			3-4Q	1-4Q	1-4Q		
Integration Testing Aerial Cable Range-2	1Q						
IOT&E: Initial Operational Test and Evaluation - CMWS		1Q					
CMWS Full Rate Production Decision		2Q					
ATIRCM End-to-End Modeling and Accreditation						1-2Q	
IOT&E: Initial Operational Test and Evaluation - ATIRCM					4Q		
ATIRCM - Full Rate Production Decision						3Q	
ATIRCM First Unit Equipped						4Q	
DT/OT				3Q	1-4Q	2Q	
Flight Tests	2Q	1-4Q	1-4Q	1-4Q	1-4Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604280A - Joint Tactical Radio System**	**162**

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
162	JOINT TACTICAL RADIO SYSTEM	151274	139546	832259	285870	271043	198127	98178	0	2167800

A. Mission Description and Budget Item Justification: The mission of the Joint Tactical Radio System (JTRS) is to provide the Department of Defense (DoD) with software programmable, reconfigurable digital radio systems to meet Joint Vision (JV) 2010/2020 requirements for interoperability, flexibility, adaptability, and information exchange. JTRS will acquire a family of affordable, scaleable, high-capacity, interoperable Line of Sight (LoS) and Beyond LoS radios to support simultaneous networked voice/data/video transmissions with low probability of intercept. The program will provide operational forces with an upgraded, interoperable communications capability for improved battle space management and increased Warfighter effectiveness. Interoperability with allied and coalition partners is pursued through international cooperative efforts, including signed agreements with Japan, UK and Sweden.

In Feb 2005, by direction of the Defense Acquisition Executive, all JTRS Product Lines were realigned and are now managed by the Joint Program Executive Office (JPEO) - JTRS.

Beginning in FY07, all JTRS RDT&E Program Elements (PE)'s are realigned under the Army JTRS PE (0604280A) for the current Budget Year (BY) only. From the BY+1 through the end of the FYDP, all JTRS RDT&E projects are funded in three equal shares by each Military Department (MILDEP). This transition results in the total JTRS development funding being managed out of three MILDEP PE's (0604280A, 0604280N, and 0604280F) across the FYDP, and consolidated into one Army PE (0604280A) for the current BY.

(WAVEFORMS) The Joint Waveform Program Office (JWPO) is responsible for the development and delivery of software-defined, legacy radio waveforms and networking waveforms that support Net-Centric operational warfare at sea, air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the last tactical mile and to the Warfighter. The JPEO/JWPO team is responsible for (1) the overall management and oversight of the JTRS Waveform program, (2) development, validation, and evolution of a common JTRS Software Communications Architecture (SCA), (3) development and evolution of waveform software applications, (4) development of software cryptographic algorithms and equipment applications, (5) testing and certification of JTRS hardware/software products and (6) JTRS networking and network management software components. Service acquisition agencies are responsible for acquiring and fielding host radio hardware and integrating JTRS into Service platforms.

(GROUND MOBILE RADIO) JTRS Cluster 1 is a product line managed under JTRS Ground Systems Domain and is being renamed to Ground Mobile Radio. The JTRS GMR program will enable the Services to acquire and field a family of affordable, scaleable, high capacity, interoperable radio sets based on the JTRS SCA. The JTRS is a key enabler of transformation and will provide critical communications capabilities across the spectrum of operations in a Joint environment for Ground Vehicular applications. The JTRS GMR will provide networking capability using networking Waveforms to connect the unmanned sensors to the decision makers "On-The-Move" (OTM) which will significantly reduce the decision cycle. The JTRS GMR is the key enabler for connectivity OTM to the GIG, an essential multiplier to network centric warfare.

(HANDHELD/MANPACK/SMALL FORM FIT) JTRS Cluster 5 is now a product line managed under the JTRS Ground Systems Domain and is being renamed to Handheld/Manpack/Small Form Fit (HMS) Radios. JTRS is the DoD family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. HMS provides a software re-programmable, networkable, multi-band, multi-mode system capable of simultaneous voice/data/video communication. HMS Increment 1 consists of the following form factors: 2 Channel Handheld, 2 Channel Manpack (including vehicular mounted), and a family of Small Form

Fit (SFF) embedded applications (SFF-A, B, C, D, H, I and J).

(AIRBORNE, MARITIME/FIXED STATION (AMF) JTRS) AMF JTRS is intended to support communications readiness and mission success, in the 2MHz to 2GHz operating frequency range, by providing military commanders with the ability to command, control and communicate with their Forces via secure voice/video/data media forms. AMF JTRS will provide the Warfighter with a modernized communications capability for more effective battlefield management and interoperability. AMF JTRS is a key enabler for the transformation of airborne communications toward network-centric operations.

AMF JTRS is designed to perform as a reliable and dynamic family of advanced communications systems. As a result, AMF JTRS will be a hardware-configurable and software-programmable radio system that provides increased interoperability, flexibility and adaptability to support varied mission requirements. The system is multi-functional, multi-band, multi-mode, network capable and capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. AMF JTRS will operate with legacy equipment and waveforms currently used by civilian and military airborne, surface, subsurface, and fixed station platforms. AMF JTRS is intended to replace existing legacy radio systems, which are currently facing long-term sustainment issues and diminishing sources of material support. AMF JTRS capabilities will be developed in an incremental approach, with each increment building on the technological achievements of its predecessor, while providing expanded capabilities.

(MIDS JTRS) The MIDS-LVT is a jam-resistant, secure, digital (voice and data) information distribution system enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The objective of the MIDS JTRS program is to transform the current MIDS-LVT into a four-channel, SCA compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS gathers data from multiple sources, which provides the platform with a digital view of the battlefield. MIDS JTRS is designed to be interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT. Improvements such as Link-16 enhanced throughput, Link-16 frequency re-mapping, and programmable crypto will also be realized in the MIDS JTRS design. In addition to the Link-16 and TACAN functionality, the MIDS JTRS core terminal includes three 2 MHz-2 GHz programmable channels that allow the Warfighter to use multiple waveforms currently in development with the JTRS JWPO. Total core terminal program requirements include: Terminal development, F/A-18 Level 0 integration, software hosting, Common Link Integration Processing Increment 1 embedding and production transition. The Tactical Targeting Network Technology JTRS Platform Capability Package (TTNT JPCP) involves integration of an advanced low latency, high bandwidth, Internet protocol-capable waveform that meets Time Sensitive Targeting Networking Technology requirements. TTNT JPCP program requirements include hardware/software changes, terminal development, qualification and production transition. The TTNT JPCP is the integration of the TTNT waveform as the specific implementation of the Joint Airborne Networking - Tactical Edge (JAN-TE) waveform.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
WAVEFORMS	0	0	0
Continue the development and acquisition of networking waveforms that support Net-Centric operational warfare at sea, air and on the ground, to include JTRS Program support and other waveform related activities. Networking waveforms extend the GIG to the last tactical mile to the warfighter. Waveforms include: Wideband Networking Waveform (WNW), Soldier Radio Waveform (SRW), and Joint Airborne Networking - Tactical Edge (JAN-TE).	39389	79023	135943
Continue the development and acquisition of software-defined legacy radio waveforms to include JTRS Program support and other waveform related activities. Waveforms include EPLRS, HF, UHF, SATCOM and Link 16.	72892	30810	25269
Continue development of crypto algorithm software, cryptographic equipment applications and other security related activities.	6400	4120	0

Manage and transition Joint Task Force WARNET.	11000	0	0
Begin development and acquisition of a network manager and common network services.	0	0	29590
Joint Waveform Program Office (JWPO) technical support, including waveform development, system engineering, spectrum allocation and approval for use, systems security engineering and problem resolution and support of Software Communications Architecture (SCA) activities. Provide technical guidance to Service Program Management Offices (PMOs). Provide oversight for all DoD radio acquisitions to ensure JTRS interoperability.	11520	9500	10220
Continue JWPO program support, including administration, program management, international cooperative efforts, legal, contracting, budget execution and cost estimating activities.	5040	9193	8893
Continue Waveform integration, test and evaluation to include hardware and software waveform certification process (SCA compliance testing) to meet program requirements.	5033	6900	6030
Begin Software Trouble Report (STR) corrections to software-defined legacy radio and networking waveforms.	0	0	2600
GROUND MOBILE RADIO	0	0	0
JTRS Product Development (JTRS GMR Vehicular and Airborne Hardware Design and Development of Prototypes and technical engineering support)	0	0	202239
JTRS Test and Evaluation (JTRS EPG Testbed and Test Planning/Test Support/Electronic and Information Warfare Test and Evaluation/Labor)	0	0	4485
JTRS Management Services (JTRS Program Management Office Support)	0	0	11227
JTRS Support Costs (Systems Engineering and Technical Support)	0	0	1940
HANDHELD/MANPACK/SMALL FORM FIT	0	0	0
JTRS HMS Product Development of HMS radios.	0	0	94220
JTRS HMS Test and Evaluation	0	0	2294
JTRS HMS Management Services (JTRS Program Management Office Support)	0	0	12092
JTRS HMS Support Costs (Technical Support)	0	0	2342
AMF JTRS	0	0	0
AMF JTRS Requirements Planning and Risk Reduction Efforts	0	0	33064
AMF JTRS Development and Demonstration	0	0	91000
AMF JTRS System Engineering, Integration, and Testing	0	0	23592
Business Operations, Planning, Management and Support	0	0	6889
MIDS JTRS	0	0	0
MIDS JTRS Phase 2B Core Terminal: Conduct Test Readiness Review in Jan 07; hold Milestone C decision meeting in Mar 07 to receive Low Rate Initial Production authorization; complete contractor First Article Qualification Testing and conduct Government FAQT; and begin Production Verification Terminal deliveries in 4th quarter.	0	0	86147

MIDS JTRS Tactical Targeting Network Technology JTRS Platform Capability Package: Award development contract and conduct Preliminary Design Review.	0	0	27693
Continue F/A-18 Level 0 integration. Procure additional F/A-18 Test and Evaluation Test Assets for Developmental and Operational test. Begin F/A-18 integrated logistics support planning.	0	0	14490
Total	151274	139546	832259

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604280A - Joint Tactical Radio System**	**162**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	117259	156665	110951
Current BES/President's Budget (FY 2007)	151274	139546	832259
Total Adjustments	34015	-17119	721308
Congressional Program Reductions		-15100	
Congressional Rescissions	-93		
Congressional Increases			
Reprogrammings	34108		
SBIR/STTR Transfer			
Adjustments to Budget Years		-2019	721308

FY05: Additional $34M RDT&E funds provided for Joint Waveforms ORD 2.3 and 3.2 requirements. These funds will be used to assist in meeting customer requirements and required security architecture.
FY 06: Congressional reduction (-$15.1M) for JTRS program delay and restructure. Remaining -$2M reduction due to higher Army priorities.
FY 07: Serivce transfers provided additional funding for the continued development of JTRS software-defined legacy radio waveforms and network waveforms to include: (a) Completion of (FQT) VHF BOWMAN and SINCGARS INC/EOM; (b) Continued development of EPLRS, HF, UHF, SATCOM and Link 16; (c) Continued development of Networking Waveforms to include: WNW, SRW, and JAN-TE (d) Begin development of the Network Manager and Common Networking Services. This adjustment also supports the continued development of JTRS Ground Mobile Radio, Handheld/Manpack/Small Form Fit Radios, Airborne and Maritime/Fixed Station Radios, and the Multifunctional Information Distribution System JTRS Radios. This adjustment also reflects the funding transferred from PEs 0604805A, 0604280N, and 0604280F.

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, Navy, 0604280N/3073 (Waveforms)	0	0	0	73529	71172	50535	14925	CONT	CONT
RDTE, Air Force, 0604280F/5068 (Waveforms)	0	0	0	73624	71632	51284	15232	CONT	CONT
RDTE, 0604805A C3 Systems - Eng Dev; project 615, JTRS Ground Domain Integ (CL 1)	97232	172337	0	0	0	0	0	CONT	CONT
RDTE, 0604805A C3 Systems - Eng Dev; project 61A, JTRS, Handheld/Manpack/Small Form Factor (CL 5)	96042	128791	0	0	0	0	0	CONT	CONT
RDTE, Navy, 0604280N/3073 (GMR)	0	0	0	78308	67273	39139	15896	CONT	CONT
RDTE, Air Force, 0604280F/5068 (GMR)	0	0	0	78409	67708	39719	16223	CONT	CONT
Future Combat System (FCS), RDTE 60465A/F56/F61**	1622	2261	2415	2321	1862	1840	1891	CONT	CONT
RDTE, Navy, 0604280N/3073 (HMS)	0	0	0	35215	35685	23845	7349	CONT	CONT

RDTE, Air Force, 0604280F/5068 (HMS)	0	0	0	35261	35916	24198	7500	CONT	CONT
Future Combat System (FCS), RDTE 60465A/F61	13000	4000	0	0	0	0	0	CONT	CONT
RDTE, Navy, 0604280N/3073 (AMF)	54342	87152	0	71175	91394	84346	59603	CONT	CONT
RDTE, Air Force, 0604280F/5068 (AMF)	36109	81036	0	71267	91985	85596	60827	CONT	CONT
RDTE, Navy, 0604280N / 3020 (MIDS)	21794	78946	1153	0	0	0	0	CONT	CONT
RDTE, Navy, 0604280N / 3073 (MIDS)	0	0	0	26077	4956	0	0	CONT	CONT
RDTE, Air Force, 0604280F / 5068 (MIDS)	0	0	0	26111	4988	0	0	CONT	CONT

Comment: PE 0604805A (JTRS Clusters 1 and 5 System Development and Demonstration) was realigned to this PE (0604280A) via service transfer. Funding for the completion of development for GMR/HMS is contained in RDTE, Army, 0604280A/162; RDTE, Navy, 0604280N/3073; and RDTE, Air Force, 0604280F/5068. FCS funding reflects relevant JTRS GMR funding only and does not reflect entire FCS program funds. FCS JTRS GMR relevant funding is contained within Project F56 in FY 2004 and Project F61 in FY 2005.

For FY07, funding in PEs 0604280N and 0604280F (Airborne, Maritime/Fixed Station JTRS) was realigned to this PE (0604280A) via service transfer. Funding for the completion of development for AMF JTRS is contained in RDTE, Army, 0604280A/162; RDTE, Navy, 0604280N/3073; and RDTE, Air Force, 0604280F/5068.

For FY07, PE 0604280N (Multifunctional Information Distribution System (MIDS) JTRS) was realigned to this PE (0604280A) via service transfer. Funding for the completion of development for MIDS is contained in RDTE, Army, 0604280A/162; RDTE, Navy, 0604280N/3073; and RDTE, Air Force, 0604280F/5068.

D. Acquisition Strategy In Feb 2005, all JTRS programs were realigned under the JPEO JTRS. In Nov 2005, the DAE and Senior JTRS Leadership selected a re-plan option which restructures JTRS to emphasize cost and schedule performance while executing a moderate technical risk plan. The new strategy is pending formal approval, which is anticipated in the 2nd quarter of FY06.

(WAVEFORMS) The JTRS JWPO is responsible for common core activities including developing and evolving the software-defined legacy and networking waveforms that operate on multiple hardware sets and in all operational environments that support network-centric operational warfare. Waveform developments will be procured through full and open contract competitions, except when special circumstances support sole source acquisition. The JWPO is developing Waveforms and Cryptographic Equipment applications (CEAs) for use within the JTRS community. The module developer will develop CEAs. The FY07 budget supports continued development of waveforms, supporting software, and testing support, as well as the NSA evaluation of the aforementioned software crypto libraries.

(GROUND MOBILE RADIO) This project supports the JTRS GMR SDD efforts. After a Milestone (MS) B Decision in 3QFY02, the GMR development effort was awarded to develop multi-channel ground and airborne configurations (airborne is now re-aligned under AMF). The JTRS GMR supports an evolutionary acquisition strategy and was based on an aggressive acquisition schedule. In June 2002, a Cost Plus Award Fee (CPAF) contract was competitively awarded to develop and/or acquire numerous SCA compliant waveforms, define common form-fit-function configurations for vehicular versions of the JTRS hardware, and successfully port waveforms to JTRS hardware. Under GMR, a

software reprogrammable radio providing the warfighter with a multi-band and multi-mode capability, networkable radio system is being developed. In FY05, the program underwent preliminary testing of hardware capabilities along with the program restructuring and on-going development of the operating system. The FY07 budget supports continued development and support for the GMR sets to include the operating environment, 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 GMR.

(HANDHELD/MANPACK/SMALL FORM FIT) This project supports the JTRS HMS SDD efforts. A MS B was achieved in Apr 2004 to begin the development of the HMS Radios. Following full and open competition, a single CPAF contract was awarded in July 2004. The Increment 1 evolutionary acquisition strategy is based on incremental development, reduced requirements, and better reuse/teaming with other product lines and NSA. The contract will be structured to address Increment 1, consisting of Phases 1 and 2. Increment 1, Phase 1 will develop 1 and 2 Channel Type 2 Small Form Fits (SFFs) A, C, H and J running SRW waveform v1.0/2.1 for use in a sensitive but unclassified environment. The initial development of SFF J is an interim product to be delivered to support Future Combat Systems (FCS) need dates. The FY07 budget supports continued development of breadboards, prototypes, and Engineering Development Models (EDMs).

(AMF JTRS) A joint AF / Navy team manages the development of a common core radio design that will be the basis for satisfying the AMF requirements. AMF will complete Pre-SDD contracts in FY06, which were awarded to two, competing vendors in late FY04. These efforts included System and Software Development reviews and culminated in completion of Preliminary Design Reviews. The AMF program is planning a MS B decision in early FY07 resulting in a single, contract award for SDD, using a full and open competition acquisition strategy and a CP Incentive Fee (CPIF) contract. This effort is expected to leverage technical solutions derived from efforts resulting from the Pre-SDD contracts. The FY07 budget supports the completion of the Pre-SDD phase and initiation of the SDD phase of AMF. A Critical Design Review is planned for late FY07.

(MIDS JTRS) MIDS JTRS development will be initiated as a major modification to the MIDS-LVT using an Engineering Change Proposal to the existing production contracts. Development efforts include the Phase 2B core terminal and the Phase 2C/2D Tactical Targeting Network Technology JTRS Platform Capability Package (TTNT JPCP). The U.S. prime contractors from the MIDS-LVT program (Data Link Solutions and ViaSat, Inc.) will cooperatively design and develop the core terminal and TTNT JPCP. Each prime contractor will build and qualify Production Verification Terminals. The U.S. will implement a continuous competition strategy between DLS and ViaSat that will be maintained throughout the MIDS JTRS production phase. This strategy was successfully used on MIDS-LVT.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604280A - Joint Tactical Radio System

PROJECT
162

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
WAVEFORMS			0	0		0		0		0	0	0
Architecture Development and Validation, Evolve and Provide CM Mgmt of SCA	Various	Various	65874	960	2Q	909	2Q	1035	2Q	Continue	0	Continue
Waveform Development; Crypto S/W; Waveform Sustainment Engineering	Various	Various	259237	107884	3-4Q	113951	1-2Q	192367	1-2Q	Continue	0	Continue
Certification (SCA Compliance Testing)	Various	Various	45594	14870	1-4Q	6900	1-2Q	6030	1-2Q	Continue	0	Continue
Technology Advancement/Problem Resolution	Various	Various	8260	0		0		0		0	8260	0
JTF WARNET	Various	Various	46000	11000	2-3Q	0		0		0	0	0
GROUND MOBILE RADIO			0	0		0		0		0	0	0
JTRS GMR SDD Development	C/CPAF	BOEING, Anaheim, CA	0	0		0		200819	1-2Q	Continue	0	Continue
JTRS GMR Development - System Engr Spt	Various	Miscellaneous	0	0		0		1420	1-2Q	Continue	0	Continue
HMS			0	0		0		0		0	0	0
JTRS HMS Design, Development and Manufacture of Engineering Development Models (EDMs)	C/CPAF	General Dynamics Decision Systems, Scottsdale, AZ	0	0		0		89270	1Q	Continue	0	Continue
JTRS HMS Development System Engineering Support	Various	Various	0	0		0		4950	1-2Q	Continue	0	Continue
AMF JTRS			0	0		0		0		0	0	0
AMF JTRS SDD	CPAF / IF	TBD	0	0		0		91000	1Q	Continue	0	Continue
Requirements Planning and Risk Reduction	Various	Various	0	0		0		33064	1Q	Continue	0	Continue
Systems Engineering, Integration, and Testing Support	Various	Various	0	0		0		22070	1Q	Continue	0	Continue
MIDS JTRS			0	0		0		0		0	0	0

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5 - System Development and Demonstration

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HW/SW Development (CLIN 3000)	CPIF	Data Link Solutions Cedar Rapids, IA	0	0		0		23604	1Q	Continue	0	Continue
MIDS JTRS HW/SW Development (CLIN 3000)	CPIF	ViaSat Inc. Carlsbad, CA	0	0		0		24293	1Q	Continue	0	Continue
MIDS JTRS Software Hosting	CPFF	Various	0	0		0		7000	4Q	Continue	0	Continue
MIDS JTRS Production Transistion	FFP	Various	0	0		0		21000	1Q	Continue	0	Continue
CLIP Increment 1 MIDS JTRS Embedding	CPFF	Various	0	0		0		4400	3Q	Continue	0	Continue
MIDS JTRS - TTNT JPCP	CPIF	Data Link Solutions Cedar Rapids, IA	0	0		0		13097	1Q	Continue	0	Continue
MIDS JTRS - TTNT JPCP	CPIF	ViaSat Inc. Carlsbad, CA	0	0		0		13096	1Q	Continue	0	Continue
Systems Engineering - TTNT JPCP	WX	SSC-SD	0	0		0		1500	1Q	Continue	0	Continue
Systems Engineering	Various	Various	0	0		0		4150	1Q	Continue	0	Continue
Systems Engineering	WX	SSC-SD	0	0		0		1500	1Q	Continue	0	Continue
Subtotal:			424965	134714		121760		755665		Continue	8260	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
WAVEFORMS			0	0		0		0		0	0	0
FFRDC - MITRE and Other contracted Technical Support	FFP	Various	47840	11520	1-2Q	9500	1-2Q	10220	1-2Q	Continue	0	Continue
GROUND MOBILE RADIO			0	0		0		0		0	0	0
JTRS Technical Support	Various	Miscellaneous	0	0		0		1940	1-2Q	Continue	0	Continue
HMS			0	0		0		0		0	0	0
JTRS Technical Support	Various	Various	0	0		0		2342	1-3Q	Continue	0	Continue
AMF JTRS			0	0		0		0		0	0	0
Program Support	Various	Various	0	0		0		6889		Continue	0	Continue
MIDS JTRS			0	0		0		0		0	0	0

F/A-18 Level 0 Development Support	Various	Various	0	0		0		2476	1Q	Continue	0	Continue
F/A-18 Level 0 Integrated Logistics Support	Various	Various	0	0		0		3600	1Q	Continue	0	Continue
Subtotal:			47840	11520		9500		27467		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
GROUND MOBILE RADIO	N/A	N/A	0	0		0		0		0	0	0
JTRS EPG Testbed and Test Planning	MIPR	EPG, Fort Huachuca, AZ	0	0		0		1500	1Q	Continue	0	Continue
JTRS Modeling & Simulation	MIPR	USAIC, Ft. Huachuca, AZ	0	0		0		600	1-2Q	Continue	0	Continue
JTRS Test Inhouse Spt & Govt Activities	Various	Various	0	0		0		1835	1Q	Continue	0	Continue
JTRS EOA/SIT/LUT/MOTE Test Activity	Various	EPG, Fort Huachuca, AZ/Various	0	0		0		550	1-3Q	Continue	0	Continue
HMS			0	0		0		0		0	0	0
JTRS EPG test bed and planning	MIPR	EPG, Fort Huachuca, AZ	0	0		0		591	1Q	Continue	0	Continue
JTRS Modeling & Simulation	MIPR	USAIC, Ft. Huachuca, AZ	0	0		0		92	1Q	Continue	0	Continue
JTRS Test Inhouse Support & Goverment Activities	Various	Various	0	0		0		1611	1-3Q	Continue	0	Continue
Field Test/LUT and OT	Various	Various	0	0		0		0		Continue	0	Continue
AMF JTRS			0	0		0		0		0	0	0
Test Planning / Support - JTRS			0	0		0		1522		0	0	0
MIDS JTRS			0	0		0		0		0	0	0
F/A-18 Level 0 Developmental Test & Evaluation	N/A	N/A	0	0		0		289	1Q	Continue	0	Continue

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

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* F/A-18 Level 0 Test Assets (*Unique)	FFP	Data Link Solutions Cedar Rapids, IA	0	0		0		4063	1Q	Continue	0	Continue
* F/A-18 Level 0 Test Assets (*Unique)	FFP	ViaStat Inc. Carlsbad, CA	0	0		0		4062	1Q	Continue	0	Continue
Subtotal:			0	0		0		16715		Continue	0	Continue

Remarks: *System and operational testing performed by the Services; funded in Service appropriations.

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
WAVEFORMS			0	0		0		0		0	0	0
Program Support	Various	Various	39807	5040	1-2Q	8286	1-2Q	8893	1-2Q	Continue	0	Continue
GROUND MOBILE RADIO			0	0		0		0		0	0	0
JTRS Business/Engineering Management	Various	Various	0	0		0		3601	1-4Q	Continue	0	Continue
Project Management Office Support	Various	Various	0	0		0		7001	1-4Q	Continue	0	Continue
JTRS MITRE Support	PWD	MITRE Corp., Mclean, VA	0	0		0		625	1Q	Continue	0	Continue
HMS			0	0		0		0		0	0	0
Project Management Office Support	Various	Various	0	0		0		9896	1-4Q	Continue	0	Continue
JTRS Business/Engineering Management	Various	Various	0	0		0		2196	1-4Q	Continue	0	Continue
MIDS JTRS			0	0		0		0		0	0	0
Travel	Various	Various	0	0		0		200	1-4Q	Continue	0	Continue
Subtotal:			39807	5040		8286		32412		Continue	0	Continue
Project Total Cost:			**512612**	**151274**		**139546**		**832259**		**Continue**	**8260**	**Continue**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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PROJECT
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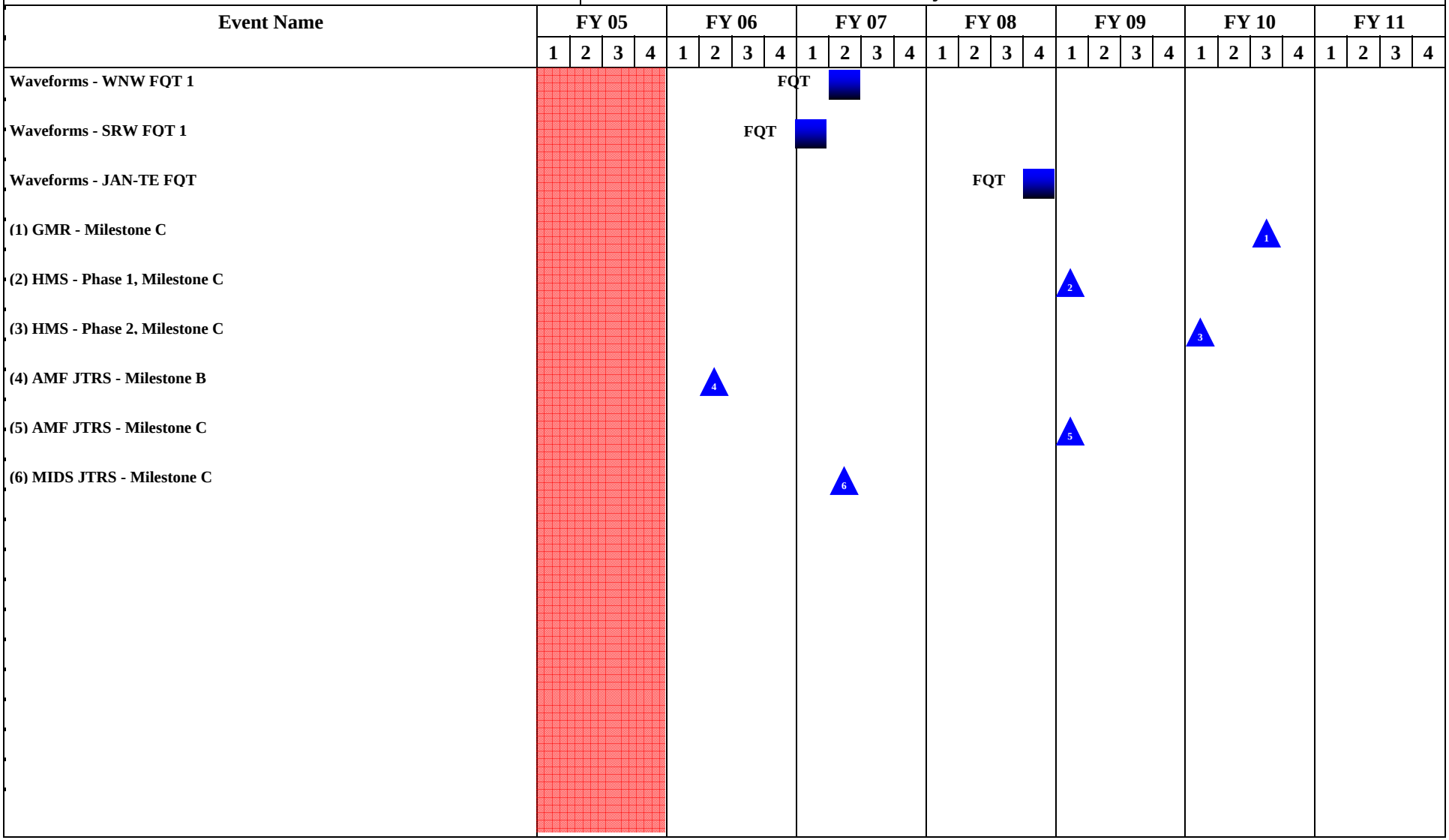


Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604280A - Joint Tactical Radio System

PROJECT
162

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
WAVEFORMS							
WNW							
WNW FQT			2Q	4Q			
WNW Test and STR Resolution			2-4Q	1-4Q	1-4Q	1-4Q	1-4Q
SRW							
SRW FQT			1Q		4Q		
SRW Test and STR Resolution		4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
JAN-TE							
JAN-TE FQT				4Q			
JAN-TE Test and STR Resolution		3-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
SINCGARS				1Q			
UHF SATCOM		3Q					
EPLRS			1Q				
Link 16			3Q				
HF				3Q			
Legacy Waveform Test and STR Resolution	1-4Q						
JFT WARNET Transition	1Q						
JWTT Full Operational Capability (FOC)	1-3Q	1-3Q					
GMR							
Pre-EDM Deliveries	2Q						
Contract DevTest /Design VerificationTest Fault fix		2-3Q					
System Readiness Review		4Q					
HW Delta Preliminary Design Review			2Q				
Radio Applications SW Critical Design Review (CDR)			3Q				
Hardware CDR			4Q				

EDM procure/build				1-4Q	1-2Q		
Radio Application SW Functional Qualification Test				3-4Q			
EDM Delivery Begin					2Q		
Product Qualification Test					1-2Q		
JTRS-Army GMR System Integration Test/Limited User Test (LUT)						1Q	
JTRS GMR Milestone C						3Q	
JTRS-Army GMR MOT&E							3Q
Product Improvements				1-4Q	1-4Q	1-4Q	2-4Q
HMS							
CDT - Inc 1, Ph 1			2-3Q				
GDT - Inc 1, Ph 1			4Q	1-4Q			
MS C - Inc 1, Ph 1					1Q		
CDT - Inc 1, Ph 2				4Q	1-2Q		
GDT - Inc 1, Ph 2					2-4Q		
MS C - Inc 1, Ph 2						1Q	
AMF JTRS							
Milestone B		2Q					
LRIP					1Q		
Milestone C					1Q		
FRP Decision Review							1Q
Contract Award			1Q				
Prototype Phase (Pre-SDD)	1-4Q	1-2Q					
Preliminary Design Review	4Q						
System Development			1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
System Critical Design Review			4Q				
DT/OT Certifications (includes OT Flight Test)				4Q	1-4Q	1-2Q	
MOT&E						3-4Q	
EDM's				4Q			
MIDS JTRS							
Migration Core Terminal							

Phase 2A Extension: Specification Development	3Q						
Phase 2B: Design, Development, Fabrication and Qualification							
System Development	1-4Q	1-4Q	1-4Q				
Preliminary Design Review (PDR)	4Q						
Critical Design Review (CDR)		2Q					
Quality Design and Build		2-4Q	1-2Q				
Test Readiness Review (TRR)			2Q				
Contractor Testing (FAQT)			2-4Q				
Government Testing			4Q				
Production Verification Terminal Delivery (PVT)			4Q	1Q			
Production Transition Terminal Delivery (PTT)				1-2Q			
Test and Evaluation							
F/A-18 Level 0 Integration							
Milestone C			2Q				
Technical Evaluation (TECHEVAL)			4Q	1-4Q			
Operational Evaluation (OPEVAL)				4Q	1Q		
Initial Operating Capability					2Q		
Full Rate Production Decision					2Q		
MIDS JTRS TTNT JPCP							
Phase 2C: Specification Development		1Q	1Q				
Phase 2D: Design, Development, Fabrication and Qualification							
System Development			1Q		1Q		
Preliminary Design Review (PDR)			3Q				
Critical Design Review (CDR)				1Q			
Quality Design and Build				1-4Q			
Test Readiness Review (TRR)				4Q			
Contractor Testing (FAQT)				4Q	1Q		
Government Testing					1-2Q		
Production Verification Terminal Delivery (PVT)					2Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604321A - ALL SOURCE ANALYSIS SYSTEM

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	6586	9042	7074	5427	5474	6404	6577	Continuing	Continuing
B19	ASAS EVOLUTIONARY ACQ (TIARA)	5353	7807	3462	3436	3417	3387	3354	Continuing	Continuing
B41	CI/HUMINT Software Products (TIARA)	914	918	3278	1657	1724	3017	3223	0	19082
B44	ASAS TADSS (TIARA)	196	194	205	205	205	0	0	Continuing	Continuing
B49	CHIMS TADSS (TIARA)	123	123	129	129	128	0	0	0	628

A. Mission Description and Budget Item Justification: The All Source Analysis System (ASAS) is a ground based, mobile, command and control, intelligence processing system that provides tactical commanders a common view of the battlefield and a means for gaining a timely and comprehensive understanding of enemy force deployments, capabilities, and potential courses of action. ASAS provides automated support to the combat commander in the areas of intelligence, surveillance, reconnaissance, collection management, all-source fusion (signals intelligence, imagery intelligence, human intelligence, open source intelligence, and measurements and signatures intelligence), battlefield visualization, target development and situation analysis, and multi-source processing, intelligence reporting/collaboration, electronic warfare/countermeasures, and operational security as well as "digitized Army" automation support. ASAS is providing incremental evolutionary software for military intelligence operations. Variants of ASAS are found at all echelons in the Army, from theater down to battalion, enabling the rapid dissemination of the all-source fusion picture of the current threat to forward combat maneuver battalions. The system is the Army intelligence interface to the warfighter Army Battle Command System (ABCS) and to the Joint Global Command and Control System (GCCS), and provides the automated ground threat picture to the joint Common Operational Picture (COP). The ASAS system is interoperable with national military intelligence database standards and the Defense Information Infrastructure (DII)/Common Operating Environment (COE) aka Network Centric Enterprise Services (NCES). ASAS reliance on commercial-based hardware and a true "open" architecture allows continued interoperability with intelligence legacy systems, while ensuring a smooth evolution to the future.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604321A - ALL SOURCE ANALYSIS SYSTEM

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	6605	7973	6897
Current BES/President's Budget (FY 2007)	6586	9042	7074
Total Adjustments	-19	1069	177
Congressional Program Reductions		-40	
Congressional Rescissions	-5	-91	
Congressional Increases		1200	
Reprogrammings	-14		
SBIR/STTR Transfer			
Adjustments to Budget Years			177

FY 2006 - Increases $1.200 Million for ACE-CCS Tactical Equipment Modernization.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604321A - ALL SOURCE ANALYSIS SYSTEM**	**B19**

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
B19	ASAS EVOLUTIONARY ACQ (TIARA)	5353	7807	3462	3436	3417	3387	3354	Continuing	Continuing

A. Mission Description and Budget Item Justification: The All Source Analysis System (ASAS) is a ground based, mobile, command and control, intelligence processing system that provides tactical commanders a common view of the battlefield and a means for gaining a timely and comprehensive understanding of enemy force deployments, capabilities, and potential courses of action. ASAS provides automated support to the combat commander in the areas of intelligence, surveillance, reconnaissance, collection management, all-source fusion (signals intelligence, imagery intelligence, human intelligence, open source intelligence, and measurements and signatures intelligence), battlefield visualization, target development and situation analysis, and multi-source processing, intelligence reporting/collaboration, electronic warfare/countermeasures, and operational security as well as "digitized Army" automation support. ASAS is providing incremental evolutionary software for military intelligence operations.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue System Development and Demonstration (SDD) of Analysis and Control Element (ACE), conduct ACE evaluation, and provide program support.	2377	0	0
Conduct SDD of ASAS Light (Software Blocking 1(SWB1))	500	0	0
Conduct ASAS Light Continuous Evaluation	500	0	0
Conduct SDD of ASAS Light (Software Blocking 2(SWB2))	949	2971	0
Conduct ASAS Light (SWB2) Continuous Evaluation	0	0	508
Resolve high priority Software Anomaly Reports (SARs), Safety, and Interoperability issues, comply with DOD mandates and provide Defense Information Infrastructure (DII) Common Operating Environment(COE)/Network Centric Enterprise Services(NCES) maintenance for ASAS Light, Analysis Control Team-Enclave (ACT-E), and ACE	1027	4836	2954
Total	5353	7807	3462

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA (K28801) ASAS Modules	52359	29941	34431	55382	61124	21415	4431	CONT	CONT
Spares (BS9704)	3276	2485	2300	3175	2441	3616	3623	CONT	CONT

C. Acquisition Strategy The ASAS development program builds upon and expands the capabilities and functionality developed and produced in the ASAS Block I System

including conversion to the Common Hardware Systems (CHS) and the Defense Information Infrastructure Common Operating Environment/Network Centric Enterprise Services (DII COE/NCES) and Modernized Integrated Database (MIDB). ASAS is being developed using a block upgrade evolutionary acquisition strategy.

- ASAS Block I: Fielded ruggedized, tactical systems at Active Component (AC) corps, divisions, and the institutional training base.

- ASAS-Extended: Provided the rest of the AC and National Guard enhanced separate brigades with an interim ASAS capability running Block I software on commercial hardware.

- ASAS Block II: Uses common hardware and software, built on the DII COE/NCES standard. Provides open architecture, assured interoperability, and enhanced capability with room for growth. ASAS Light is the key intelligence provider for Army Battle Commmand Systems (ABCS).

- Army Software Blocking: ASAS Light synchronizes with Software Block 1 and 2 execution phases.

The program emphasizes multiple evolutionary deliveries, with incremental enhancements of ASAS products, integrated test, and continuous evaluation opportunities. ASAS builds upon experience and feedback gained from the fielded ASAS products and real-world operational deployments providing the soldier with improved reliability, supportability, and survivability.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604321A - ALL SOURCE ANALYSIS SYSTEM

PROJECT
B19

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	CPAF	Lockheed Martin, Denver, CO	272731	0		0		0		0	272731	0
Subsystem Development	GSA D.O.	Electronic Warfare Associates, Huntington, WV	10795	1300	3Q	1200		0		0	13295	0
Subsystem Development	GSA D.O.	Austin Info Systems, Austin, TX	21953	0		1161	1Q	0		0	23114	0
SARs, Safety and Interop	GSA D.O.	Austin Info Systems, Austin, TX	0	1027	1-3Q	2216	1-3Q	1769	1-3Q	Continue	Continue	0
Subtotal:			305479	2327		4577		1769		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Facility Support	MIPR	Ft. Belvoir, VA	950	184	1-4Q	192	1-4Q	199	1-4Q	Continue	Continue	0
License Maintenance			0	500	1-3Q	2076	1-3Q	0		0	2576	0
Subtotal:			950	684		2268		199		Continue	Continue	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
ASAS Developmental and Operational Testing	MIPR	EPG, Ft Huachuca, AZ	5731	977	1Q	0		0		0	6708	0
Continuous Evaluation	MIPR	EPG, Ft. Huachuca, AZ	263	500	1Q	0		508	1Q	Continue	Continue	0
Subtotal:			5994	1477		0		508		Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604321A - ALL SOURCE ANALYSIS SYSTEM

PROJECT
B19

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
FFRDC	MIPR	MITRE/Washington, DC	9922	0		0		0		0	9922	0
Contractor Spt	BPA	SYTEX, Inc. Vienna, VA	27942	486	1-4Q	486	1-4Q	486	1-4Q	Continue	Continue	0
Govt In House	MIPR	PM IE, Ft. Belvoir, VA	17947	379	1-4Q	476	1-4Q	500	1-4Q	Continue	Continue	0
Subtotal:			55811	865		962		986		Continue	Continue	0
Project Total Cost:			**368234**	**5353**		**7807**		**3462**		**Continue**	**Continue**	**0**

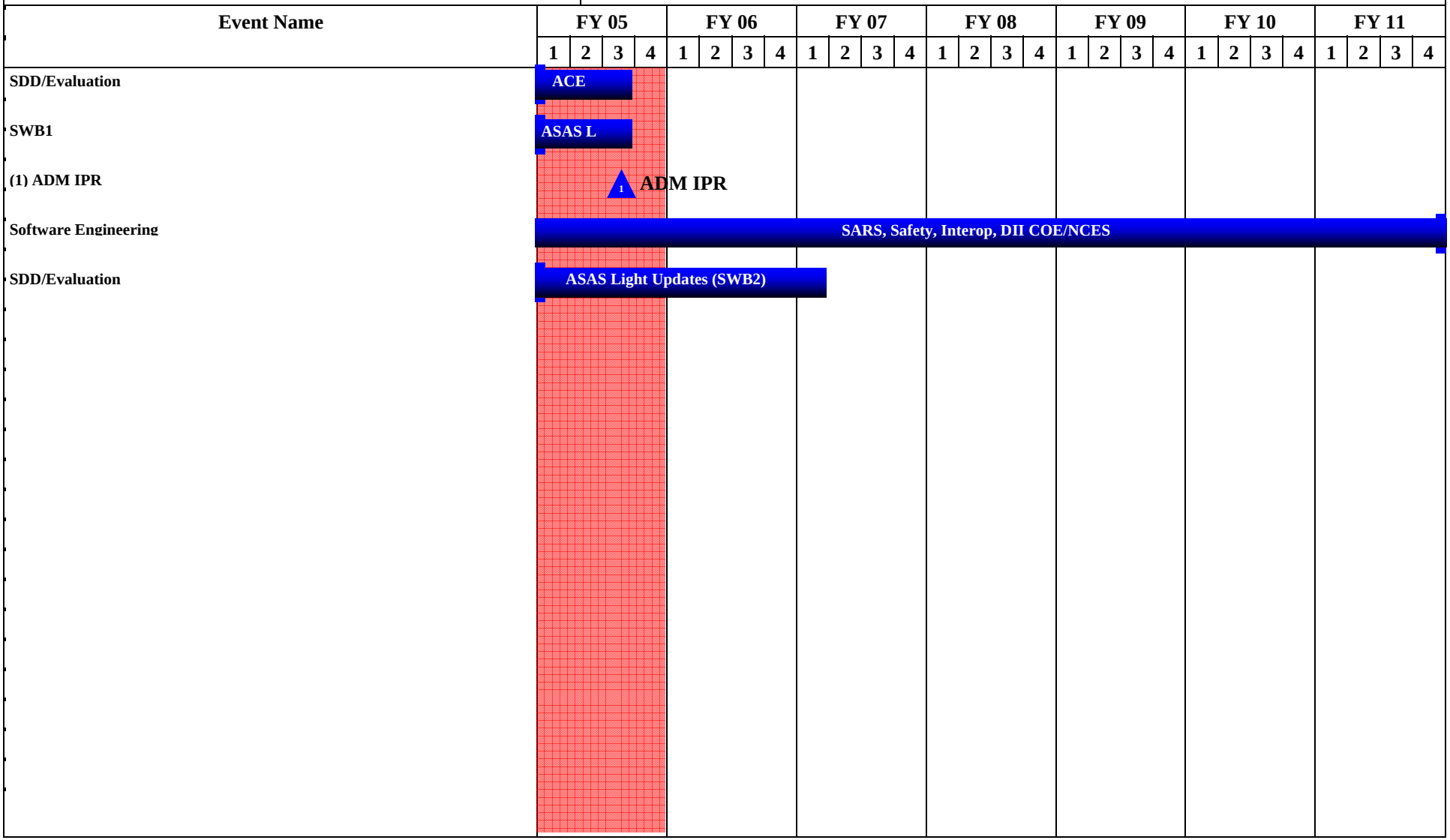
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604321A - ALL SOURCE ANALYSIS SYSTEM

PROJECT
B19



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604321A - ALL SOURCE ANALYSIS SYSTEM

PROJECT
B19

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
SDD and evaluation of Analysis Control Element (ACE)	1-3Q						
SDD of ASAS Light (Software Blocking 1 (SWB1))	1-3Q						
ADM IPR	3Q						
SDD and evaluation of ASAS Light (Software Blocking 2 (SWB2))	1-4Q	1-4Q	1Q				
High priority SARs, Safety, Interop issues and DII COE/NCES maint for ASAS Light, ACT-E, and ACE	1-4Q	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
5 - System Development and Demonstration	**0604321A - ALL SOURCE ANALYSIS SYSTEM**	**B41**

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
B41	CI/HUMINT Software Products (TIARA)	914	918	3278	1657	1724	3017	3223	0	19082

A. Mission Description and Budget Item Justification: The Counterintelligence/Human Intelligence (CI/HUMINT) Information Management System (CHIMS) is the Army system responsible for collection, processing, and analysis of CI/HUMINT data to satisfy tactical human intelligence requirements. CHIMS provides the automation support for Army tactical CI/HUMINT information collection, investigation, interrogation, operations, biometrics, document exploitation, and force protection. The CHIMS architecture extends from the individual Tactical HUMINT Team Soldier or CI agent to Theater and National intelligence organizations. CHIMS is the CI and HUMINT information provider for All-Source architectures for Future Force, including: ASAS Block 2, Distributed Common Ground System - Army (DCGS-A), PORTICO and Future Combat System (FCS). CHIMS systems are used to produce intelligence products to feed and maintain HUMINT databases and the All Source Correlated Data Base (ASCDB). CHIMS provides systems to both vertical and horizontal customer bases. Vertical (Army) clients include: all MACOMS, Special Forces, Reserves, National Guard, Stryker Brigade Combat Teams (SBCT), and the Intelligence School. Horizontal clients (non-Army) include U.S. Navy, U.S. Marine Corps, Joint Task Force (JTF) Guantanamo Bay (GTMO) Cuba, and Defense Intelligence Agency (DIA). Organic automation and analysis capabilities are provided to Military Intelligence (MI) units with handheld reporting devices and to CI Staff Officers (CISO) with high capacity workstations and web servers, providing collection management, asset management, transmission, receipt, storage, and export of electronic data and digital imagery information including exploitation of foreign language materials and biometrics. CHIMS can produce and disseminate messages and reports through an array of communications systems including: combat Net Radio, SINCGARS, PRC-150 STE, STU, satellite, and other organic communications devices. The CHIMS suite of systems incorporates a multi-tiered architecture that reaches from handheld devices to Web servers providing multiple security level access with both brilliant push and smart pull tools to the battlefield commander and National interests. PM CHIMS develops the CI/HUMINT Automated Management Software (CHAMS), a 3rd generation product providing advanced capabilities with a soldier friendly interface. CHAMS is the foundation software for the DCGS-A Human Domain Workstation (HDWS).

FY07 funding continues the spiral development of CHAMS functionality and support of the fielded SW baseline.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue spiral development of CHAMS functionality and SW Problem Reporting implementation.	625	700	2560
Begin transition of CHAMS SW Baseline V4.2	225	190	108
Developed and Delivered CI/HUMINT SS WS and Human Domain Work Station (HDWS)	0	0	0
Continue Test and Security Accreditation efforts.	64	28	610
Total	914	918	3278

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE (PE 35208, Proj 956) DCGS-A (JMIP)	17413	9901	10625	11204	11593	2052	2006	CONT	CONT
OPA (BK5275) CHIMS (TIARA)	34680	730	6710	5125	5942	10285	12519	CONT	CONT

RDTE (PE 64321, Project B49) CHIMS TADSS	123	125	127	127	126	0	0	0	628

C. Acquisition Strategy The CI/HUMINT Automated Management Software (CHAMS), a software baseline common to all CHIMS automation systems, is being developed under a competitively awarded Indefinite Delivery/Indefinite Quantity (ID/IQ) type contract. CHAMS is the common SW on two collection and reporting products (CI/HUMINT Automated Tool Set (HATS) and Individual Tactical Reporting Tool (ITRT)) and is used by PM DCGS-A in its HDWS and CI&I OPS Workstations. CHAMS will be continuously improved through spiral development to keep pace with evolving capability requirements. The hardware for all product lines is an integration of commercial off-the-shelf (COTS) and Government off-the-shelf (GOTS) hardware. As COTS technology evolves, new hardware will be introduced to keep CHIMS' users at the forefront of intelligence automation. This integration of new development and COTS/GOTS ensures both a cost and time to field advantage for CHIMS users.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604321A - ALL SOURCE ANALYSIS SYSTEM

PROJECT
B41

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
CI/HUMINT Utilities SW Development	IDIQ Competitive	Northrop Grumman, Sierra Vista, AZ	224	0		0		0		0	224	0
CHAMS Software Development	IDIQ Competitive	Northrop Grumman, Sierra Vista, AZ	6509	555	2Q	607	2Q	2243	2Q	Continue	0	0
CHATS Development	Competitive T&M	TAMSCO, Eatontown, NJ	1808	0		0		0		0	1808	0
CI/HUMINT SS SW Development	IDIQ Competitive	Northrop Grumman, Sierra Vista, AZ	50	0		0		0		0	50	0
CI & I OPS WS Development	Competitive T&M	TAMSCO, Eatontown, NJ	1566	0		0		0		0	1566	0
ITRT Development	Competitive T&M	TAMSCO, Eatontown, NJ	444	0		0		0		0	444	0
Refugee Management System	CPFF	EWA, Fairmont, WV	3000	0		0		0		0	3000	0
CECOM Transition Support	MIPR	CECOM, SW Engineering Center, Ft. Huachuca AZ	0	187	1Q	170	1Q	93	1Q	0	450	0
Subtotal:			13601	742		777		2336		Continue	7542	0

Remarks: SW Engineering Support for transition of CHIMS SW baseline V4.2 to CECOM SEC.

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
Contractor Support	BPA	The Sytex Group Inc./Newington, VA	1683	92	1Q	91	1Q	367	1Q	Continue	0	0
Matrix Support	MIPR	I2WD, CECOM Fort Monmouth, NJ	368	0		0		0		0	368	0
Subtotal:			2051	92		91		367		Continue	368	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604321A - ALL SOURCE ANALYSIS SYSTEM

PROJECT
B41

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
Developmental Test	MIPR	PRC, McLean, VA	401	0		0		0		0	401	0
Developmental Test	MIPR	JITC, Ft. Huachuca, AZ	304	0		25	1Q	0		0	329	0
Test Support and Interoperability	MIPR	CTSF, Ft. Hood Tx.	155	40	2Q	0		0		Continue	195	0
Operational Test	MIPR	TBD	79	0		0		485	1Q	0	564	0
Test Articles	MIPR	ESS, Frederick, MD	120	0		0		0		0	120	0
Security Accreditation Collateral	MIPR	CECOM, Ft. Monmouth, NJ	305	0		0		50	2Q	Continue	285	0
SCI PL2	MIPR	NGMS, Sierra Vista, AZ	80	0		0		0		0	80	0
SCI PL2 Certification	MIPR	Air Force Research Lab (AFRL), Rome, NY	160	0		0		0		0	160	0
Safety Release	MIPR	CECOM, Ft. Monmouth, NJ	0	15	1Q	0		15	1Q	0	30	0
Subtotal:			1604	55		25		550		Continue	2164	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
Program Management		PM DCGS-A/CHIMS Fort Monmouth, NJ	803	5	2Q	5	2Q	5	2Q	Continue	818	0
Facility Support		PM NV/RSTA, Ft Belvoir, VA	605	20	1Q	20	1Q	20	1Q	Continue	665	0
Subtotal:			1408	25		25		25		Continue	1483	0
Project Total Cost:			**18664**	**914**		**918**		**3278**		**Continue**	**11557**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604321A - ALL SOURCE ANALYSIS SYSTEM

PROJECT
B41

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) CHAMS 4.2 Beta Intra-Army Interoperability Test					1 CHAMS Intra-Army Interoperability Test																							
Begin Next Generation CHIMS SW Development																												
(2) Next Generation CHAMS combined DT/OT																												

Next Generation CHAMS SW Dev

2 Next Generation CHAMS combined DT/OT

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604321A - ALL SOURCE ANALYSIS SYSTEM

PROJECT
B41

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
CHAMS Intra-Army V4.2 Interoperability Test		2Q					
Begin Next Generation CHIMS SW Development	3Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Conduct Next Generation CHAMS Combined DT/OT			1Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604329A - Common Missile**	**013**

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
013 Joint Common Missile	112376	25630	0	0	0	0	0	0	277260

A. Mission Description and Budget Item Justification: The Joint Common Missile (JCM) is a fixed and rotary wing aviation-launched missile system that provides advanced line-of-sight (LOS) and beyond-line-of-sight (BLOS) capabilities, including precision strike, passive, and fire-and-forget seeker technologies; increased range; and increased lethality. The program was terminated December 23, 2004 with language directing the identification of the capability needs to equip fixed wing tactical aircraft, rotary winged and unmanned air vehicles with precision air-to-ground close air support weapons using the JROC/Joint Capabilities Integration and Development System (JCIDS) process to support the FY 2008-2013 Program/Budget Review. Since termination, the Department of the Army and the Department of the Navy have continued technology maturation. Maturation and preservation of key JCM technologies will continue through September 2006 using FY 05 carryover funding and the FY 06 Congressional addition. Prototype hardware of key critical technologies will be flight tested in both guided and unguided missile launches. This anticipated achievement will demonstrate in-flight testing, a highly compliant insensitive munitions (IM) rocket motor, extended range, fixed wing (FW) environment compatibility, multi-spectrum guidance group, composite structure technology and has broad applications to other weapon systems and services. The program will additionally demonstrate a multifunction warhead with greater efficiency that any anti-armor warhead fielded to date and a multipurpose anti-personnel, anti-material, military operation urban terrain (MOUT) capable warhead that limits collateral damage.

JCM was scheduled to replace aviation-launched TOW, the HELLFIRE family of missiles, and Navy Maverick family of missiles. This requirement remains unfulfilled and the JROC has reaffirmed the original JCM requirement. The JCM was a Joint program (rotary and fixed wing requirements) with the Navy and USMC for the Super Hornet (F/A-18E/F), the Seahawk (MH-60R), and Super Cobra (AH-1Z) and was a cooperative development program with the United Kingdom for their fixed and rotary wing aircraft. The JCM increased the warfighters' operational flexibility by effectively engaging a variety of stationary and mobile targets on the battlefield, including advanced heavy/light armored vehicles, bunkers, buildings, patrol craft, command and control vehicles, transporter/erector (e.g., SCUD) launchers, artillery systems, and radar/air defense systems. Its multi-mode seeker was to provide required capability in adverse weather, day or night, and in an obscured/countermeasure environment against both stationary and moving targets. JCM supported more efficient logistics for expeditionary force tailoring by replacing several missile variants with a single, interoperable weapon that had the potential for dramatic cost saving by combining the Fixed Wing and Rotary Wing requirements for production efficiency. It also allowed flexibility in the location of resupply on the battlefield, thereby minimizing the logistic burden of the combat force. JCM's extended shelf life and modular design would have reduced life-cycle costs. The technologies that enabled these dramatic increases in warfighter capability are being maintained and matured in the FY 06 program to be made available to follow-on programs.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Initiate Qualified Baseline Design, developmental testing, operational assessment and system integration and demonstration for System Development and Demonstration (SDD) of Joint Common Missile	95465	0	0
Procure component hardware for engineering testing, prepare and update missile design documentation and procure prototype hardware and test	16911	0	0
Continue to Mature Seeker, Motor, Warhead	0	17225	0
Guided Flight Tests (3) and Expanded Tower/Captive Flight Tests	0	5758	0
Simulation and Algorithm Maturity	0	2647	0
Total	112376	25630	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604329A - Common Missile**	**013**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	112185	0	0
Current BES/President's Budget (FY 2007)	112376	25630	0
Total Adjustments	191	25630	0
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases		25630	
Reprogrammings	191		
SBIR/STTR Transfer			
Adjustments to Budget Years			

Congressional plus up in FY06 of $25,630,000 for continued Joint Common Missile development.

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Not applicable for this item.	0	0	0	0	0	0	0	0	0

Comment:

D. Acquisition Strategy The program has been directed to use the remaining FY 05 funding, carried over into FY06, to conduct critical technology maturation. Both the FY05 funding and the $30 million ($26 million Army and $4 million Navy) Congressional add on funding will focus on maturation of key missile technologies and seeker algorithms to support next generation missile development. The technology test and evaluation effort will continue to support next generation missile development for future air-to-ground applications.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

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	33697	53257	31748	48644	33238	41502	33142	0	302572
033	ADV CREW SVC WPN	33697	0	0	0	0	0	0	0	61041
S58	SOLDIER ENHANCEMENT PROGRAM	0	12618	15649	19433	15994	17128	12430	0	93252
S59	SOLDIER SUPPORT EQUIPMENT - ED	0	292	308	308	307	642	642	0	2499
S60	CLOTHING & EQUIPMENT	0	7805	9222	9466	9387	5998	6101	0	47979
S61	ACIS ENGINEERING DEVELOPMENT	0	2216	2326	2562	2662	2751	2852	0	15369
S62	OBJECTIVE INDIVIDUAL COMBAT WEAPON	0	19839	1814	2758	0	0	0	0	24411
S63	SMALL ARMS IMPROVEMENT	0	8121	2429	14117	4888	14983	11117	0	55655
S64	COMMON REMOTELY OPERATED WPN SYS (CROWS)	0	2366	0	0	0	0	0	0	2366

A. Mission Description and Budget Item Justification: This program element for System Development and Demonstration (SDD) manages the Soldier as a system, with the goal of increasing Soldiers' combat effectiveness, increasing survivability, and improving the Soldiers' quality of life. It develops and tests prototypes of weapons, clothing, equipment, and other items useful to support the Soldier. This program element restructures/consolidates the following program elements and associated projects: 0604713 (Project D668 Soldier Enhancement Program, Project DC40 Soldier Support Equipment, and Project DL40 Clothing and Equipment); 0604801 (Project DC45 Aircrew Integrated Systems Engineering Development); and, 0604802 (Project D134 Objective Individual Combat Weapon, Project DAS1 Small Arms Improvement, and Project DAS6 Common Remotely Operated Weapon System (CROWS) and CROWS Lightning. Consolidating common program elements and projects into one program element streamlines the management and efficiency of developing and testing infantry support weapons and associated equipment.

Project 033 (Advanced Crew Served Weapon) develops the 25mm XM-307 Advanced Crew Served Weapon machine gun, which enables the Soldier to effectively suppress and incapacitate exposed and defilade personnel targets out to 2000 meters using airbursting, fragmenting, or thermobaric ammunition. Starting in FY06 and continuing through FY09, this program will be funded directly from PE 0604645 to support the Future Combat Systems (FCS) Unit of Action requirement for a mounted version of the XM-307 machine gun.

Project S58 (Soldier Enhancement Program) supports accelerated integration, modernization, and enhancement efforts of lighter, more lethal weapons, and improved soldier items including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigational aids.

Project S59 (Soldier Support Equipment) supports system development and prototyping of critical Soldier support systems and other combat service support equipment that will improve unit sustainability and combat effectiveness.

Project S60 (Clothing and Equipment) supports pre-production development of state-of-the-art individual clothing and equipment to improve the survivability, mobility and

sustainment affecting the quality of life of the individual Soldier.

Project S61 (Aircrew Integrated Systems) provides System Development programs with improved aviator safety, survivability, and human performance that amplify the warfighting effectiveness and facilitates full-spectrum dominance of the Army aircraft including the AH-64 Apache/Longbow, CH-47 Chinook, UH/HH-60 Blackhawk, Light Utility Helicopter, and Armed Reconnaissance Helicopter.

Project S62 (Objective Individual Combat Weapon) funds will be applied to continue System Development and Demonstration (SDD) of the XM-25 Air Burst Weapon System. The XM25 is the air burst portion of the XM-29 Integrated Air Burst Weapon. The XM-25 dramatically increases Soldier lethality, survivability, and standoff capability when engaged in combat operations.

Project S63 (Small Arms Improvements) demonstrates engineering development models or integrated commercial items designed to enhance lethality, target acquisition, fire control, training effectiveness, and reliability for small arms weapon systems and ammunition.

Project S64 (CROWS Lightning) funds will be applied to continue integrating a lightweight weapon station including fire control, sensors and control grip onto light and/or medium tactical vehicles to obtain a safety release for operational assessment in Iraq. This capability will enhance the Soldiers survivability, lethality and situational awareness.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	33712	34627	31265
Current BES/President's Budget (FY 2007)	33697	53257	31748
Total Adjustments	-15	18630	483
Congressional program reductions		-233	
Congressional rescissions		-537	
Congressional increases		19400	
Reprogrammings	-15		
SBIR/STTR Transfer			
Adjustments to Budget Years			483

FY06 Congressional increases include the following:

1) $15.0M for the Objective Individual Combat Weapon ($10.0M for Increment 1 and $5.0M for Increment 2) in Project S62;
2) $1.0M for Type Classification of Ammunition (5.56mm, 7.62mm, and .50 Cal) in Project S63;
3) $1.0M for Polymer 5.56mm Ammunition development in Project S63;
4) $2.4M for the Common Remotely Operated Weapon Station - Lightning (CROWS Lightning) in Project S64.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604601A - Infantry Support Weapons**	**S58**

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
S58	SOLDIER ENHANCEMENT PROGRAM	0	12618	15649	19433	15994	17128	12430	0	93252

A. Mission Description and Budget Item Justification: This program supports accelerated integration, modernization, and enhancement efforts of lighter, more lethal weapons, and improved soldier items including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigational aids. Soldiers are managed in three categories: dismounted Soldiers, combat crews (air and ground), and other Soldiers. Projects are generally completed in three years or less.

Funds for prior year efforts were funded under PE 0604713A (Project 668 - Soldier Enhancement Program).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY06-07: Current Plan includes evaluation and procurement of prototypes and/or test for the following Soldier Equipment Items: System of Flashlights, Fuel Handlers Overalls, Advanced Sniper Accessory Kit, Parachute Electronic Activation Device, Improved Water Purification device, Sapper Pack, and Sapper Leader Pack.	0	4098	5310
FY06-07: Current Plan includes evaluation and procurement of prototypes and/or test for the following Soldier Weapons Items: combat Mission Capability Kit (CCMCK), Semi-Auto Sniper System (SASS), close Quarters Battle Kit (CQB) , Modular accessory Shotgun System (MASS), 12 GA Non-Lethal, Family of Suppressors, Grenade Launcher Module (GLM), XM 104 Non-Lethal Grenade, Joint Combat Pistol, and Advance Sniper Accessory Kit (ASAK).	0	2769	2338
FY06-FY07: Continue in-house engineering support services, conduct technical evaluations and program reviews.	0	2640	2752
FY06-FY07: Initiate market surveys and/or evaluations on new items to commence development and demonstration. New items started will continue evaluation/procurement of new prototypes.	0	1107	2942
FY06-FY07: Current Plan includes evaluation and procurement of prototypes and/or test for Soldier equipment and Lethality programs that will be approved in a SEP Review in Feb 2006: 12 GA Breaching Cartridge, Cool Knit T-Shirt, Inflatable Life Vest, Laser Pointer, Strap Cutter, Video Tactical Surveillance System, Mini-Thermal, Short Sleeve Shirt & Boxers, Long Underwear, Balaclava, Family of Edged Weapons.	0	2004	2307
Total	0	12618	15649

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, MA68000, Soldier Enhancement	7241	4745	9298	10690	3463	7462	5541	CONT	CONT
OPA2, BA5300, Soldier Enhancement	6588	5925	9933	10192	6410	7210	5188	CONT	CONT
WTCV, GC0076, Small Arms (SEP)	23100	5178	2750	5424	1261	5177	4197	CONT	CONT
WTCV, GZ1290,Squad Automatic Wpn (Mods)	19685	7553	5253	9361	4153	5090	3150	CONT	CONT

WTCV, GZ2800, M16 Rifle Mods	20476	11533	1012	3900	1017	3563	3558	CONT	CONT
WTCV, GB3007, M4 Carbine Mods	87914	89637	30871	13696	6081	13432	9441	CONT	CONT
WTCV, GO1500, Sniper Rifle	13452	10527	8458	417	225	231	244	CONT	CONT
WTCV,GC0925, Mods	8315	5077	1700	2791	497	3067	2113	CONT	CONT
PAA, F47500, 7.62mm AP	6508	4833	5154	8424	8736	5900	0	0	39555
PAA, F47600, 5.65mm AP	4567	6727	7283	11813	12187	8264	0	0	50841
OMA, 121017, Central Funding & Fielding	146876	150897	167266	112788	96795	98513	50068	CONT	CONT

C. Acquisition Strategy The Soldier Enhancement Program (SEP) focuses on developmental initiatives and integration efforts that lend themselves to accelerated acquisiton and fielding in the near term (within three years). New SEP candidates are reviewed and approved annually. SEP items are procured from multiple appropriations, i.e., OMA, OPA, WTCV, and PAA, contracts, vendors to include COTS.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S58

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
Various	Various	TBD	0	0		4290	1-2Q	5008	1-2Q	0	9298	0
Subtotal:			0	0		4290		5008		0	9298	0

Remarks: Candidates for the Soldier Enhancement Program are received, reviewed, and approved annually. Contractual efforts are focused on procuring prototypes for testing.
Funding for PE 0604713A, Project 668 transitions to PE 0604601A Project S58 beginning in FY06.

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
Various	Various	TBD	0	0		3091	1-4Q	4300	1-4Q	0	7391	0
Subtotal:			0	0		3091		4300		0	7391	0

Remarks: Support costs vary annually depending on the type of items that are being evaluated. Research, Development, and Engineering Centers support to evaluate these items also varies annually depending on the number and types of items.
Funding for PE 0604713A, Project 668 transitions to PE 0604601A Project S58 in FY06.

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
Various	Various		0	0		2814	1-4Q	2992	1-4Q	0	5806	0
Subtotal:			0	0		2814		2992		0	5806	0

Remarks: Testing costs vary annually depending on number and type of items being evaluated.

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
In-House	MIPR	PEO Soldier, Ft Belvoir, Va	0	0		2423	1-4Q	3349	1-4Q	0	5772	0
Subtotal:			0	0		2423		3349		0	5772	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604601A - Infantry Support Weapons**	**S58**

Remarks: Costs vary annually depending on number and type of items being evaluated.

Project Total Cost:	**0**	**0**		**12618**		**15649**		**0**	**28267**	**0**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604601A - Infantry Support Weapons**	**S59**

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
S59	SOLDIER SUPPORT EQUIPMENT - ED	0	292	308	308	307	642	642	0	2499

A. Mission Description and Budget Item Justification: Not applicable for this item.

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604601A - Infantry Support Weapons**	**S60**

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
S60	CLOTHING & EQUIPMENT	0	7805	9222	9466	9387	5998	6101	0	47979

A. Mission Description and Budget Item Justification: The funding in this project supports pre-production development of state-of-the-art individual clothing and equipment to improve the survivability, mobility and sustainment affecting the quality of life of the individual Soldier. Funds for prior year efforts were funded in PE 0604713A (Project L40 - Soldier Support Systems).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY06: Modular Boot System: Initiates Low Rate Initial Production in FY06, to build test articles, with full rate production decision in 3rd Qtr FY07.	0	470	0
FY06: Soldier Body Armor (SBA) Enhancements: Continues Product Improvement of Interceptor Body Armor (IBA) in support of fielding and execute incremental capability improvements related to technology maturity and operational feedback.	0	475	0
FY06: Organizational Clothing and Individual Equipment (OCIE) Modernization: Modernizes fabric and design of OCIE items in order to incorporate comfort and durability and improve functionality and fit (Maternity Uniform, Coveralls, Wool Winter Socks, Moisture wicking undergarments). Evaluates samples, conducts technical tests and user evaluations.	0	580	0
FY06: Combat Eye Protection (CEP): Evaluates and guides industry to Product Improve commercial ballistic eyewear and selects the most viable for incorporation of standard prescription carriers and protection against lasers. Applies/tests advanced photochromic technology and dielectric stack technology to ballistic protective lenses and examines various lens enhancements.	0	573	0
FY06: Army Combat Environmental Clothing System (ACECS): Initiates testing of items for field and user evaluation to approve material changes and/or type classification.	0	275	0
FY06: Air Drop Development: Builds Operational Test assets for Advanced Tactical Parachute System and conducts operational testing.	0	1375	0
FY06: Glove Enhancement Initiative: Continues to upgrade existing multitude of gloves to be more in line with State of the Art materials and technology/design.	0	425	0
FY06: Service Uniform Modernization: Continues efforts to incorporate new fabrics, fabric finishes and design features. (Class A Uniform, women's Mess, Dress Uniform, Blouse, Sweater Cardigan Black, Sweater Cardigan White)	0	740	0
FY06: Clothing Bag Modernization: Continues to modernize fabric and design of items contained in the clothing bag in order to improve functionality, comfort, fit and durability. Conducts Market Surveys, processes evaluation samples, conducts technical and user evaluations (Improved Physical Fitness Uniform (IPFU), duffel Bag, Towel Bath Coat cold weather, Dress & Boot Socks, Undershirt Clothing Bag)	0	622	0
FY06: Army Combat Uniform Ancillary Items: Continues to update previously identified items/specifications to include new shade requirement, design changes and component changes to conform to the new universal camouflage pattern.	0	220	0
FY06: Improved Water Purification: Initiates effort to incorporate evolving filtration/purification technologies into on-the-move hydration	0	320	0

systems.			
FY06: Advanced Bomb Suit(ABS): Continues efforts to provide capabilities enhancement to the fielded ABS consisting of NBC protection (level C) and communications components.	0	370	0
FY06: Gross Liquid Chemical Protective Ensemble: Initiates effort to replace Suit Contamination Avoidance Liquid Protective (SCALP) garment with a garment to go over Joint Services Lightweight Integrated Suit Tech (JSLIST) for splash protection. Purchases test items, test physical properties and chemical agent resistance, user preference and conduct operational testing.	0	820	0
FY06: Extreme Cold Weather Stove: Completes Technical testing to evaluate durability and fuel consumption.	0	540	0
FY07: Individual Soldier Ballistic Protection: Conducts system integration and formal DT/OT of pre-production and production representative systems applying advanced ballistic materials to increase Soldier survivability while decreasing weight, cube and cost. Integrates and enhances Soldier Body Armor, Combat Eyewear, Bomb Suit, Face Shield, Blast Protective Footwear and Combat Helmet capabilities providing head-to-toe protection from current and emerging ballistic/blast threats. Proves out commonality at the component and subsystem levels to provide a modular layered/integrated ballistic protection system.	0	0	3318
FY07: Soldier Uniforms and Clothing: Conducts system integration and formal DT/OT of preproduction and production representative systems leveraging advancements in materials, nanotechnology, fabrication techniques, moisture management, flame resistance, antimicrobial treatments, insect protection, extreme environmental protection and advancements in chem/bio protection to increase the capabilities and durability of tactical and non-tactical clothing. Proves out commonality across as broad a spectrum of users as possible to provide a modular integrated uniform/clothing system from skin out and head-to-toe.	0	0	2406
FY07: Individual Equipment: Conducts system integration and formal DT/OT of preproduction and production representative systems utilizing advancements in technology for load bearing equipment, hydration technologies including water filtration and NBC hydration, and other mission essential and/or mission specific equipment for Soldiers. Proves out as much commonality as feasible across a broad spectrum of user and mission scenarios.	0	0	2356
FY07: Soldier Cooling: Conducts system integration and formal DT/OT of preproduction and production representative advanced lightweight, low power cooling systems for use with NBC and ballistic protection ensembles. Proves out courses of action from trade-off analyses and system integration providing Soldiers enhanced ability to conduct missions for longer periods of time in extreme environments.	0	0	1142
Total	0	7805	9222

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0604713.L40, Clothing and Equipment	5114	0	0	0	0	0	0	0	5114
RDTE, 0603747.669, Clothing and Equipment	7946	0	0	0	0	0	0	0	7946
RDTE, 0603827.S53, Clothing and Equipment	0	6924	6903	9668	9184	6512	6718	CONT	CONT
OMA, 121017, Central Funding and Fielding	146876	150897	167266	112788	96765	98513	50068	CONT	CONT

C. Acquisition Strategy Acquisition strategies will vary in methods: quick fixes in 12-24 months or less from concept to Type Classification (TC), 2) Moderization improvements which require limited RD&E and will be completed in more than 24-48 months from inception to Type Classification, 3) Fully integrated development that will require substantial RDT&E funding and will be completed in 4 years or more.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S60

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
Various	MIPRs	Natick Soldier Center, Natick, MA	0	0		2000	1-3Q	610	1-3Q	Continue	0	0
Various	Contracts	Various	0	0		2200	1-3Q	4022	1-3Q	Continue	0	0
Subtotal:			0	0		4200		4632		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
Misc Support Costs	MIPR	Various	0	0		1802	1-2Q	2025	1Q	Continue	0	0
Subtotal:			0	0		1802		2025		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
Various	MIPRS	Various	0	0		1087	1-3Q	1640	1-3Q	Continue	0	0
Subtotal:			0	0		1087		1640		Continue	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
In-House Support		PM CIE Ft Belvoir, VA	0	0		716	1-4Q	925	1-4Q	Continue	0	0
Subtotal:			0	0		716		925		Continue	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S60

Project Total Cost:	**0**	**0**		**7805**		**9222**		**Continue**	**0**	**0**

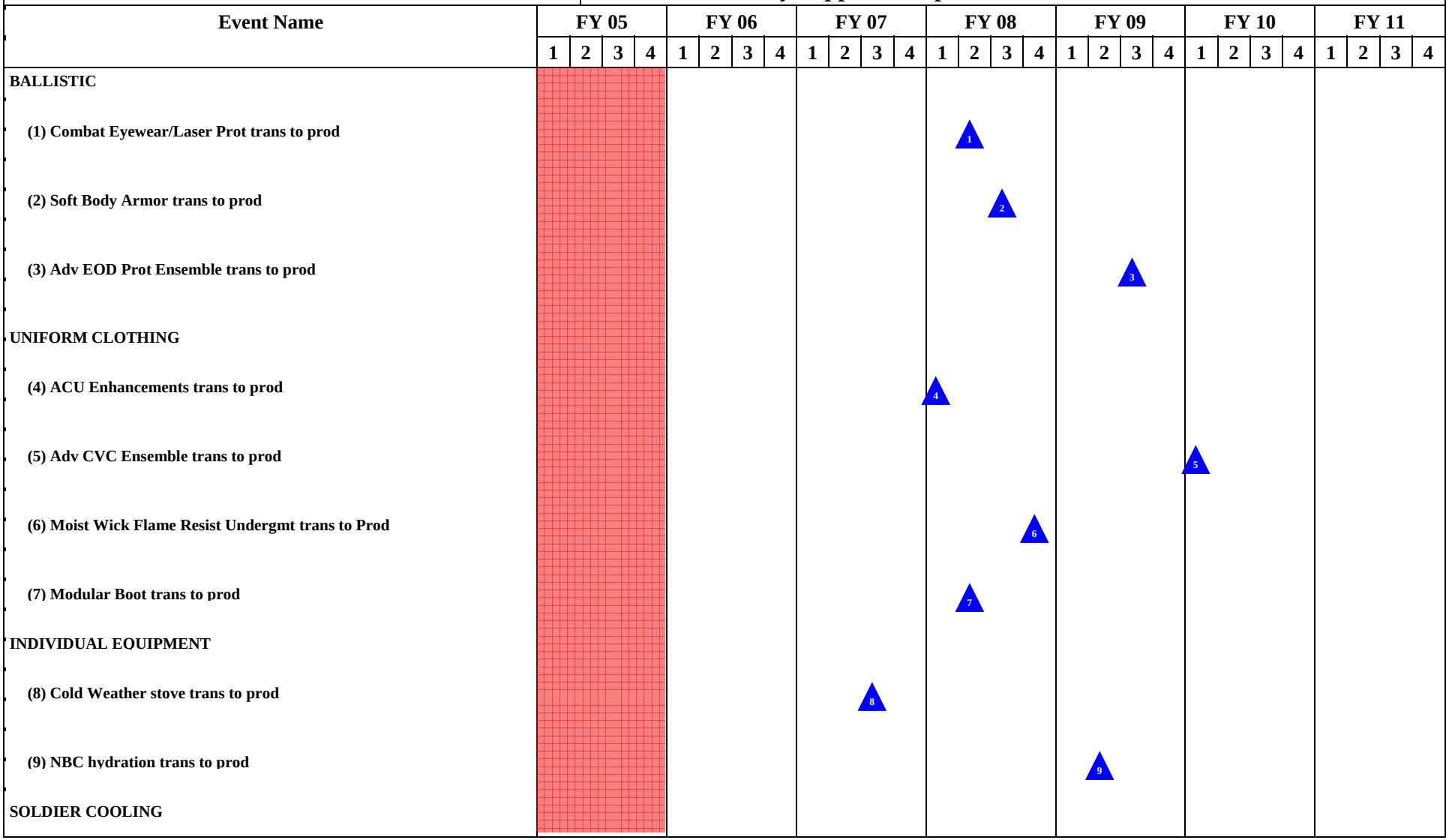
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S60



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S60

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Modular Boot System LRIP		3-4Q	1-2Q				
Glove Enhancement Initiative - User Evaluations		1-4Q	1-4Q				
Extreme Cold Weather Stove Technical Testing		1-2Q					
BALLISTIC - COMBAT EYEWEAR/LASER PROT DT/OT			2-4Q	1Q			
BALLISTIC - COMBAT EYEWEAR/LASER PROT TRANS TO PROD				2Q			
BALLISTIC - SOFT BODY ARMOR DT/OT			4Q	1-2Q			
BALLISTIC - SOFT BODY ARMOR TRANS TO PROD				3Q			
BALLISTIC - ADV EOD PROT ENSEMBLE DT/OT				3-4Q	1-2Q		
BALLISTIC - ADV EOD PROT ENSEMBLE TRANS TO PROD					3Q		
UNIFORM CLOTHING - ACU ENHANCEMENTS DT/OT			2-4Q				
UNIFORM CLOTHING - ACU ENHANCEMENTS TRANS TO PROD				1Q			
UNIFORM CLOTHING - ADV CVC ENSEMBLE DT/OT					1-4Q		
UNIFORM CLOTHING - ADV CVC ENSEMBLE TRANS TO PROD						1Q	
UNIFORM CLOTHING - MOIST WICK FLAME RESIST UNDERGARMENTS DT/OT				1-3Q			
UNIFORM CLOTHING - MOIST WICK FLAME RESIST UNDERGARMENTS TRANS TO PROD				4Q			
UNIFORM CLOTHING - MODULAR BOOT DT/ OT			3-4Q	1Q			
UNIFORM CLOTHING - MODULAR BOOT TRANS TO PROD				2Q			
INDIVIDUAL EQUIPMENT - COLD WEATHER STOVE DT/OT			1-2Q				
INDIVIDUAL EQUIPMENT - COLD WEATHER STOVE TRANS TO PROD			3Q				
INDIVIDUAL EQUIPMENT - NBC HYDRATION DT/OT				2-4Q	1Q		
INDIVIDUAL EQUIPMENT - NBC HYDRATION TRANS TO PROD					2Q		
SOLDIER COOLING DT/OT				2-4Q	1-2Q		

SOLDIER COOLING TRANS TO PROD					3Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604601A - Infantry Support Weapons**	**S61**

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
S61	ACIS ENGINEERING DEVELOPMENT	0	2216	2326	2562	2662	2751	2852	0	15369

A. Mission Description and Budget Item Justification: This project provides System Development programs with improved aviator safety, survivability, and human performance that amplify the warfighting effectiveness and facilitates full-spectrum dominance of the Army aircraft including the AH-64 Apache/Longbow, CH-47 Chinook, UH/HH-60 Blackhawk, Light Utility Helicopter, and Armed Reconnaissance Helicopter. These programs include soldier systems and equipment which are unique and necessary for the sustainment, survivability, and performance of Army aircrews and troops on the future integrated battlefield. The Air Warrior program will provide the aircrew with a systems approach to noise protection, three-dimensional audio and external audio capability, microclimate conditioning, crash and post-crash survivability, concealment and environmental protection, ballistic protection, night vision capability and heads-up display, directed energy eye protection and flame/heat protection. Air Warrior enables the Army Aviation Warfighter to meet the approved Operational Requirements Document mission length of 5.3 hours with aviators in full chemical/biological protective gear. Preplanned block improvements integrating new technologies into the Air Warrior system will continue to enhance and maximize aircrew mission performance, comfort, aircrew station interface, safety, and survivability. These funds also resource improved laser protection against emerging new threat systems and product improvement of existing helmets to improve performance and increased commonality. Maximum advantage will be taken of simulation to reduce program technical risk through early user evaluation and to reduce program design and test cost and schedules. This program does not duplicate any aircraft platform program efforts. Both joint and service independent efforts continue to be pursued under the scope of this program.

Funds for prior year efforts were funded in PE 0604801A (Project C45 - Aircrew Integrated Systems).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue the integration of preplanned Air Warrior Block 2 and 3 improvements.	0	1048	891
Aircrew wireless intercom system (AWIS) encryption certification	0	1168	1435
Total	0	2216	2326

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, A PE 0604801A PROJ DC45 EMD	3236	0	0	0	0	0	0	0	6492
RDTE, A PE 0604801A, PROJ DB45 - Adv Dev	6173	0	0	0	0	0	0	0	13274
RDTE, A PE 0603827A, PROJ S51 - Adv Dev	0	3325	3497	3579	3677	4111	4109	CONT	CONT
Aircraft Procurement, Army SSN AZ3110 - ACIS	32267	31820	35346	42727	39430	57404	42849	CONT	CONT

C. Acquisition Strategy System Development and Demonstration efforts are for the Air Warrior Block 2 Aircraft Wireless Intercom System (AWIS). The AWIS is a hands-free telecommunication device using radio signals for aircrew communication. Development efforts are awarded through competitive cost plus fixed fee contracts or by Military Interdepartmental Purchase Requests (MIPRs) to other government agencies.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S61

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
Air Warrior Development	C - CPFF	Various	0	0		1666	1Q	1714	1Q	0	0	0
Subtotal:			0	0		1666		1714		0	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
Matrix Support	MIPR and Project Order	Various Government	0	0		144	1-4Q	150	1-4Q	0	0	0
Subtotal:			0	0		144		150		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
Developmental Testing	MIPR	Various	0	0		200	1-2Q	250	1-2Q	0	0	0
Subtotal:			0	0		200		250		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
PM Administration	Allotment	Various Government	0	0		206	1-4Q	212	1-4Q	0	0	0
Subtotal:			0	0		206		212		0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604601A - Infantry Support Weapons**	**S61**

Project Total Cost:	**0**	**0**		**2216**		**2326**		**0**	**0**	**0**

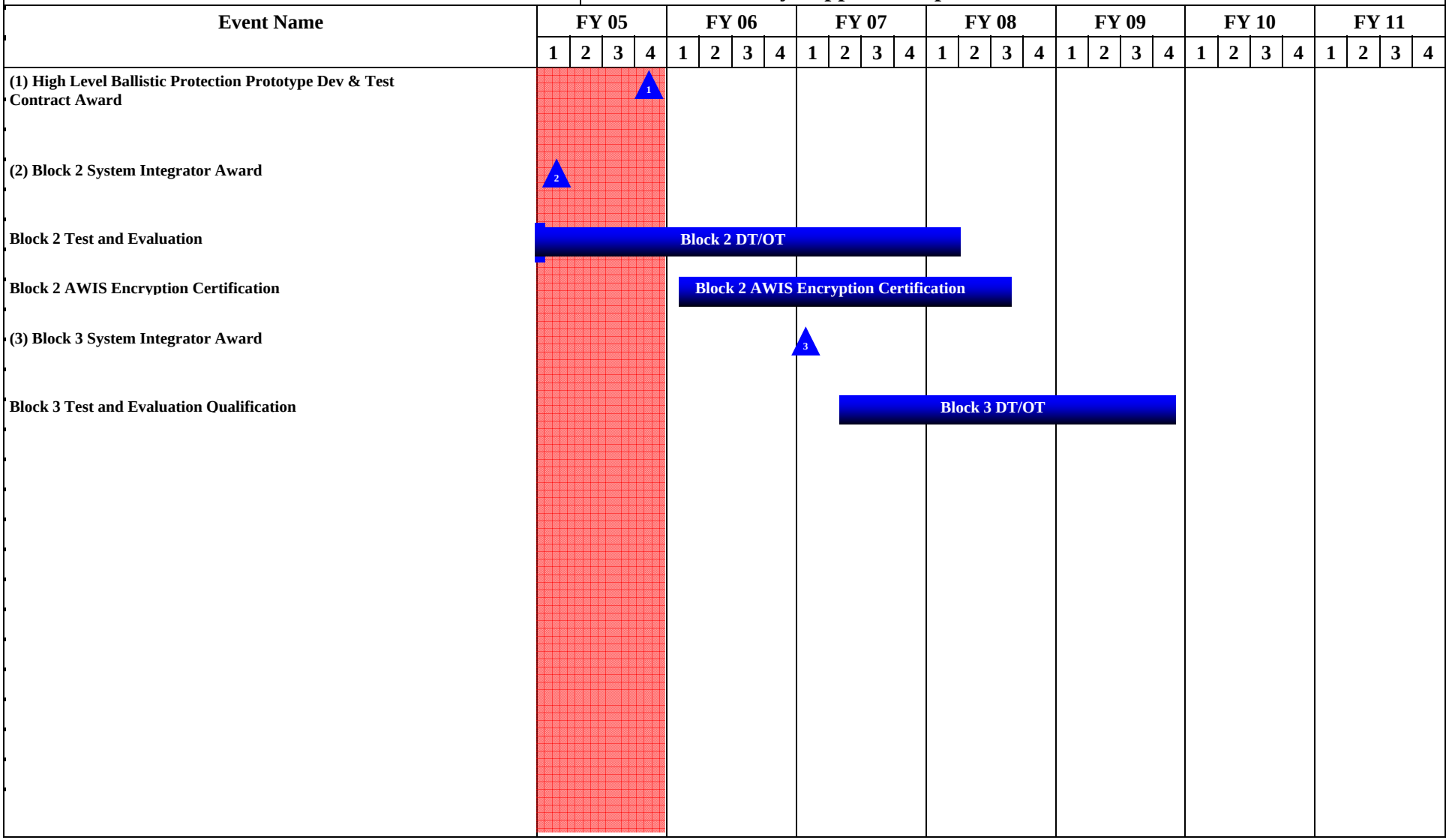
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S61



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S61

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
High Level Ballistic Protection Prototype Development and Testing Contract Award	4Q						
Block 2 System Development and Demonstration Award	2Q						
System Development, Demonstration, Test and Evaluation of Air Warrior Block 2	1-4Q	1-4Q	1-4Q	1Q	1-4Q		
Block 2 AWIS Encryption System		1-4Q	1-4Q	1-4Q			
Block 3 System Development and Demonstration Award			1-3Q				
Block 3 Test and Evaluation Qualification			2-4Q	1-4Q	1-4Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604601A - Infantry Support Weapons**	**S62**

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
S62	OBJECTIVE INDIVIDUAL COMBAT WEAPON	0	19839	1814	2758	0	0	0	0	24411

A. Mission Description and Budget Item Justification: The Objective Individual Combat Weapon (OICW) is a program to develop a dual barrel weapon system allowing the Soldier to fire both kinetic energy and air bursting munitions from the same weapon system, and is comprised of three increments.

The OICW Increment I program will conduct a full and open competition on the family of weapons. The OICW Increment I is the kinetic energy portion of the OICW Increment III dual barrel weapon system. It will provide improved reliability, durability, and improved modularity in theater. It will also increase Soldier effectiveness by providing improved first shot hit probability against moving threat targets from 0-300 meters. The OICW Increment I program includes a Multi-Function Sighting System that will allow the Soldier to have the functions of multiple sights in a single package.

The OICW Increment II program will continue the System Development and Demonstration (SDD) Phase of the Air Burst Weapon System, which is the second increment of the OICW program. The OICW Increment II is the air burst portion of the OICW Increment III dual barrel weapon system. The OICW Increment II dramatically increases Soldier lethality, survivability and standoff. The air burst weapon provides the Soldier with a 300-500% increase in hit probability to defeat point, area and defilade targets out to approximately 500 meters. The OICW Increment II weapon includes revolutionary high explosive air bursting munitions and an integrated, multi-functional, all environment, full-solution target acquisition / fire control system. The OICW Increment II program includes a 25mm family of munitions consisting of armor piercing, anti-personnel, non-lethal, and training practice round.

The Increment III program will continue the SDD phase by combining Increments 1 and Increments II into an integrated weapon with both kinetic and airburst capabilities.

Funds for prior year SDD efforts were funded under PE 0604802A (Project D134 - Objective Individual Combat Weapon).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Prototype Evaluation & Down Selection - OICW Increment I	0	3800	0
Bid Sample Test - OICW Increment I	0	800	0
Design & Fabricate - OICW Increment I	0	4900	0
Program Management - OICW Increment I & II	0	857	115
Pre-System Development & Demonstration - OICW Increment II	0	9232	54
Pre-System Development & Demonstration Test - OICW Increment II	0	250	400
Design, Develop & Fabricate - OICW Increment II	0	0	1245
Total	0	19839	1814

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE: PE 0603802A, Project AS3	6385	0	0	0	0	0	0	0	6385
RDTE: PE 0604802A, Project D134	19554	0	0	0	0	0	0	0	19554
WTCV: SSN G16101	400	0	32339	122060	137579	142715	144631	0	579724

Comment: In FY 2005, PE 0603802A (Project AS3) and PE 0604802A (Project 134) funds Increment I and Increment II of the OICW Program.

C. Acquisition Strategy The OICW Increment I will reach Milestone B in 4Q FY 2007. The System Development and Demonstration (SDD) phase will complete development of the OICW Increment I weapon and verify training solution for the Milestone C approval in FY 2008.

The OICW Increment II will reach Milestone B in 4Q FY 2007. The System Development and Demonstration (SDD) phase will complete development of the OICW Increment II weapon system and verify training solution for the Milestone C approval in FY 2010.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S62

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
OICW Increment I - Prototype Evaluation & Down Selection	TBS	Multiple	0	0		3300	4Q	0	1-2Q	0	0	0
OICW Increment I - Design & Fabricate	Cost Plus Fixed Fee	TBS	0	0		4900		0	4Q	0	0	0
OICW Increment II - Pre-System Development & Demonstration	Cost Plus Fixed Fee	ATK Minneapolis, MN	0	0		7776	4Q	0		0	0	0
OICW Increment II - Design, Develop & Fabricate	Cost Plus Fixed Fee	ATK Minneapolis, MN	0	0		0		1145	4Q	0	0	0
Subtotal:			0	0		15976		1145		0	0	0

Remarks: The OICW Increment I contract award is subject to the JROC approval of the CDD prior to 4Q FY06.

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
OICW Increment I - Engineering Support	MIPR	Multiple	0	0		500	4Q	0	1-4Q	0	0	0
OICW Increment II - Engineering Support	MIPR	Multiple	0	0		1356	4Q	108	1-4Q	0	0	0
OICW Increment II - Training Support	MIPR	PEO STRI	0	0		100	4Q	46	1-4Q	0	0	0
Subtotal:			0	0		1956		154		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
OICW Increment I - Bid Sample Test	MIPR	ATC, Aberdeen Prooving Ground, MD	0	0		800		0	2-4Q	0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604601A - Infantry Support Weapons**	**S62**

OICW Increment II - Pre-System Development & Demonstration	MIPR	Various	0	0		250	2-4Q	400	1-4Q	0	0	0
Subtotal:			0	0		1050		400		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
Program Management OICW Increment I	In-House	PM Soldier Weapons Picatinny Arsenal, NJ	0	0		500	2-4Q	0	1-4Q	0	0	0
Program Management OICW Increment II	In-House	PM Soldier Weapons Picatinny Arsenal, NJ	0	0		357	2-4Q	115	1-4Q	0	0	0
Subtotal:			0	0		857		115		0	0	0
Project Total Cost:			**0**	**0**		**19839**		**1814**		**0**	**0**	**0**

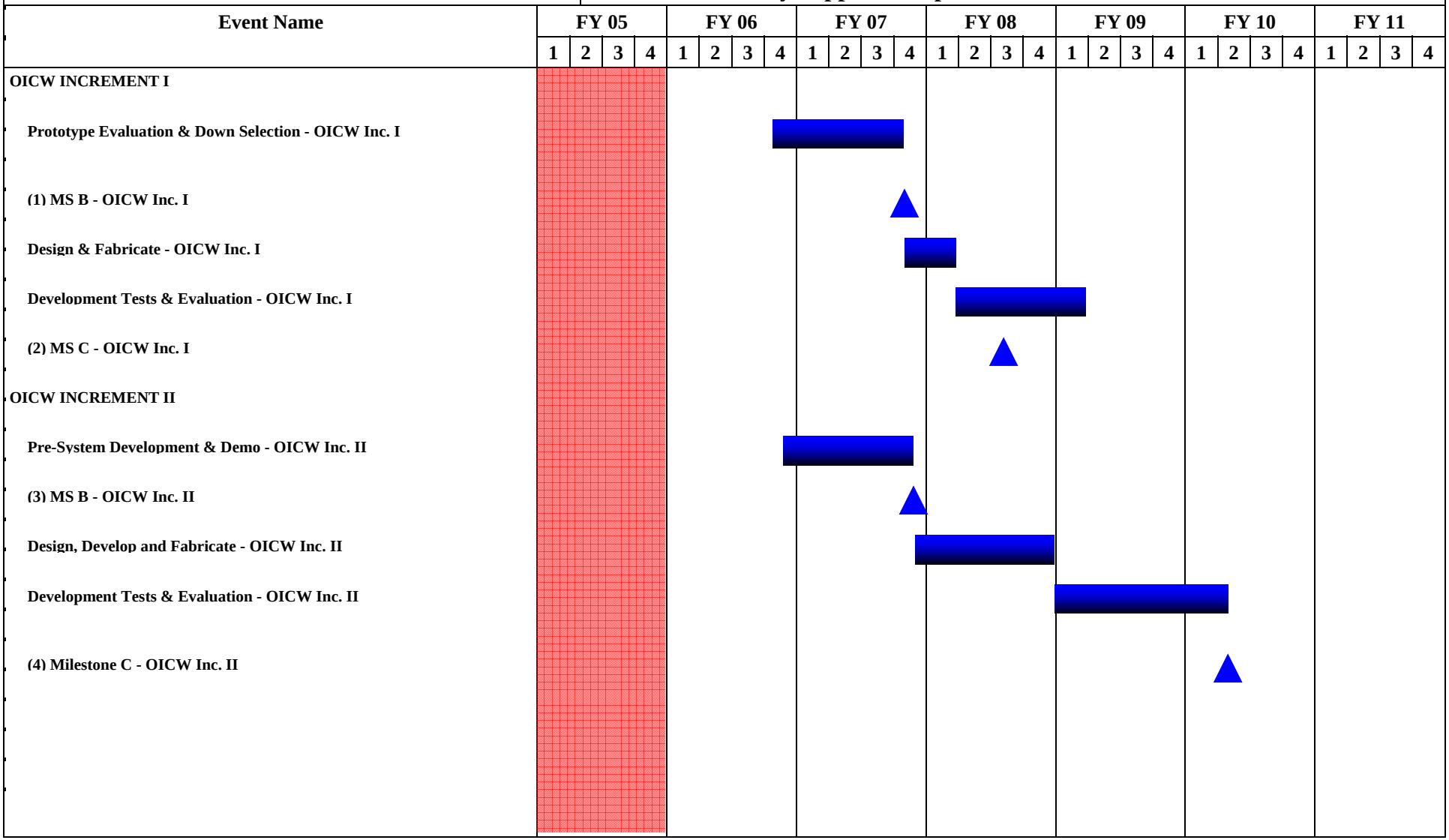
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S62



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S62

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Prototype Evaluation & Down Selection - OICW Increment I		4Q	1-4Q				
Milestone B - OICW Increment I			4Q				
Design & Fabricate - OICW Increment I			4Q	1Q			
Development Tests & Evaluation - OICW Increment I				1-4Q	1Q		
Milestone C - OICW Increment I				3Q			
Pre-System Development & Demonstration - OICW Increment II		4Q	1-4Q				
Milestone B - OICW Increment II			4Q				
Design, Develop & Fabricate - OICW Increment II			4Q	1-4Q			
Development Tests & Evaluation - OICW Increment II					1-4Q	1Q	
Milestone C - OICW Increment II						2Q	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604601A - Infantry Support Weapons**	**S63**

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
S63	SMALL ARMS IMPROVEMENT	0	8121	2429	14117	4888	14983	11117	0	55655

A. Mission Description and Budget Item Justification: The Small Arms Improvement program provides demonstration of engineering development models or integrated commercial items designed to enhance lethality, target acquisition, fire control, training effectiveness, and reliability for small arms weapon systems and ammunition. Future programs will provide enhancements to weapons, fire control, ammunition, and optics through improved technology associated with light weight materials, obscurants, reconnaissance, observation, lethal and non-lethal ammunition, and electronics. Current small arms include a variety of personal defense weapons (9mm), individual weapons (5.56mm), crew-served weapons (7.62mm and 40mm), and related items such as fire control equipment, training devices, and ammunition. Current efforts focus on improvements to current weapons such as the M249 Squad Automatic Weapon (SAW), the M16 Rifle, the M4 Carbine, the MK19 Grenade Machine Gun, the M2 Machine Gun, and the M240 Medium Machine Gun. Other improvements are included as well, such as enhancements to mounts and ammunition. Specifically, this includes improvements to the XM1037 Short Range Training Ammo for the M249 SAW, development of Light Weight Ammo, an improved HMMWV Auxiliary Weapon Mount, integration of the Advanced Crew Served Weapon (ACSW) on the Common Remotely Operated Weapon Station (CROWS), and improved combat optics. Future programs include Proximity Ammo (formerly called Air Burst Ammo), and a Light Weight Machine Gun (FY07 new start effort). Platform Integration efforts include the development of a MK93/MK64 cradle adapter providing the Soldier with the capability of using M249 and M240 machine guns, and the development of a new M2 Light Weight Tripod . Future efforts will also be pursued for alternate integration of M249 mounts, M240 mounts, MK19 mounts, and XM307 mounts with numerous alternate platforms, replacements, and enhancements to all current and future weapons systems.

Funds for prior year efforts in this project were funded in PE 0604802 (Project DAS1 - Small Arms Improvements).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
XM1037 Short Range Training Ammunition for the M249 SAW	0	0	0
- DT	0	200	0
- Safety Confirmation	0	10	0
- System Evaluation Report	0	40	0
- Milestone C	0	70	0
M240 Weight Reduction (Transition from PE 0604802 / Project DAS1	0	0	0
- Technical Test/Limited User Test	0	255	0
- Independent Assessment/Test Reports	0	155	0
- Program Documentation/TC-STD	0	125	0
Platform Integration of Crew Served Weapons	0	0	0
- HMMWV Imp Auxiliary Weapon Mount	0	0	0

- Market Research/Survey/Evaluation	0	12	0
- In House Design, Development, Testing and Improvement	0	304	0
- Production Hardware	0	200	0
- Technical Testing	0	163	0
M2 Machine Gun, Lightweight Tripod	0	0	0
- Market Research / Evaluation	0	120	0
- Design, Development, Engineering, Testing, and Evaluation	0	321	155
- Design Improvements	0	0	160
- Modeling, Simulation & Fabricate Prototypes	0	0	160
- Technical Testing	0	0	60
- Prepare RFP	0	0	22
Advanced Crew Served Weapon Integration on CROWS	0	0	0
- Contract Award	0	1690	0
- Design, Development & Engineering	0	440	0
- Integration Support	0	30	0
- Demonstration	0	30	0
Swing Arm Mounts, MK64 Cradles, and Universal Pintle Adapters	0	0	0
- Market Research/Survey/Evaluation	0	0	50
- Design, Prototype Development, Manufacture and Testing	0	0	450
- Technical & Operational Tests	0	0	443
- Safety Release	0	0	50
Small Caliber Lightweight Ammo	0	0	0
- Prepare RFP / Contract Award	0	60	0
- Sample Fabrication, Lethality/Reliability, Test, Design Review/Eng	0	1320	0
- Manufacture DTI Qty	0	450	0
- DT I	0	0	200
- Design Review	0	0	75
- Eng Analysis	0	0	304
LT WT Medium Machine Gun (FY07 New Start)	0	0	0

- Conduct Market Survey	0	0	70
- Analysis of Alternative/Requirements	0	0	90
- Develop ICD	0	0	90
Improved combat optics	0	0	0
- Evaluate/Downselect	0	340	0
- Award Contract/Produce Hardware	0	150	0
- DT/OT Independent Evaluation	0	510	0
- Prepare Program Documentation/MS C	0	200	0
Proximity Ammo (formerly called Airburst Ammo) (Transition from PE 0603802A Project DAS2)	0	0	0
- System Parameter Analysis	0	0	50
M2E2 Quick Change Barrel Kit	0	0	0
- Headspace Analysis	0	44	0
Lightweight 5.56mm Polymer Ammo.	0	0	0
- Design Review/Engineering	0	202	0
- Contract Award	0	680	0
Total	0	8121	2429

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
WTCV, GZ1290, Squad Auto Wpn (MODS)	19685	7553	5253	9361	4153	5090	3150	0	54245
WTCV, GZ2800, M16 Rifle MODS	20476	11533	1012	3900	1017	3563	3558	0	45059
WTCV, GB3000, MK19 MODS	4217	5371	3168	6264	7724	8433	8581	0	43758
WTCV, GZ1300, Med MG (MODS)	15583	15994	5293	14077	0	4277	3558	0	58782
WTCV, GB3007, M4 Carbine MODS	87914	89637	30871	13696	6081	13472	9441	0	251112
RDTE, AS1 - Small Arms Improvements	8709	0	0	0	0	0	0	0	16798

C. Acquisition Strategy Primary strategy is to mature and finalize design efforts, award RDT&E hardware contracts, and test and evaluate systems that will result in type classification and follow-on production contract awards.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S63

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
Hardware Development	TBD	Various	0	0		3695	1-3Q	0		Continue	0	0
Subtotal:			0	0		3695		0		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
Development	MIPR	RDECOM - ARDEC, Picatinny Arsenal, NJ	0	0		1941	1-3Q	1286	1-3Q	0	0	0
Logistics	MIPR	TACOM, Rock Island Arsenal, IL	0	0		140	1-3Q	0		0	0	0
Human Research and Eng Directorate	MIPR	Aberdeen Proving Ground (APG), MD	0	0		135	1-3Q	75	1-3Q	0	0	0
Subtotal:			0	0		2216		1361		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
DT	MIPR	Developmental Test Command (DTC), Aberdeen Proving Ground (APG), MD	0	0		875	1-3Q	365	1-3Q	Continue	0	0
OT	MIPR	Army Test and Evaluation Command (ATEC), Alexandria, VA	0	0		280	1-3Q	258	1-3Q	0	0	0
Validation Testing	MIPR	Developmental Test Command (DTC),	0	0		235	1-3Q	10	1-3Q	0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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0604601A - Infantry Support Weapons

PROJECT
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		Aberdeen Proving Ground (APG), MD										
Subtotal:			0	0		1390		633		Continue	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Management	In House	PM Soldier Weapons, Picatinny Arsenal, NJ	0	0		750	1-3Q	380	1-3Q	0	0	0
Travel	In House	PM Soldier Weapons, Picatinny Arsenal, NJ	0	0		70	1-3Q	55	1-3Q	0	0	0
Subtotal:			0	0		820		435		0	0	0
Project Total Cost:			**0**	**0**		**8121**		**2429**		**0**	**0**	**0**

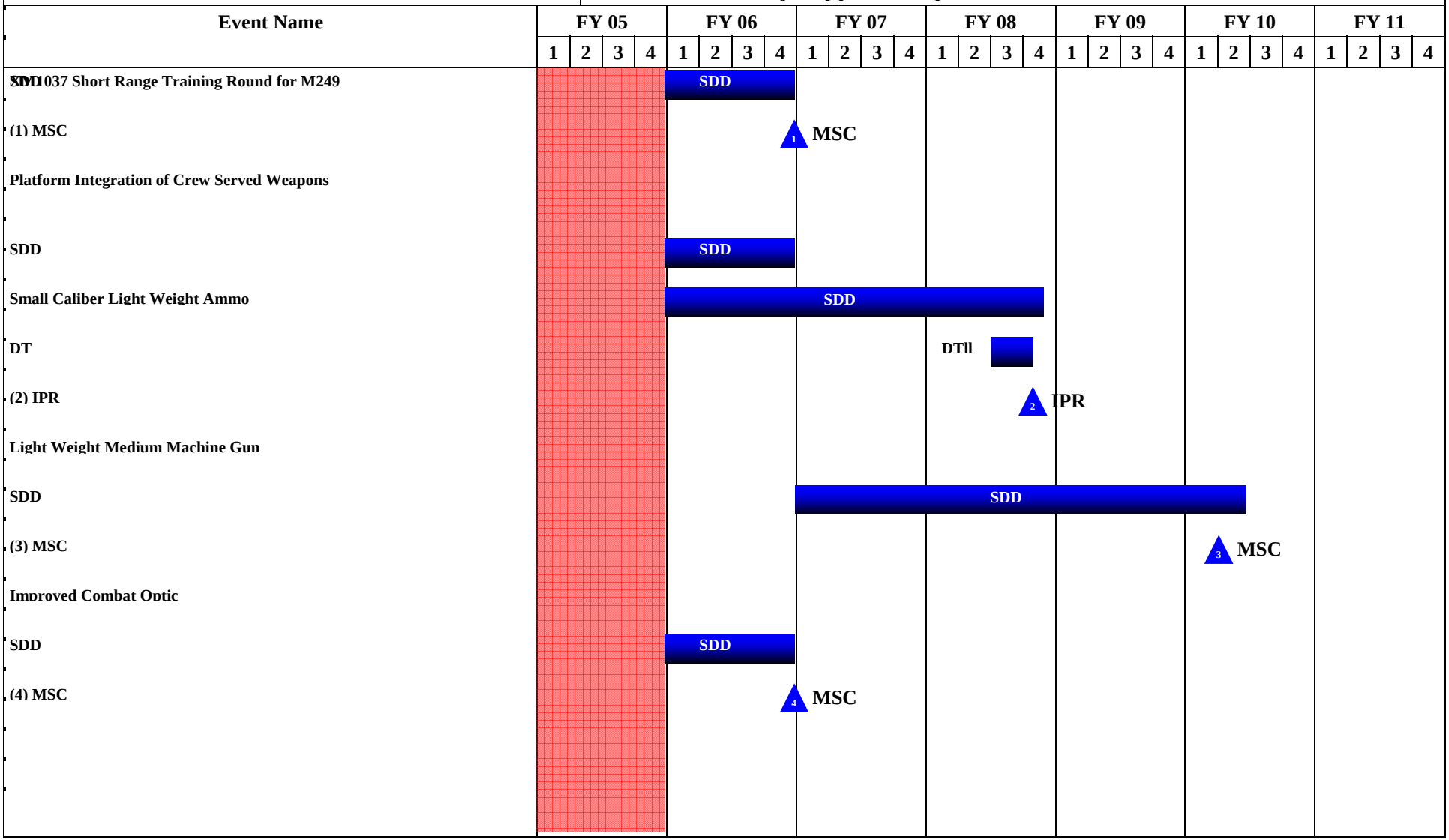
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S63



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S63

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
M249 Short Range Training Ammunition							
- DT		3Q					
- Safety Confirmation		3Q					
- System Evaluation Report (FY06 Carryover)		4Q	1Q				
- Milestone C (FY06 Carryover)			1Q				
M240 Weight Reduction							
- Technical Test/Limited User Test (FY06 Carryover)			1Q				
- Independent Assessment/Test Reports (FY06 Carryover)			1-2Q				
- Program Documentation/TC-STD (FY06 Carryover)			2Q				
Platform Integration of Crew Served Weapons							
- HMMWV Imp Auxiliary Weapon Mount							
- Market Research/Survey/Evaluation		1Q					
- In House Design, Development, Testing and Improvement		2-3Q					
- Production Hardware		3-4Q					
- Technical Testing		4Q					
- M2 MG, LTWT Tripod							
- Market Research/Evaluation		2Q					
- Design, Development, Engineering, Testing, and Evaluation		3-4Q	1Q				
- Design Improvements			1-2Q				
- Modeling, Simulation, & Fabricate Prototypes			2Q				
- Technical Testing			3Q				
- Prepare RFP			4Q				
- Contract Award				1Q			
- Test Hardware				2Q			
- Technical Testing				3Q			

- Milestone C				4Q			
- ACSW Integration on CROWS							
- Contract Award		2Q					
- Design, Development & Engineering (FY06 Carryover)		3-4Q	1Q				
- Integration Support (FY06 Carryover)		3-4Q	1Q				
- Demonstration (FY06 Carryover)		3-4Q	1Q				
- Swing Arm/MK64 Cradle/Universal Pintle Adapter							
- Market Research/Survey/Evaluation			1Q				
- Design, Prototype Development, Manufacture and Testing			1-3Q				
- Technical & Operational Tests			3-4Q				
- Safety Release			4Q				
- Minigun/Javelin CROWS Mounts							
- Safety Release				1Q			
- IPR				1Q			
- Survey				1Q			
- In-House Design				2Q			
- Prototypes				2Q			
- Val Test				2-3Q			
- Redesign				3Q			
- Manufacturing				3Q			
- Tech Testing				4Q			
- Improved HMMWV Ring Mount							
- Operational Test					1Q		
- Safety Release					2Q		
- IPR					2Q		
Small Caliber LT WT Ammo							
- Prepare RFP/Contract Award		1-2Q					
- Sample Fabrication, Lethality/Reliability, Test, Design Review/Eng		4Q	1-3Q				
- Manufacture DTI Qty (FY06 Carryover)			3-4Q				
- DT I			4Q				

- Design Review			4Q				
- Eng Analysis (FY07 Carryover)			4Q	1Q			
- Contract Award, Option 1				1Q			
- Manufacture DT II Qty				1-3Q			
- DT II				3-4Q			
- Live Fire Test/Final Hazard Classification				3-4Q			
- Prepare IPR Package				3-4Q			
- LUT				4Q			
- IPR				4Q			
LT WT Medium Machine Gun							
- Conduct Market Survey			1-2Q				
- Analysis of Alternatives/Requirements			2-3Q				
- Develop ICD			3-4Q				
- Program Transition				1-2Q			
- Prepare Program Documentation/MS B				2-3Q			
- Prepare Request for Proposal				4Q			
- Program Transition					1Q		
- Prepare Request for Proposal					1Q		
- Proposal Evaluation					1-2Q		
- Contract Award (Phase I)					2Q		
- Fabricate Test Hardware					2-3Q		
- Design Confidence Test					4Q		
- Contract Award (Phase II)					4Q		
- Design Refinements						1-2Q	
- CDR/IPR						2Q	
- Fabricate DT/OT Hardware						3-4Q	
- DT/OT						4Q	1Q
- Test Reports/Evaluations							2-3Q
- Prepare MS C Documentation							2-4Q
Improved combat optics							

- Evaluate/Downselect		1Q					
- Award Contract/Produce Hardware		3Q					
- DT/OT Independent Evaluation		3-4Q					
- Prepare Program Documentation/MS C		4Q					
Proximity Ammo (formerly, Airburst Ammo) (Transitioned from PE 0603802A Project DAS2)							
- System Parameter Analysis			1-2Q				
M2E2 Quick Chnge Barrel Kit							
- Headspace Analysis		2Q					
Lightweight 5.56mm Polymer Ammo							
- Design Review/Engineering		2Q					
- Contract Award		3Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604601A - Infantry Support Weapons**	**S64**

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
S64	COMMON REMOTELY OPERATED WPN SYS (CROWS)	0	2366	0	0	0	0	0	0	2366

A. Mission Description and Budget Item Justification: Not applicable for this item.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Design Development and Engineering	0	2366	0
Total	0	2366	0

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604601A - Infantry Support Weapons

PROJECT
S64

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
Subtotal:			0									

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			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									

Project Total Cost:			**0**									

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604604A - MEDIUM TACTICAL VEHICLES**	**H07**

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
H07	FAMILY OF MED TAC VEH	12540	18518	1925	2010	1945	1811	1875	0	48377

A. Mission Description and Budget Item Justification: This program element supports continued modernization of the Army's medium truck fleet. The Family of Medium Tactical Vehicles (FMTV) replaces aging M35 2 1/2-ton trucks, and M809 and M900 Series 5-ton trucks that are beyond their economic useful life of 20-22 years. FMTV fills 2 1/2-ton Light Medium Tactical Vehicle (LMTV) and 5-ton truck Medium Tactical Vehicles (MTV) requirements, performs over 55% of the Army's local and line haul, and unit resupply missions, and operates throughout the theater as multi-purpose transportation vehicles in combat, combat support and combat service support units. This system rapidly deploys worldwide and operates on primary and secondary roads, trails, and cross-country terrain in all climatic conditions. This funds government technical insertion initiatives that will feed into implementation of the Tactical Wheeled Vehicle Transformation Strategy, as a bridge to future tactical vehicle efforts, such as the Future Tactical Truck System (FTTS). This PE resolves mechanical anomalies and deficiencies reported by the field. FY07 funding will be used for Embedded Diagnostics, and to continue Limited User Tests and the Demonstrator project.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Survivability Improvements (Engr Studies/Prototype Analysis)	500	0	0
Dump 10 Ton (Hardware Development/Test/TDP)	199	0	0
Alternative Propulsion System - Hybrid (Engr Studies/Component Integration)	500	0	0
Demonstrator/Prototype (Development/Test)	9410	13000	1479
FMTV Weight/Cost Reduction	1692	0	0
Limited User Test (LUT) (LHS, ExVan, 10T Dump)	239	1618	446
Embedded Diagnostics	0	3900	0
Total	12540	18518	1925

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604604A - MEDIUM TACTICAL VEHICLES**	**H07**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	14046	1886	1896
Current BES/President's Budget (FY 2007)	12540	18518	1925
Total Adjustments	-1506	16632	29
Congressional Program Reductions		-81	
Congressional Rescissions	-6	-187	
Congressional Increases		16900	
Reprogrammings	-1500		
SBIR/STTR Transfer			
Adjustments to Budget Years			29

Change Summary Explanation: FY 2006 + $16900 Congressional Add.

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA1 Family of Medium Tactical Vehicles (D15500)	1081251	441482	695121	782531	807607	702767	699582	7746033	12956374

Comment:

D. Acquisition Strategy The engineering contractual efforts will be on a Cost Plus Fixed Fee (Level of Effort) basis. The procurement of vehicle platforms will use the current multiyear Firm Fixed Price (FFP) production contract.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604604A - MEDIUM TACTICAL VEHICLES

PROJECT
H07

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
Load Handling System (LHS)	SS-CPFF	Stewart & Stevenson, Sealy, TX	3319	0		0		0		0	3319	0
Dump - 10T - Prototype Dev	SS-CPFF	Stewart & Stevenson, Sealy, TX	3290	199	1-3Q	0		0		0	3489	0
Alternative Propulsion System	C-CPFF	Sverdrup Tech, Inc Ft. Walton Beach, FL	759	500	1Q	0		0		0	1259	0
Demonstrator	SS-FFP	General Purpose Vehicles, LLC New Haven, MI	1095	2137	2-3Q	0		0		0	0	0
Survivability Improvements	SS-CPFF	Stewart & Stevenson, Sealy,TX	0	500		0		0		0	500	0
Demonstrator	SS-CPFF	Stewart & Stevenson, Sealy, TX	0	7273	2-3Q	0		0		0	0	0
FMTV Weight/Cost Reduction	SS-CPFF	Stewart & Stevenson, Sealy, TX	0	1692	2-3Q	0		0		0	1692	0
Other			2136	0		0		0		0	2136	0
Demonstrator	TBD	TBD	0	0		13000	3-4Q	1479	1-2Q	0	0	0
Embedded Diagnostics	TBD	TBD	0	0		3900	3Q	0		0	0	0
Subtotal:			10599	12301		16900		1479		0	12395	0

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

Remarks: Not Applicable

III. Test And Evaluation	Contract	Performing Activity &	Total	FY 2005	FY 2005	FY 2006	FY 2006	FY 2007	FY 2007	Cost To	Total	Target

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604604A - MEDIUM TACTICAL VEHICLES

PROJECT
H07

	Method & Type	Location	PYs Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Complete	Cost	Value of Contract
Limited User Test (LUT)/Load Handling Sys	MIPR/PO	Ft. Campbell, KY	2235	239	2-4Q	0		0		0	0	0
Dump - 10T - PPQT	MIPR/PO	ATC, Aberdeen Proving Grounds, MD	2144	0		0		0		0	2144	0
Limited User Test s (LUTs) - LHS/Van/Dump	MIPR/PO	ATEC, Various Test Sites	0	0		1618	1-4Q	446	1Q	0	0	0
Subtotal:			4379	239		1618		446		0	2144	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									

Remarks: Not Applicable

Project Total Cost:			**14978**	**12540**		**18518**		**1925**		**0**	**14539**	**0**

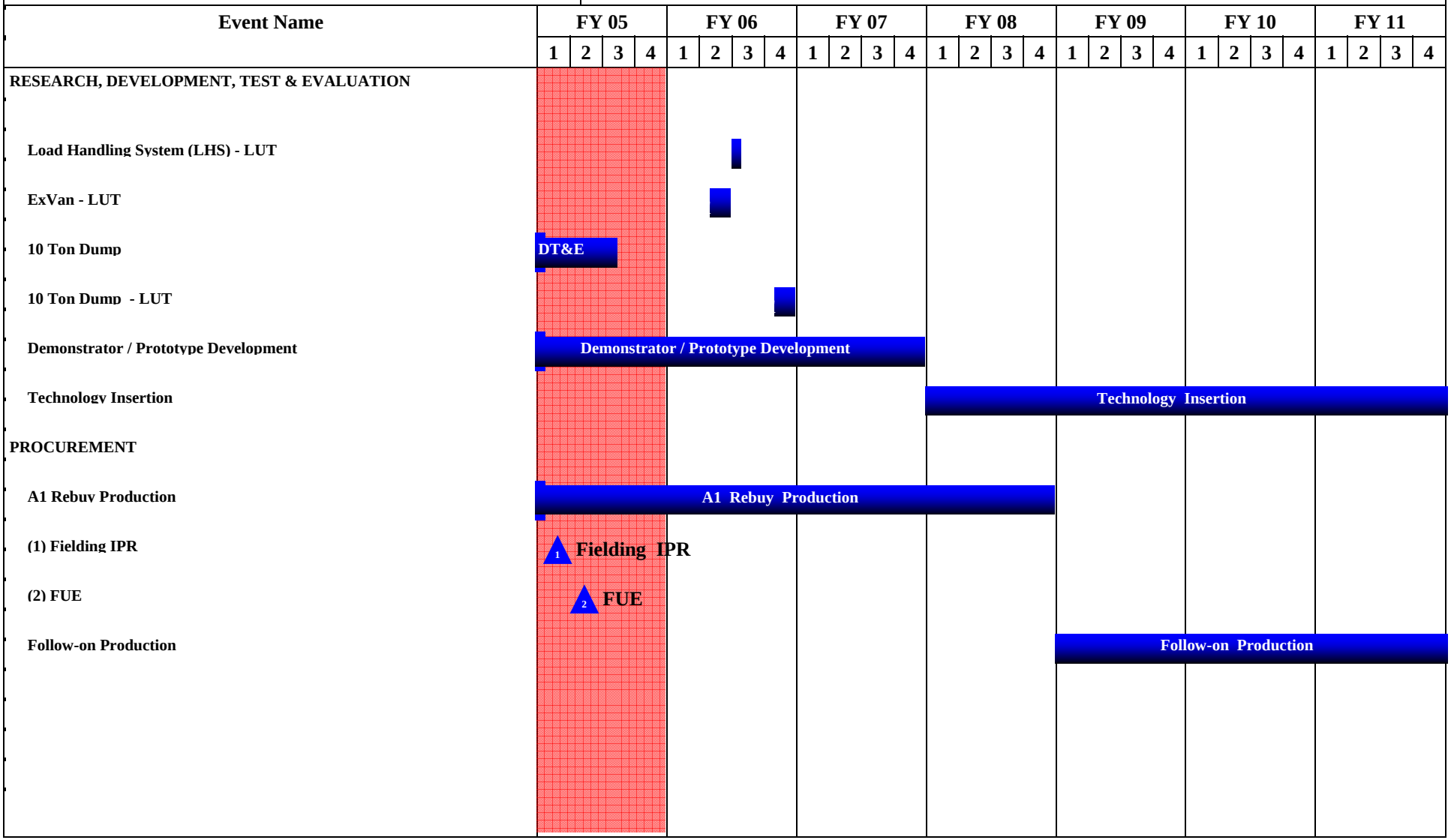
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604604A - MEDIUM TACTICAL VEHICLES

PROJECT
H07



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604604A - MEDIUM TACTICAL VEHICLES

PROJECT
H07

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Dump 10T - Developmental Testing and Evaluation	1-3Q						
Limited User Test (LUT) - LHS		3Q					
Limited User Test (LUT) - ExVan		2Q					
Limited User Test (LUT) - 10T Dump		4Q	1Q				
Demonstrator / Prototype Development	1-4Q	1-4Q	1-4Q				
Technology Insertion				1-4Q	1-4Q	1-4Q	1-4Q
A1 Rebuy Production	1-4Q	1-4Q	1-4Q	1-4Q			
Fielding IPR	1Q						
First Unit Equipped (FUE)	2Q						
Follow-On Production					1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev**

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	3637	0	5297	6704	5649	481	480	0	41317
198	Target Defeating System	0	0	5297	6704	5649	481	480	0	19267
200	SMOKE/OBSCURANT SYSTEM	3637	0	0	0	0	0	0	0	22050

A. Mission Description and Budget Item Justification: Project 0604609A supports the conduct of System Development and Demonstration (SDD) of logistically supportable, high performance smoke and obscurants, munitions, and devices to improve the survivability of the combined armed force and complement combined weapons systems. The program element supports critical management studies and analyses that are conducted on a continuing basis to ensure that engineering and manufacturing development efforts are targeted against the emerging threat. Program element supports the conduct of SDD in smoke and obscurant agents, munitions, and devices to improve the survivability of the combined armed forces, complement combined weapon systems, and enhance force effectiveness and combat power.

U.S. Forces must be able to effectively neutralize and degrade energy weapon systems and electro-optical systems/smart weapons that operate in the full range of the electromagnetic spectrum. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection large area and projected smoke systems. The smoke obscuration technologies supported by this program element enhance smoke systems as force multipliers.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	3639	0	5216
Current BES/President's Budget (FY 2007)	3637	0	5297
Total Adjustments	-2	0	81
Congressional Program Reductions			
Congressional Rescissions	-2		
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev**	**198**

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
198 Target Defeating System	0	0	5297	6704	5649	481	480	0	19267

A. Mission Description and Budget Item Justification: Project 0604609A supports the conduct of System Development and Demonstration (SDD) of smoke and obscurants to provide current and next generation obscurant systems operating at extended distances to disrupt, disable and defeat the threat reconnaissance, surveillance, targeting and acquisition capabilities. Funding supports the development of systems to appropriately deliver distant obscurant to the battlefield. This will provide options to commanders that are effective and efficient throughout the battlespace.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY07: Prepare, conduct and complete Milestone B.	0	0	2133
FY07: Award SDD contract.	0	0	3164
Total	0	0	5297

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, A, Budget Activity 2, PE 0602622A, Project 552	3175	2519	2573	2690	2749	2793	2832	0	19331
Other Procurement Army, OPA 3, MX1000, Family of Tactical Obscuration Devices	0	0	0	24232	38449	25620	12337	CONT	CONT

C. Acquisition Strategy Engineering development will begin in FY07 with a full and open competition contract for engineering design, construction and testing of prototype systems.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev

PROJECT
198

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
Hardware Development	TBD	TBD	0	0		0		3164	3Q	0	0	0
Subtotal:			0	0		0		3164		0	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 support of hardware development.	OGA	RDECOM, ECBC, Edgewood, MD	0	0		0		1133	1Q	0	0	0
Subtotal:			0	0		0		1133		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									

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
Conducted Management Studies.	Inhouse	JPM, NBCCA, APG,Edgewood, MD	328	0		0		0		0	328	0
Prepare and conduct Milestone B.	Inhouse	JPM, NBCCA, APG, Edgewood, MD	0	0		0		1000	1Q	0	1000	0
Subtotal:			328	0		0		1000		0	1328	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev**	**198**

Project Total Cost:	**328**	**0**		**0**		**5297**		**0**	**1328**	**0**

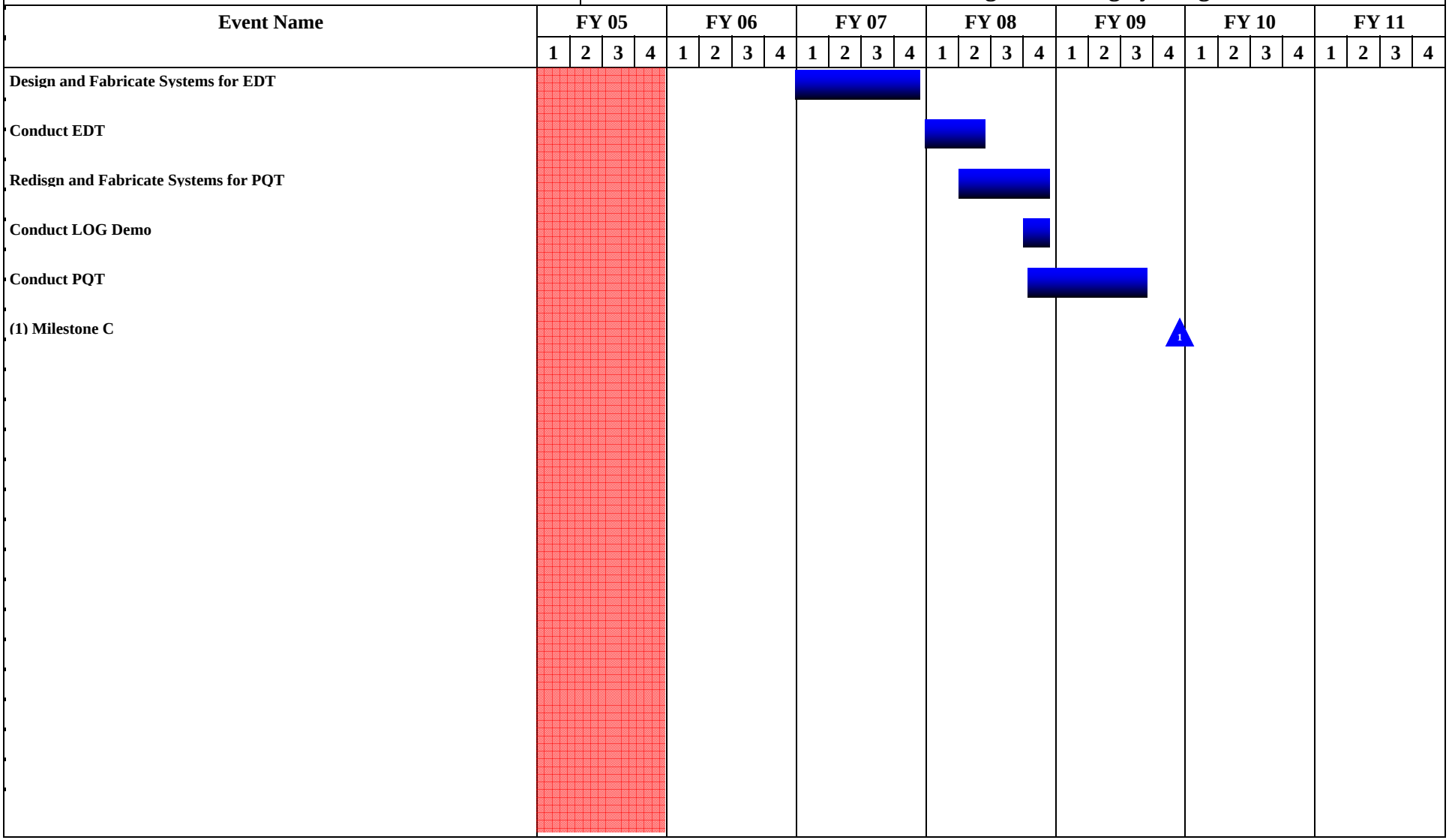
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev

PROJECT
198



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604609A - Smoke, Obscurant and Target Defeating Sys-Eng Dev

PROJECT
198

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Design & Fabricate Systems for EDT			1-4Q				
Conduct EDT				1-2Q			
Redesign & Fabricate Systems for PQT				2-4Q			
Conduct LOG Demo				4Q			
Conduct PQT				4Q	1-3Q		
Milestone C					4Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

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	13938	20913	3960	1962	1965	2981	2977	0	78830
659	FAMILY OF HVY TAC VEH	3357	6900	8	0	0	0	0	0	11697
65A	MOVEMENT TRACKING SYSTEM (MTS)	2374	2393	2928	937	941	911	908	0	11392
E49	HEMTT	6707	8478	0	0	0	0	0	0	42947
E50	TRAILER DEVELOPMENT	1500	3142	1024	1025	1024	2070	2069	0	12794

A. Mission Description and Budget Item Justification: This program element aligns system development and demonstration of Heavy Tactical Vehicles with Future Modular Force requirements to support combat and combat support missions. These missions include the following: line haul, local haul, and unit resupply. These trucks transport water, ammunition, and general cargo over all terrain and throughout the battle-space. Funding in Project 65A is for the development of the Movement Tracking System (MTS). Funding in Project E50 supports the continued modernization of the Army's trailer fleets and supports the continuous product improvements, technology insertion, and new capabilities for tactical trailers.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	19631	3415	7462
Current BES/President's Budget (FY 2007)	13938	20913	3960
Total Adjustments	-5693	17498	-3502
Congressional Program Reductions		-91	
Congressional Rescissions		-211	
Congressional Increases		17800	
Reprogrammings	-5693		
SBIR/STTR Transfer			
Adjustments to Budget Years			-3502

Change Summary Explanation:
Funding: FY2005: Funds realigned to correct PE for proper execution of congressional add.
FY2006: Funds increased due to Congressional Adds.
FY2007: Funds realigned to higher priority requirements.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**659**

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
659 FAMILY OF HVY TAC VEH	3357	6900	8	0	0	0	0	0	11697

A. Mission Description and Budget Item Justification: The existing Heavy Tactical Vehicle programs require insertion of current, mature technology to increase the capability of the vehicle toward the future force requirements. This technology infusion will be accomplished through the A3 program within the objective level capabilities of the current Operational Requirements Documents. The FY06 Congressional funding will be used for developing the Army's next generation of tactical truck, as part of the Army's Tactical Wheeled Vehicle Modernization Strategy. This work leverages the 21st Century Truck and Jumpstart FTTS ACTD programs, which have developed new vehicle capabilities by integrating key technologies such as hybrid electric engines, advanced lightweight materials, intelligent control systems, and embedded diagnostics into military vehicles. HQ DA is pursuing reprogramming of $6.9M FY06 funds from 654622.659 to the correct APE/Project.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
PLS Block I Development	1220	0	0
HET Block I Development	1830	0	0
In-House Support	307	0	8
Contracts for Development and Demonstration of the FTTS UV. The contracts will be for the fabrication and delivery of 2 UVs with companion trailers.	0	6500	0
In-House Support	0	400	0
Total	3357	6900	8

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA1 D15900, Truck, Tractor, Line Haul M915A2	28361	6111	24323	44848	39752	33850	18300	0	195545
OPA1 D16500, PLS Truck	50246	30661	54732	92634	82722	16057	14351	0	341403

C. Acquisition Strategy Funds for developing Army's next generation of tactical truck.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
659

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
Crew Protection Kit System Development & Demonstration Award	C-CPFF	Simula, Phoenix, AZ	1402	0		0		0		0	1402	0
PLS Block I Development	FFP	Oshkosh Truck, Oshkosh, WI	0	1220	3-4Q	0		0		0	1220	0
HET Block I Development	FFP	Oshkosh Truck, Oshkosh, WI	0	1830	4Q	0		0		0	1830	0
Contract to Develop and Demonstrate FTTS UV	FFP	TBD	0	0		6500	2Q	0		0	0	0
Subtotal:			1402	3050		6500		0		0	4452	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
In-House	In-House	TACOM, Warren, MI 48397-5000	0	307	1-4Q	400	1-4Q	8		0	0	0
Subtotal:			0	307		400		8		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									

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

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**659**

	Type				Date		Date		Date			Contract
Subtotal:			0									
Project Total Cost:			**1402**	**3357**		**6900**		**8**		**0**	**4452**	**0**

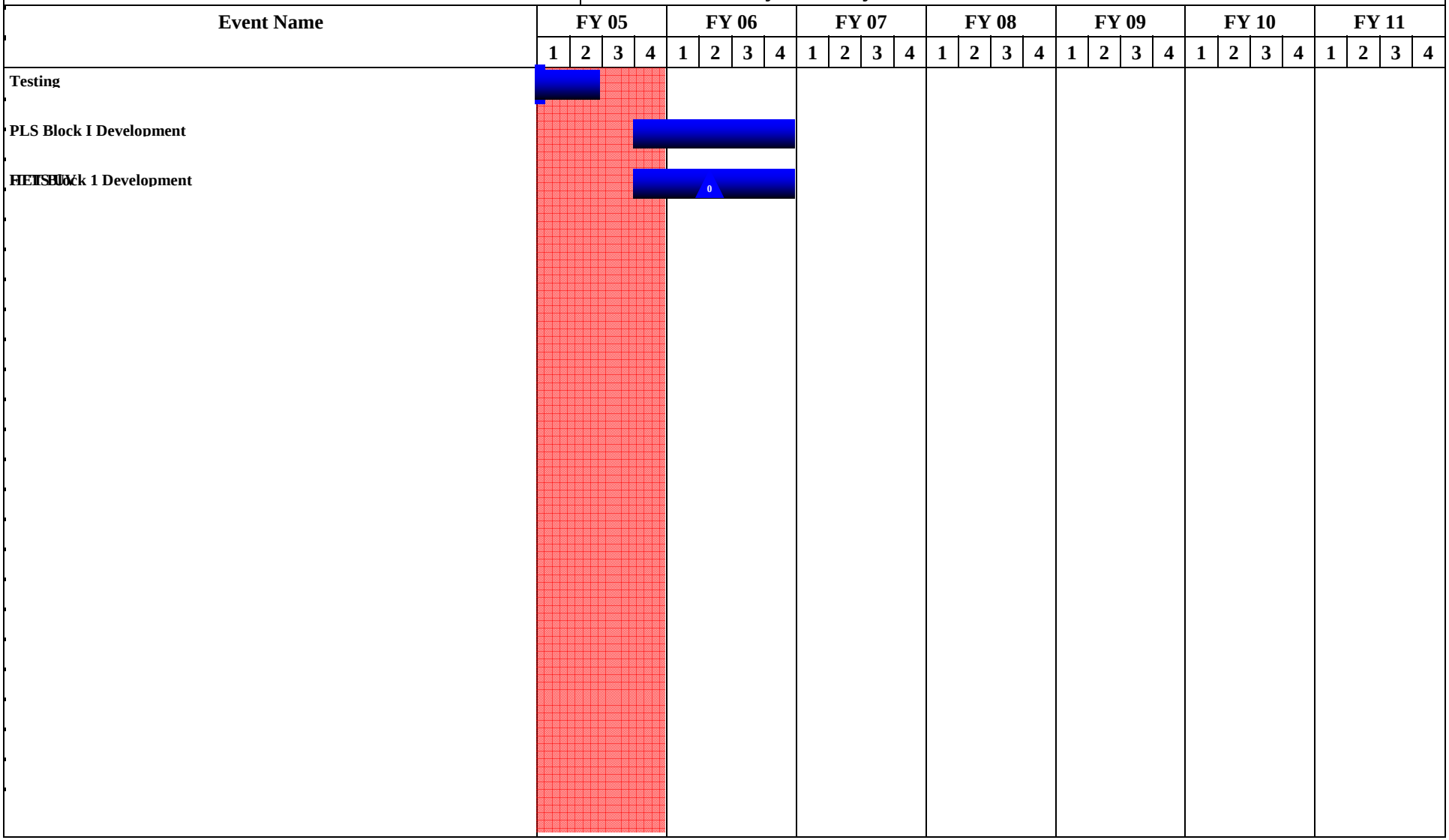
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
659



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
659

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Conduct testing on Crew Protection Kit	1-2Q						
PLS Block I Development	4Q	1-4Q					
HET Block I Development	4Q	1-4Q					
Contract Awards (Hardware Options)	2-3Q						
Build	2-4Q	1-2Q					
FTTS Contract Award		2Q					
FTTS UV Build		2-4Q	1Q				
Safety Test			1Q				
Military Utility Assessment (MUA)			2-3Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**65A**

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
65A	MOVEMENT TRACKING SYSTEM (MTS)	2374	2393	2928	937	941	911	908	0	11392

A. Mission Description and Budget Item Justification: Movement Tracking System (MTS) is a satellite based, asset visibility and situational awareness enabler that assists Combat Support/Combat Service Support (CS/CSS) commanders and their staffs. MTS identifies and tracks the location of vehicles, communicates with vehicle operators, and redirects missions on a worldwide, near real-time basis during peacetime operations and war. MTS provides the capability to link ground level operators conducting missions and commanders/managers that plan, direct, and control operations and allows for continuous CS/CSS asset visibility across the tactical area of operations. FY2007 funding supports development of block modifications on the MTS. This block modification will develop and test required interfaces to TC AIMS II (direct electronic interface) and GCSS-Army (direct electronic interface).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Development of block modifications on the Movement Tracking System	2374	2393	2928
Total	2374	2393	2928

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA1 D16103000, Movement Tracking System (MTS)	63878	35532	95074	50730	147448	123574	200380	CONT	CONT

C. Acquisition Strategy RDTE efforts to support block development approach through a continuous series of overlapping modular development and integration testing to include multiple interface developments in support of follow-on production.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
65A

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
Software development, engineering, testing, program management	FFP/IDIQ	Comtech Mobile, Germantown, MD	0	2374	3Q	2393	3Q	2928	1Q	0	0	0
Subtotal:			0	2374		2393		2928		0	0	0

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			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									

Project Total Cost:			**0**	**2374**		**2393**		**2928**		**0**	**0**	**0**

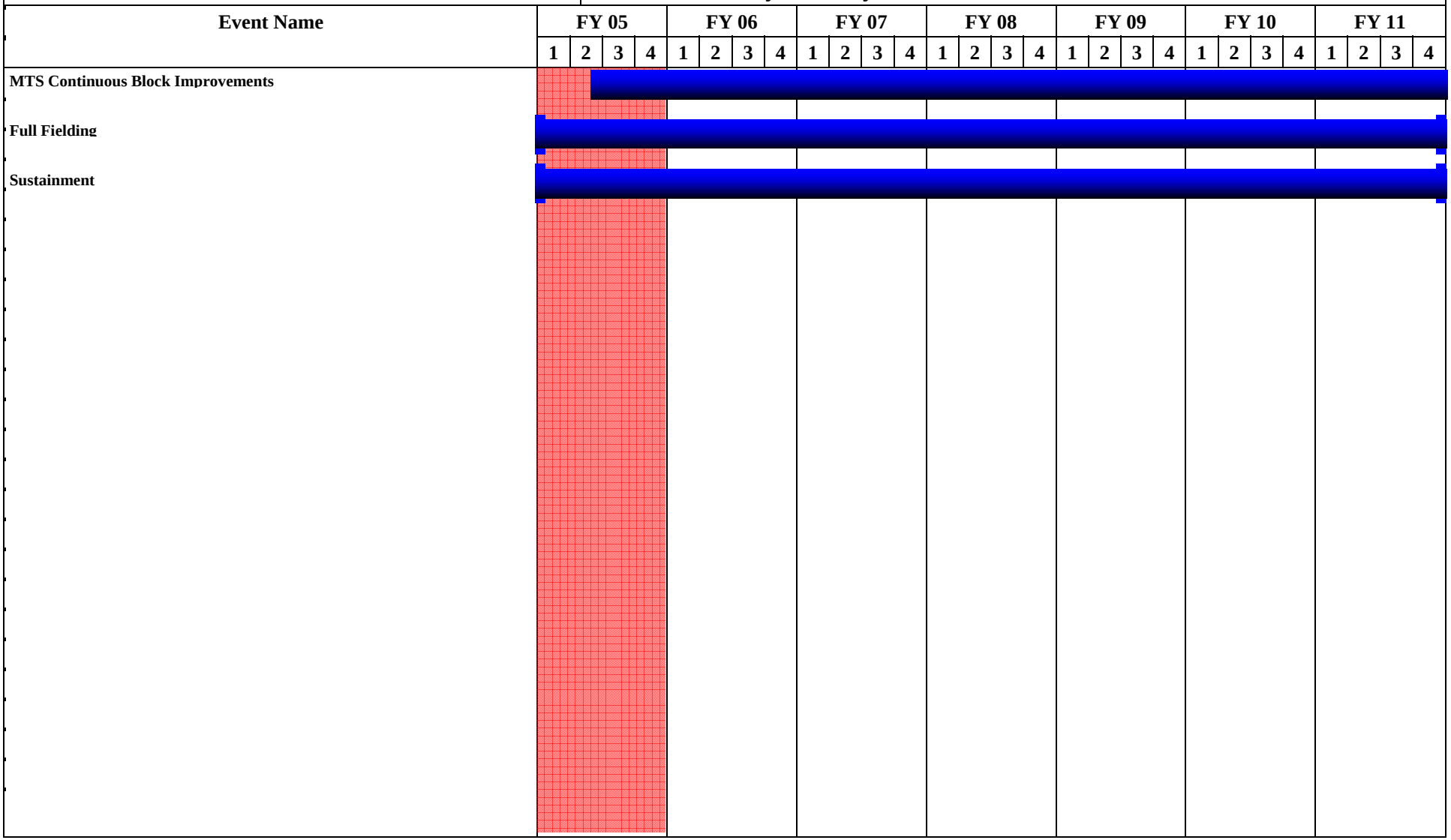
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
65A



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
65A

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MTS Continuous Block Improvements	2-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Full Fielding	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Sustainment	1-4Q	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
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**E49**

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
E49 HEMTT	6707	8478	0	0	0	0	0	0	42947

A. Mission Description and Budget Item Justification: FY2005 funds the Heavy Expanded Mobility Tactical Truck (HEMTT) A3 prototype development. The HEMTT vehicle program requires insertion of current, mature technology to increase the capability of the vehicle toward the future force requirements. Received FY2006 Congressional add to continue A3 prototype development. Also received FY2006 Congressional add for Advanced Drivetrains for Enhanced Mobility and Safety. This is to assess and analyze alternative drivetrain configurations to incorporate state-of-the-art technology and design characteristics for improved military vehicles.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
HEMTT advanced technology improvement development.	4215	1700	0
HEMTT advanced technology improvement prototypes.	1000	3100	0
Testing of HEMTT advanced technology improvements.	1170	2040	0
In House Support	322	600	0
Advanced Drivetrain development of prototypes and testing	0	1038	0
Total	6707	8478	0

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA1, DA0500, Family of Heavy Tactical Vehicles	612351	236633	353198	362526	452206	415745	243988	0	2676647

C. Acquisition Strategy Limited RDTE effort to support follow-on production. Continue A3 prototype development.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
E49

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
Technical Improvement Development - Government	IN HOUSE	TACOM, Warren, MI	692	600	1-4Q	400	1-4Q	0		0	0	0
Technical Improvement Development - Contractor	CPFF	Oshkosh Truck Corp., Oshkosh, WI	15392	3800	4Q	1300	3Q	0		0	0	0
Technical Improvement Prototypes	CPFF	Oshkosh Truck Corp., Oshkosh, WI	4084	1442	4Q	3100	3Q	0		0	0	0
Condition Based Maintenance Development	CPFF	DRS Laurel	2544	0		0		0		0	2544	0
Subtotal:			22712	5842		4800		0		0	2544	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
In-House Support	In-House	TACOM, Warren, MI	0	325	1-4Q	600		0		0	0	0
Subtotal:			0	325		600		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
HEMTT Technical Improvement Testing	MIPR	APG, Aberdeen, MD	80	0		1500	4Q	0		0	0	0
Test of HEMTT advanced technology improvements	CONTRACT	Oshkosh, WI	2109	540	3Q	540	3Q	0		0	0	0
Advanced Drivetrain prototype developing and testing	CONTRACT	TBD	0	0		1038	2-3Q	0		0	0	0
Subtotal:			2189	540		3078		0		0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
E49

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									
Project Total Cost:			**24901**	**6707**		**8478**		**0**		**0**	**2544**	**0**

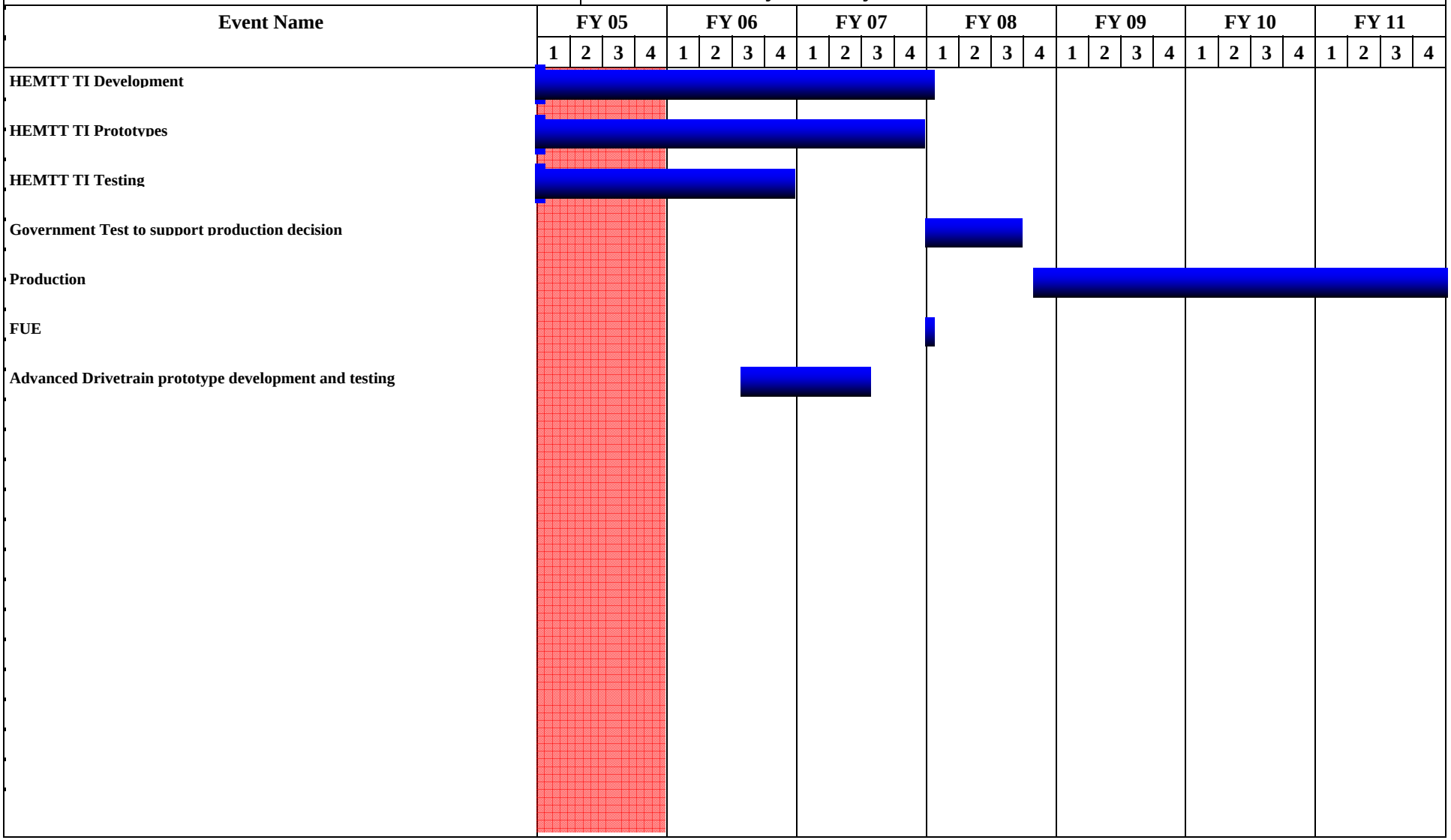
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
E49



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
E49

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
HEMTT Technical Improvement development	1-4Q	1-4Q	1Q				
HEMTT Technical Improvement Prototypes	1-4Q	1-4Q	1Q				
HEMTT Technical Improvement Testing	1-4Q	1-4Q					
Government Test to suppost production decision			1-3Q				
Production				3Q	1-4Q	1-4Q	1-4Q
FUE					1Q		
Advanced Drivetrain prototype development and testing		3Q	1-3Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604622A - Family of Heavy Tactical Vehicles**	**E50**

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
E50	TRAILER DEVELOPMENT	1500	3142	1024	1025	1024	2070	2069	0	12794

A. Mission Description and Budget Item Justification: This program element supports continued modernization of the Army's trailer fleets. The funds support continuous product improvements, technology insertion, and new capabilities for tactical trailers. FY2007 funding will include continued technical insertion of the current tactical trailer fleet, such as lighter weight materials and new suspension technologies, as well as development of a strategy for semitrailer modernization by creating a scalable (modular) semitrailer or Family of Scalable Trailers (FAST) that could replace a variety of different models. Improved trailers are more able to match the capabilities of today's improved tractors or tactical vehicles.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Program Management	700	500	100
Current fleet technical insertion.	100	300	300
Design, develop and build System Prototype Demonstrator Trailer(s)	700	2342	624
Total	1500	3142	1024

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA 1 D00700 Semi-Trailer LB 40T M870A3	706	687	0	0	0	0	0	0	1393
OPA 1 D01500 Semi-Trailer Flatbed 22.5T M871A3	6412	4836	0	0	0	0	0	0	11248
OPA 1 D01600 Semi-Trailer Flatbed 34T M872A4	1781	1629	7565	6297	7687	3960	0	0	28919

Comment: Initial efforts relate to flatbed trailers; however, any member of the tactical trailer fleet may be affected.

C. Acquisition Strategy Conduct feasibility testing on existing tactical semi-trailers. Identify enhanced transportability and safety concepts and other responses to field issues. Modify existing equipment or develop new equipment. The ultimate goal is to develop and test improvements, acquire necessary technical data, and place improved hardware into production.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
E50

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
Program Integrator	Firm Fixed Price (FFP)	Kalyn Siebert Gatesville, TX	175	0		0		0		0	175	0
Program Management	In-House	TACOM-WRN	200	700	2-4Q	500		100		0	0	0
Enhanced M800 Series Semi-Trailer	Firm Fixed Price (FFP)	Davis Technologies, Inc, Addison, TX	120	0		0		0		0	120	0
Current fleet technical insertion	Firm Fixed Price (FFP)	Williams EZ Hitch, Durham, NC	0	100	3Q	300	2Q	300	2Q	0	700	0
Design, develop and build System Prototype Demonstrator Trailer(s)	Firm Fixed Price (FFP)	American Systems Technology, Inc, Troy, MI	0	700	2Q	0		0		0	700	0
Design, develop and build System Prototype Demonstrator Trailers	TBD	TBD	0	0		2342	2Q	624	2Q	0	0	0
Subtotal:			495	1500		3142		1024		0	1695	0

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
M870A3 Suspension testing	MIPR	Yuma Proving Ground, Yuma, AZ	445	0		0		0		0	445	0
Subtotal:			445	0		0		0		0	445	0

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
E50

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									
Project Total Cost:			**940**	**1500**		**3142**		**1024**		**0**	**2140**	**0**

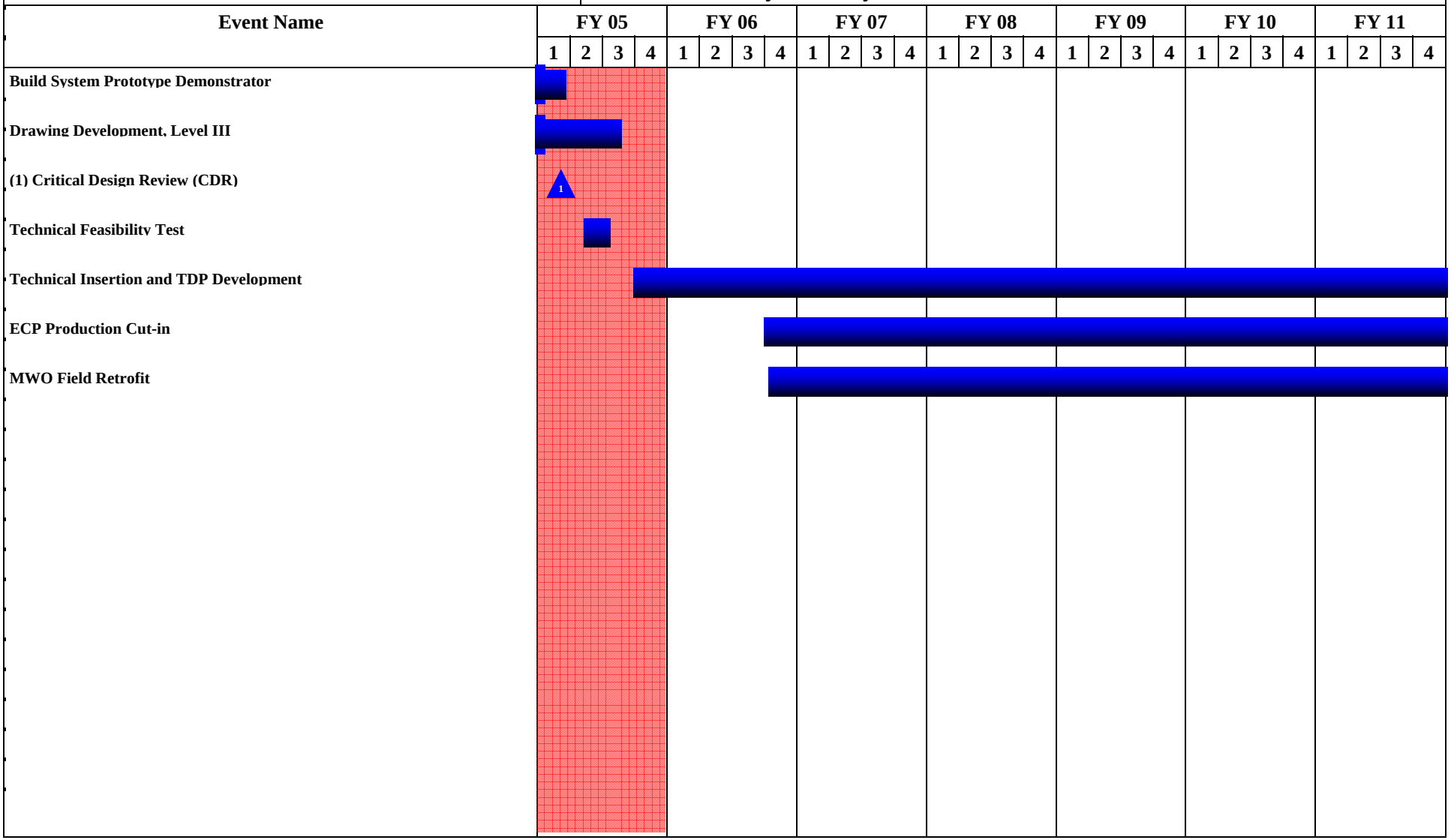
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
E50



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604622A - Family of Heavy Tactical Vehicles

PROJECT
E50

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Build System Prototype Demonstrator	1Q						
Drawing Development	1-3Q						
Critical Design Review (CDR)	1Q						
Technical Feasibility Test	2Q						
Technical Insertion and TDP Development	4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
ECP Production Cut-In		4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
MWO Field Retrofit		4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604633A - AIR TRAFFIC CONTROL**	**586**

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
586	AIR TRAFFIC CONTROL	2011	4444	4527	4026	3693	2720	4864	0	30848

A. Mission Description and Budget Item Justification: This program element funds continuous efforts in the development of modernized tactical and fixed base Air Traffic Control (ATC) systems that will significantly enhance aviation safety in both the tactical and strategic ATC domains. Funded in this program element is the development of the Mobile Tower System (MOTS). The MOTS is a tactical mobile tower designed to meet the deployability and communication requirements of the current to future force. The MOTS will be equipped with modernized and secure avionics to ensure highly reliable and consistent tactical aircraft communications across all frequency bands and ranges to ensure compatibility with all Army, Joint, and Allied aircraft. MOTS will provide modern digital, secure, anti-jam communications, a digital recorder, basic weather information, a precision location capability, and full compatibility with all military and civilian airfields as well as tactical landing zones. The currently fielded systems, AN/TSW-7A and AN/TSQ-70A, are obsolete and require two, two and a half ton vehicles, a 15Kw generator, and a support trailer to fully operate. These systems are not deployable on any aircraft smaller than a C-5, do not meet communications requirements across the operational spectrum, and are very difficult to maintain because parts are no longer manufactured for the system. MOTS is an effective risk management tool.

Product improvements include the Air Traffic Navigation, Integration, and Coordination System (ATNAVICS) and the Tactical Airspace Integration System (TAIS). The ATNAVICS will be upgraded with a capability to interface with other ATC equipment and Army systems. Through integration of the Air Defense Interrogator, ATNAVICS will have precise radar data valuable to field artillery and air defense and interfaces will be developed to share this data. Ultimately, ATNAVICS will feed positioning and identification data of friendly air vehicles (fixed, rotary, and unmanned aerial vehicles) into the Single Integrated Air Picture (SIAP) for improved situational awareness, track continuity, airspace deconfliction and fratricide prevention. As part of the Army Battle Command System (ABCS), TAIS will evolve to more advanced collaborative capabilities, interoperability initiatives and additional Air Force interfaces. TAIS will migrate to Army Software Blocking interoperability requirements and will also ensure Joint Airspace Management and Deconfliction (JASMAD) development meets Army ATC requirements. ATC will continue to provide the warfighter with increasingly lightweight, user friendly and reliable tools to perform airspace planning and to meet the technological and operational ATC requirements for future battlefield operations.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
MOTS System Development, Demonstration & Testing	555	4079	3714
Tactical Terminal Control System (TTCS) P3I Development	507	0	0
TTCS Pre-Planned Product Improvement (P3I) Testing	366	0	0
TAIS Client Interface	150	0	0
TAIS P3I Testing	86	0	93
ATNAVICS Modernization	0	0	333
Tech and Log support	249	262	279
Program Management Support	98	103	108
Total	2011	4444	4527

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604633A - AIR TRAFFIC CONTROL**	**586**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	2012	4508	4374
Current BES/President's Budget (FY 2007)	2011	4444	4527
Total Adjustments	-1	-64	153
Congressional Program Reductions		-45	
Congressional Rescissions		-19	
Congressional Increases			
Reprogrammings	-1		
SBIR/STTR Transfer			
Adjustments to Budget Years			153

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
APA AA0050 - Air Traffic Control	55006	61562	86351	93520	74128	76472	84108	CONT	CONT

Comment:

D. Acquisition Strategy PM ATC will continue to embrace new technology initiatives for the development of tactical ATC equipment and the integration of new technology into existing systems. Technology insertion will be acquired through contract modifications, engineering services tasks, and new/follow-on contracts. MOTS System Development and Demonstration contract will be awarded competitively in FY06. MOTS fabrication and testing to be completed in FY08.

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604633A - AIR TRAFFIC CONTROL

PROJECT
586

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
TTCS P3I	MIPR	Aviation Applied Technology Directorate, Ft. Eustis VA	832	507	1-2Q	0		0		0	1339	0
Tech and Log Development Support	Inhouse	PM ATC, Redstone Arsenal, AL	350	249	1-4Q	262	1-4Q	279	1-4Q	Continue	Continue	Continue
MOTS System Development/Demo	C/CPFF	TBD	0	0		3324	2Q	2426	2Q	Continue	Continue	Continue
Subtotal:			1182	756		3586		2705		Continue	Continue	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
MOTS System Development/Demo	Various	Various	0	555	1-3Q	718	2-3Q	935	1-3Q	Continue	Continue	Continue
ATNAVICS Modernization	C/CPFF	Raytheon, Marlboro, MA	0	0		0		333	2Q	Continue	Continue	Continue
TAIS Client Interface	MIPR	Future Skies, Fort Monmouth, NJ	0	150	2Q	0		0		0	150	0
Subtotal:			0	705		718		1268		Continue	Continue	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
TTCS P3I Testing	MIPR	Aviation Applied Technology Directorate, Ft. Eustis VA	103	366	1-3Q	0		0		0	469	0
MOTS Development/Op Testing	C/CPFF	Army Test and Evaluation Command	0	0		37	2Q	353	2Q	Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604633A - AIR TRAFFIC CONTROL

PROJECT
586

TAIS P3I Testing	MIPR	Joint Interoperability Test Comd, Ft Huachuca, AZ	0	86	2Q	0		93	2Q	0	179	0
Subtotal:			103	452		37		446		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
Program Management Support	In-House	PM ATC, Redstone Arsenal, AL	1690	98	1-4Q	103	1-4Q	108	1-4Q	Continue	Continue	Continue
Subtotal:			1690	98		103		108		Continue	Continue	Continue
Project Total Cost:			**2975**	**2011**		**4444**		**4527**		**Continue**	**Continue**	**Continue**

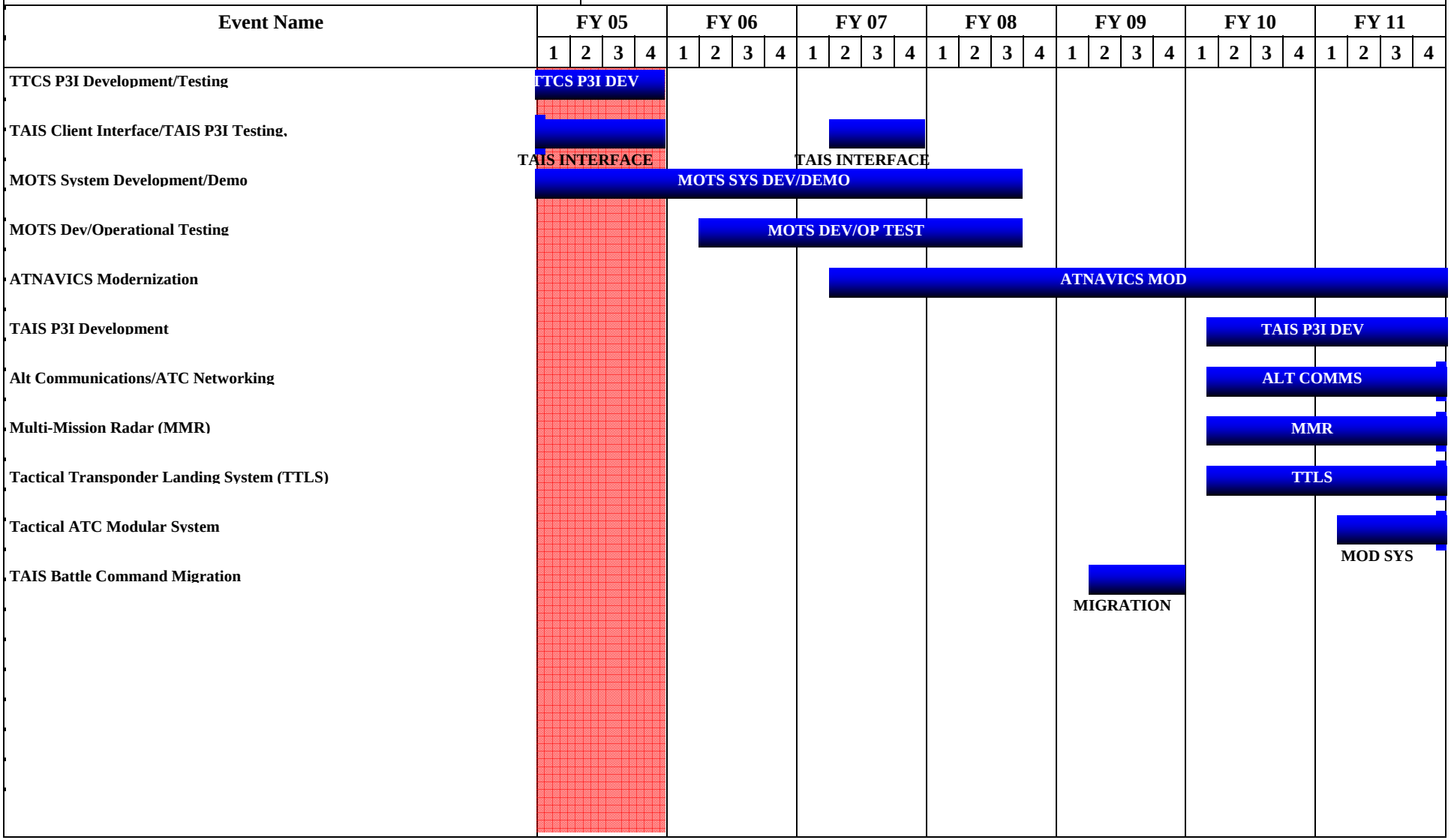
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604633A - AIR TRAFFIC CONTROL

PROJECT
586



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604633A - AIR TRAFFIC CONTROL

PROJECT
586

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
TTCS P3I DEVELOPMENT AND TESTING	1-4Q						
TAIS CLIENT INTERFACE AND P3I TESTING	1-4Q		2-4Q				
MOTS SYSTEM DEVELOPMENT/DEMO	1-4Q	1-4Q	1-4Q	1-3Q			
MOTS DEVELOPMENTAL/OPERATIONAL TESTING		2-4Q	1-4Q	1-3Q			
ATNAVICS MODERNIZATION			2-4Q	1-4Q	1-4Q	1-4Q	1-4Q
TAIS P3I						2-4Q	1-4Q
ALT COMMUNICATIONS AND ATC NETWORKING						2-4Q	1-4Q
MULTI-MISSION RADAR						2-4Q	1-4Q
TACTICAL TRANSPONDER LANDING SYSTEM						2-4Q	1-4Q
TACTICAL ATC MODULAR SYSTEM							2-4Q
TAIS BATTLE COMMAND MIGRATIONS					2-4Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604642A - LIGHT TACTICAL WHEELED VEHICLES

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	9581	7393	0	0	0	0	0	0	42251
E40	LTV Prototype	9581	0	0	0	0	0	0	0	34858
E46	HMMWV Recap	0	7393	0	0	0	0	0	0	7393

A. Mission Description and Budget Item Justification: The High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) is a lightweight, high performance, four-wheel drive, air transportable and air droppable, high mobility tactical wheeled vehicle. The HMMWV consists of a basic design with several variants including Cargo/Utility, Armament Carrier, Ambulance, Shelter Carrier and Armored Armament Carrier. FY 2006 Congressional increase funds HMMWV Repower Testing and development to support logistics improvements to the HMMWV Family of Vehicles through the use of more recent engine technologies and maintainability improvements, which will result in decreased operational support costs and product improvements and increased power for vehicles with add-on-armor in theatre.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604642A - LIGHT TACTICAL WHEELED VEHICLES

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	9171	2501	7877
Current BES/President's Budget (FY 2007)	9581	7393	0
Total Adjustments	410	4892	-7877
Congressional Program Reductions		-32	
Congressional Rescissions		-75	
Congressional Increases		7500	
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			

FY06 Congressional Increases.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604642A - LIGHT TACTICAL WHEELED VEHICLES**	**E46**

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
E46 HMMWV Recap	0	7393	0	0	0	0	0	0	7393

A. Mission Description and Budget Item Justification: The HMMWV Recapitalization Program is a remanufacture program to extend the life of the overage HMMWVs. The HMMWV fleet is experiencing increased Operation and Support (O&S) costs, excessive wear, and corrosion. These HMMWVs are in need of replacement/remanufacture. The HMMWV Recapitalization Program will provide operational and safety improvements to the current fleet of vehicles and will extend the useful service life by 15 years. FY 2006 Congressional increase funds HMMWV Repower Testing and development to support logistics improvements to the HMMWV Family of Vehicles through the use of more recent engine technologies and maintainablity improvements, which will result in decreased operational support costs and product improvements and increased power for vehicles with add-on armor in theater. Techhnology advancements in both armor and ballistic glass materials have progressed to the point that improved ballistic protection is available that is lighter and less expensive. This effort will also address a removable armor package that could potentially be used on a portion of the HMMWV fleet to increase ballistic and blast protection on non-protected vehicles.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Repower Kit Development, Testing, & Integration	0	3981	0
Support Costs (Engineering/Quality/Matrix Support)	0	212	0
HMMWV Technology Improvement	0	1500	0
VePRO (Vehicle Maintenance Prognostics System)	0	1700	0
Total	0	7393	0

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA-1 Hi Mob Multi-Purp Whld Veh (D15400)	938726	391276	582613	713548	787622	850511	679880	CONT	CONT

C. Acquisition Strategy The Acquisition Strategy for HMMWV Repower is to award three contracts for Testing and Logistical Improvements, development and testing of vehicle prototypes, with downselect to a single source for production. The Acquisition Strategy for the VePRO (Vehicle Maintenance Prognostics System), if proven to be beneficial and effective, will be incorporated into the HMMWV production.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604642A - LIGHT TACTICAL WHEELED VEHICLES

PROJECT
E46

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
In-House Engineering (TACOM)	N/A	TACOM, Warren, MI	0	0		212	2-4Q	0		0	212	0
HMMWV Technology Improvement	SS/FFP	AM General, Mishawaka, IN	0	0		2500	3-4Q	0		0	2500	0
VePro (Vehicle Maintenance Prognostics System)	To Be Determined	To Be Determined	0	0		1700	2-3Q	0		0	1700	0
Subtotal:			0	0		4412		0		0	4412	0

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

Remarks: Not applicable

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
Repower Testing	MIPR	Yuma Proving Ground, AZ	0	0		558	2Q	0		0	558	600
Repower Testing	MIPR	ATC, Aberdeen, MD	0	0		2123	2Q	0		0	2123	500
Supportability Testing	MIPR	Natick, MA	0	0		300	2-3Q	0		0	300	500
Subtotal:			0	0		2981		0		0	2981	1600

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
5 - System Development and Demonstration	**0604642A - LIGHT TACTICAL WHEELED VEHICLES**	**E46**

Subtotal:	0									

Remarks: Not applicable

Project Total Cost:	**0**	**0**		**7393**		**0**		**0**	**7393**	**1600**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**

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	2098130	2745716	3310477	3282408	3118477	3014482	2633249	Continuing	Continuing
F52	FCS- RECON PLATFORMS & SENSORS	51034	52135	65555	68490	87574	131662	90626	Continuing	547076
F53	FCS- UNMANNED GROUND VEHICLES (UGV)	65066	124988	107705	145693	146565	111391	97621	Continuing	799029
F54	UNATTENDED SENSORS	15015	32131	17731	16515	12771	15913	1318	Continuing	Continuing
F55	SUSTAINMENT	56613	143356	146106	164538	197448	169671	147496	Continuing	1025228
F57	MANNED GROUND VEHICLES	313263	513896	570241	583483	821110	755918	411264	Continuing	Continuing
F61	S o S Engineering and Program Management	1597139	1879210	2403139	2303689	1853009	1829927	1884924	Continuing	Continuing

A. Mission Description and Budget Item Justification: Future Combat Systems (FCS) will operate as a System of Systems (SoS) that will network existing systems, systems already under development, and new systems to be developed to meet the needs of the Unit of Action (UA). The network will enable improved intelligence, surveillance and reconnaissance, battle command, real time sensor-shooter linkages, and increased synergy between echelons and within small units. It will also enable the UA to connect to the Unit of Employment (UE) (UE is analogous to a division), joining capabilities, and national assets making these capabilities available.

FCS enables the networked UA to develop the situation in and out of contact, set conditions, maneuver to positions of advantage to close with and destroy the enemy through standoff attack and combat assault as articulated in the Future Force UA Operations and Organizational (O&O) plan.
Program Manager Future Combat Systems (FCS) Brigade Combat Team (BCT)will develop, procure and field capabilities to enable the full spectrum maneuver force the ability to conduct entry and campaign operations. The BCT deploys rapidly and conducts operations immediately on arrival to deter,contain, stabilize, or fight. The BCT will participate in Major Combat Operation (MCO) as a subordinate maneuver component within a Division/Corps in a variety of roles. The BCT will also participate in stability and support operations as an initial entry force or as a security force.
The FCS program is contained in three Program Elements (PEs): Non-Line of Sight - Launch System (NLOS-LS), Non-Line of Sight - Cannon (NLOS-C) and Armored Systems Modernization (ASM). The NLOS-LS PE develops the NLOS-LS family of missles including the Container Launch Unit (CL/U) and the Precision Attack Missle (PAM).

The NLOS-C PE provides sustained fires for close support and destructive fires for tactical standoff engagement. The system's primary purpose is to provide responsive fires in support of the FCS Combined Arms Battalions (CABs), and their subordinate units in concert with line-of-sight, Beyond-Line-of-Sight (BLOS), Non-Line-of-Sight (NLOS), external and Joint capabilities. The system provides flexible support through its ability to change effects round-by-round and mission-by-mission. These capabilities, combined with rapid response to calls for fire and rate of fire, provide a variety of effects on demand.

This program element contains the development effort for the balance of the Manned Ground Vehicle (MGV) common components, Unmanned Ground Vehicles (UGVs), Unmanned Air Vehicles (UAVs) and SoS development efforts including network, integration, software and test.

Army transformation is grounded in the operational framework of joint doctrine and concepts for future joint and combined operations. Transforming to the Future Force and developing the FCS is the Army's number one acquisition priority. The FCS family of systems (FoS) is being designed with the joint fight in mind.

FCS is comprised of a family of advanced, networked air and ground based maneuver, maneuver support, and sustainment systems that will include manned and unmanned platforms which are networked via a Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) architecture, including networked communications, network operations, sensors, battle command systems, and manned and unmanned reconnaissance and surveillance capabilities. This will enable FCS to achieve improved situational understanding and operations at a level of synchronization heretofore unachievable.

The FCS budget is based on the Work Breakout Structure (WBS). This will provide Congress the same program baseline data for budget justification that the Program Manager uses for program management. The three PEs and eight projects reflect the WBS reporting structure that will be provided to Congress quarterly. A full description of the projects can be found in the project level R2 forms. The following is a description of the projects:
F52 includes Class I , Class II, Class III, Class IVa Air Platforms.
F53 includes Armed Robotic Vehicles (ARV-R (Reconnaissance); ARV-A (Assault); ARV-A(L) (Assault(Light)), Small Unmanned Ground Vehicle (SUGV), Multi-function Utility/Logistics Equipment (MULE-T (Transport), MULE-CM (Countermine)) and the Autonomous Navigation System (ANS)
F54 includes Unattended Ground Sensors (UGS) development, engineering, prototype procurement, integration and assembly.
F55 includes SDD FCS-UA logistics and training development
F57 includes contractor efforts of all Manned Ground Vehicle (MGV) variants including Infantry Carrier Vehicle (ICV), Mounted Combat System (MCS), Non-Line of Sight Mortar (NLOS-M), Command and Control Vehicle (C2V), Reconnaissance and Surveillance Vehicle (RSV), Medical vehicle (MV), Family of Recovery and Maintenance Vehicle (FRMV).
and Common Mobility and Software
F61 includes the efforts associated with SoS Engineering Family of Systems (FoS) Analysis and Integration, Network Software, Systems Integration, Air Sensors, Program Management, SoS Test and Evaluation, Government Cost, and Other Contract Cost. This project includes support to other DOD agencies for Joint Programs, Multinational Programs and PM UA collaboration efforts.
IAW Section 214 of the FY2006 National Defense Authorization Act, this program element will be broken out into six unique program elements commencing with the FY2008 President's Budget submission to Congress.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	2268236	3065629	3150136
Current BES/President's Budget (FY 2007)	2098130	2745716	3310477
Total Adjustments	-170106	-319913	160341
Congressional Program Reductions	-33666	-292195	
Congressional Rescissions	-1731	-27718	
Congressional Increases			
Reprogrammings	-69660		
SBIR/STTR Transfer	-65049		
Adjustments to Budget Years			160341

Change Summary Explanation: Funding - FY 05 funds realigned to new program elements for NLOS Cannon and NLOS Launcher as per Congressional direction.

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)		February 2006
BUDGET ACTIVITY **5 - System Development and Demonstration**	PE NUMBER AND TITLE **0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**	PROJECT **0604645A**

Funding in $000

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Special Termination		413	428	428	416	388	353
Other Termination		443	512	531	514	437	395
Total Termination Liability Funding:		856	940	959	930	825	748

Remarks:
The SDD Contract contains FAR 52.232-22, Limitation of Funds, and FAR 52.249-6, Termination (Cost-Reimbursement) clauses to define allowable termination costs. The above costs are estimated to cover contract performance and termination liability incurred. Special termination is currently approved for the OTA and has been submitted for approval for the FAR. STC are not included in the program budget. Once approved, if the contract is terminated, the government will pay for the following costs:
- Severance Pay, as provided in FAR 31.205-6(g);
- Reasonable costs continuing after termination, as provided in FAR 31.205-42(b);
- Settlement of expenses, as provided in FAR 31.205-42(g);
- Costs of return of field service personnel from sites, as provided in FAR 31.205-35 and FAR 31.205-46(c); and
- costs in paragraphs (a) (1), (2), (3), and (4) of this clause to which subcontractors may be entitled in the event of termination.

Other termination is currently not covered by the Government. Therefore, due to the limitations of the funding clause in the FAR, the LSI must retain funding to cover the full cost in case of termination. Those costs include prime and subcontractor costs for:
- Allowable Fee
- Cost incurred, but not bllled to the OTA/FAR contract
- Non-cancelable commitments
- Unexpired leases
- Alteration/restorations required by leases
- Loss of useful value of capital property

Full termination liability is a combination of the above Special Termination Costs and Other Termination Costs.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**	**F52**

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
F52	FCS- RECON PLATFORMS & SENSORS	51034	52135	65555	68490	87574	131662	90626	Continuing	547076

A. Mission Description and Budget Item Justification: This Future Combat System(FCS) project covers all air platforms (Class I, Class II, Class III, and Class IV) and includes contractor development, engineering, prototype procurement and integration, test, and assembly. The Class I Unmanned Aerial Vehicle (UAV) provides the dismounted soldier Reconnaissance, Surveillance, and Target Acquisition (RSTA). Weighing less than 15 pounds, the air vehicle operates in complex urban and rural terrains with a vertical take-off and landing capability. The Class II Unmanned Aerial Vehicle (UAV) will be a vehicle-carried system that provides Line-of-Sight (LOS), Non-Line of Sight (NLOS) and Beyond Line of Sight (BLOS) capabilities, including enhanced dedicated imagery. The distinguishing capability of this UAV is target designation in day, night, and adverse weather. The Class II Unmanned Aerial Vehicle (UAV) is carried on the MGV and capable of being lifted by two Soldiers, has a 16 km radius of action, and can remain aloft for two hours. The Class III Unmanned Aerial Vehicle (UAV) is a multifunction aerial system that has the range and endurance to support battalion level RSTA within the Unit of Action's (UA) battle space. It provides the capabilities of the Class I and Class II but at longer ranges and higher altitudes in addition to communications relay, mine detection, Chemical, Biological, Radiological and Nuclear detection, and meteorological survey. The Class IV Unmanned Aerial Vehicle (UAV) has a range and endurance appropriate for the brigade mission. It supports the FCS(BCT)Commander with communications relay, long endurance persistent stare, and wide area surveillance over a 75 km radius.

IAW Section 214 of the FY2006 National Defense Authorization Act, this project will be converted to a stand alone Program Element commencing with the FY2008 President's Budget submission to Congress.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Class I FY06 Continue maturation to Technical Readiness Level -7 (w/25th ID). Build on the Micro Air Vehicle (MAV) program to mature item development specification (PIDS), system architecture and risk management. Complete systems engineering contract for the maturation of the MAV into Class I. After successful MAV tech demonstration, the LSI will continue, with Honeywell, maturing requirements, specifications, architecture, and begin the Software Build I effort. Complete Platform-Unique (SFR) to demonstrate system requirements and readiness to initiate the March 06 system design. After the SFR, initiate design efforts and requirements refinement to ensure a successful PDR in early FY07. Award SDD Contract in 3Q FY06 to begin FCS Class I UAVS design. Complete baseline system, software architectures and risk assessment. Document baseline software requirements. Complete initial Interface Control Documents (ICDs) for internal and external interfaces. FY07 - Conduct system PDR to confirms the requirements are defined and initial detailed prototype design is ready to be initiated. Begin prototype hardware procurement. Initiate delivery and integration of hardware sub-systems and avionics to Honeywell's production facility. Complete baseline hardware and software configuration item specifications. Complete system and software architectures and requirements. Complete initial validation and verification plan. Complete Experiment 1.1 and documented experiment results of operation of the MAV system utilizing a JTRS surrogate (SLICE) radio link and the SRW waveform. Deliver Class I simulation to SoSIL.	5087	1279	1879
Class II FY06 Continue with the three systems engineering contracts to begin technology analysis and assessment to show how the potential solutions meet the UAV requirements. These engineer efforts will be used to: demonstrate maturity of key technologies, identify technical gaps relative to FCS requirements, develop specifications, and finalize requirements. DARPA decision in 3Q FY06 to down-select to one OAV II supplier and LSI decision to award option for Phase 2 to the LSI supplier. This decision point will initiate the flight demonstration phase and the design and fabrication of two prototypes for FY07/08 demonstrations of flight characteristics, logistics and	348	4154	6102

training at Technical Readiness Level - 6 maturity level. Provide early simulation software for FCS SoS labs. FY07 Provide updated simulations for SoS labs and prepare for System and Integration Lab activities in FY08. Sub-tier suppliers will deliver air frame, navigation, communication and control equipment to the competing suppliers for integration prior to the Fy08 flight demonstration that will support the final source selections. Selected suppliers will contribute to the initial prime item development specs, systems architecture models, and interface definitions and develop risk management plans that demonstrate the suitability of their proposed design solutions. Development of prototype LSI & DARPA systems for flight demonstrations. Develop & release PIDS and RFP for the down selection in June 2008 to a single partner for SDD.			
Class III FY06 Continue the three LSI CL III, systems engineering contracts to begin technology analysis and assessment to show how their solutions meet the UAV requirements. These technologies, along with the knowledge gained from the DARPA technology from the DP-5 program will be used for the following activities. Demonstrate maturity of key technologies and identify technical gaps relative to FCS requirements; develop specifications; down select to two suppliers. This decision point will initiate the system assessment (flight demonstration) phase and begin the design and fabrication of two prototypes for FY07/08 demonstrations of flight characteristics, logistics and training at Technical Readiness Level - 6 maturity level. Provide simulations software for FCS SoS labs. FY 07 - Provide updated simulations for SoS labs and prepare for System and Integration Lab activities in FY08. Sub-tier suppliers will deliver air frame, navigation, communication and control equipment to the competing suppliers for integration prior to the FY08 flight demonstration that will support the final down selection. Selected suppliers will contribute to the prime item development specs, systems architecture models, and interface definitions and develop risk management plans that demonstrate the suitability of their proposed design solutions. Development of prototype systems for flight demonstrations and assessment. Develop & release PIDS and RFP for the down selection to a single partner for SDD.	338	11595	17030
CLASS IV FY06 Conduct SFR and PDR and begin design activities. Complete baseline system, software architectures and requirements. Complete ICDs, PDR and baseline hardware and software configuration item specifications. Complete system and software architectures and requirements. Complete initial validation and verification plan. Conduct Subsystem level testing of common hardware will be performed at Schweizer Aircraft prior to delivery to Northrop Grumman. Accept delivery of common Army/Navy airframes including airframe, rotors, engine, transmission, and three avionics items. Begin production of Army's first Class IV Air Vehicle, less FCS-unique suite of avionics/payloads. Perform demonstration flights. Complete Software Build I. FY07- Complete first Air Vehicle production less FCS-unique avionics/payloads. Continue Modeling and Simulation and software development and integration leading to a CDR. Complete detailed design for (CDR). Continued initial build software integration verification and validation testing. Begin build for second iteration of integrated software. Schweizer Aircraft will complete delivery of eight airframes with propulsion systems to Northrop Grumman. Northrop Grumman complete build of 8 MQ-8B airframes. Northrop Grumman to begin factory integration of systems and payloads. Perform testing, engage in simulations and emulations and participate in the FCS SoSil activities.	27665	27607	40544
GFX - Common Firescout Prototype - Government Support to the LSI - Airframe hardware purchased from the Navy to support Class IV development. Combine ASTAMIDS complementary program with RSTA sensor into one sensor. Purchased 8 Navy Fire Scout AV.	12096	0	0
ASTAMIDS GFX Sensors: In FY05, the following major actions were accomplished: Modified requirements for Army Airborne Standoff Minefield detection system (ASTAMIDS) Electro Optic/Infrared (EO/OR) sensor Complementary Program(CP) to include FCS Reconnaissance, Surveillance, and Target Acquisition (RSTA) capability. developed ICDs and monitored Synthetic Aperture Radar/Moving Target Indicator(SAR/MTI) payload (CP) design. Developed ICDs and monitored of Tactical signals Intelligence(SIGNET)Payload(CP)design. Defined approaches to survivability sensors for Class IV Unmanned Air Vehicle(UAV). Defined Class II and III UAV and sensor requirements. Developed and delivered Air Sensors simulations for IV0. As briefed to the Professional staff members, beginning in FY06, all sensor costs are included in the Network hardware development cost are included in	5500	7500	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**	**F52**

SoS engineering and Program Management project.FY06 - Deliver an updated sumulator sensor to be tested as part of Integration/Verification 1(IV1).			
Total	51034	52135	65555

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0604645 F52 UAV RECON & SENSORS	51034	52135	65555	68490	87574	131662	90626	0	547076
0604645 F53 UGV	65066	124988	107705	145693	146565	111391	97621	0	799029
0604645 F54 UGS	15015	32131	17731	16515	12771	15913	1318	0	111394
0604645 F55 SUSTAINMENT	56613	143356	146106	164538	197448	169671	147496	0	1025228
0604645 F57 MANNED GROUND VEHICLES	313263	513896	570241	583483	821110	755918	411264	0	3969175
0604645 F61 SoS Engineering & Program Management	1597139	1879210	2403139	2303689	1853009	1829927	1884924	0	13751037
0604646 F72 Non-LINE OF SIGHT LAUNCH SYSTEM (NLOS-LS)	119767	231209	322880	274793	256283	89143	17759	0	1311834
0604647 F58 Non-LINE OF SIGHT CANNON (NLOS-C)	286853	146271	112237	117605	90647	84160	44356	0	882129
WTCV	0	0	0	0	0	0	0	0	0
0604645 F59 Common Components	0	0	0	0	0	0	0	0	27500
0604645 F60 Family of Systems, Analysis & Integration	0	0	0	0	0	0	0	0	165302
0604645 F62 Mission Equipment Platforms	0	0	0	0	0	0	0	0	132537
0604645 F63 Network Software	0	0	0	0	0	0	0	0	111745
0604645 F64 Other Contract Costs	0	0	0	0	0	0	0	0	313536
0604645 F65 SoS Engineering & Prog Mgt	0	0	0	0	0	0	0	0	190331
0604645 F66 SoS Test and Evaluation	0	0	0	0	0	0	0	0	56347
0604645 F67 Supportability	0	0	0	0	0	0	0	0	5252
0604645 F69 Training	0	0	0	0	0	0	0	0	7756
0604645 F70 NLOS Launch System	0	0	0	0	0	0	0	0	49502

C. Acquisition Strategy During the FY06-11 POM process, the Army restructured the PM BCT Acquisition Program. The plan strengthened the FCS Program and simultaneously improved the Current Force through early delivery of selected FCS capabilities. The adjustments maintained the Army focus on FCS-equipped Brigade Combat Team (BCT) development and substantially reduced program risk. The adjustments to the FCS Program acquisition strategy fall into four primary categories:

- The development of system integration/verification phases to build FCS (BCT) capability iteratively over time, reducing overall technical risk by using a building block approach.
- The five previously deferred FCS core systems: 1) UAV Class II, 2) UAV III, 3) Armed Robotic Vehicle (ARV) -Assault, 4) ARV-Reconnaissance and 5) FCS Maintenance and Recovery Vehicle have been funded. These five systems will be fielded with the first FCS-equipped BCT allowing fielding of the complete 18 + 1 + 1 FCS core systems to the Army with delivery beginning in 2014.
- More robust experimentation and evaluation are included in the program to prove revolutionary concepts, mature the architecture and components, and assist in the spinout development.
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The current OTA was initially modified on 6 Aug 2004 to cover the new Scope of Work (SOW) of the approved POM program. Final definitization of this modification occurred on 2 March 2005. Since FY05 funding was based on the original Milestone B approved program, two major reprogramming have occurred in order to align funding of the restructured program.

The Assistant Secretary of the Army (Acquisition, Logistics and Technology) in May 05 directed that the current FCS (BCT) OTA with the LSI be converted from an OTA to a Federal Acquisition Regulation-based contract. This transition was executed through the award of an Unpriced Contractual Action (UCA) in Sep 05.

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IAW Section 214 of the FY2006 National Defense Authorization Act, this project will be converted to a stand alone Program Element commencing with the FY2008 President's Budget submission to Congress.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F52

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
CLASS I	OTA/FAR	THE BOEING CO., SEATTLE,WA SEE REMARK 1	0	5087	1-3Q	1279	3Q	1879	1-3Q	0	0	0
CLASS II	OTA/FAR	THE BOEING CO., SEATTLE,WA SEE REMARK 4	0	348	4Q	4154	1-3Q	6102	1-3Q	0	0	0
CLASS III	OTA/FAR	THE BOEING CO., SEATTLE,WA SEE REMARK 4, 5, 6	0	338	4Q	11595	1-3Q	17030	1-3Q	0	0	0
CLASS IV	OTA/FAR	THE BOEING CO., SEATTLE,WA SEE REMARK 2	32690	27665	1-3Q	27607	1-3Q	40544	1Q	0	0	0
0	0	0	8683	0		0		0		0	0	0
Subtotal:			41373	33438		44635		65555		0	0	0

Remarks: Remark 1: Subcontractor: Honeywell,- Albuquerque,New Mexico
Remark 2: Subcontractor: Northrop Grumman Systems Corp.- San Diego, CA
Remark 3: Subcontractor: Northrop Grumman, Electronics Systems Division, Linthieum, MD
Remark 4: Subcontractor: Piasecki Aircraft Corporation - Essington, PA
Remark 5: Subcontractor: Teledyne Brown Engineering - Huntsville, AL
Remark 6: Subcontractor: AAI Corporation - Hunt Valley, MD

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
Government GFX ASTAIMIDS, RSTA Sensor, Firescout	Direct	PM FCS (BCT) , St. Louis, MO	0	17596	1-3Q	7500	1-3Q	0		0	0	0
Government Statutory Reductions	Direct	PM FCS (BCT) , St. Louis, MO	0	0		0		0		0	0	0
Subtotal:			0	17596		7500		0		0	0	0

Remarks: All support costs for this project are included in F61 SoS Engineering and Program Management project.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F52

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									

Remarks: All Test and Evaluation costs for this project are included in F61 SoS Engineering and Program Management project.

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									
Project Total Cost:			**41373**	**51034**		**52135**		**65555**		**0**	**0**	**0**

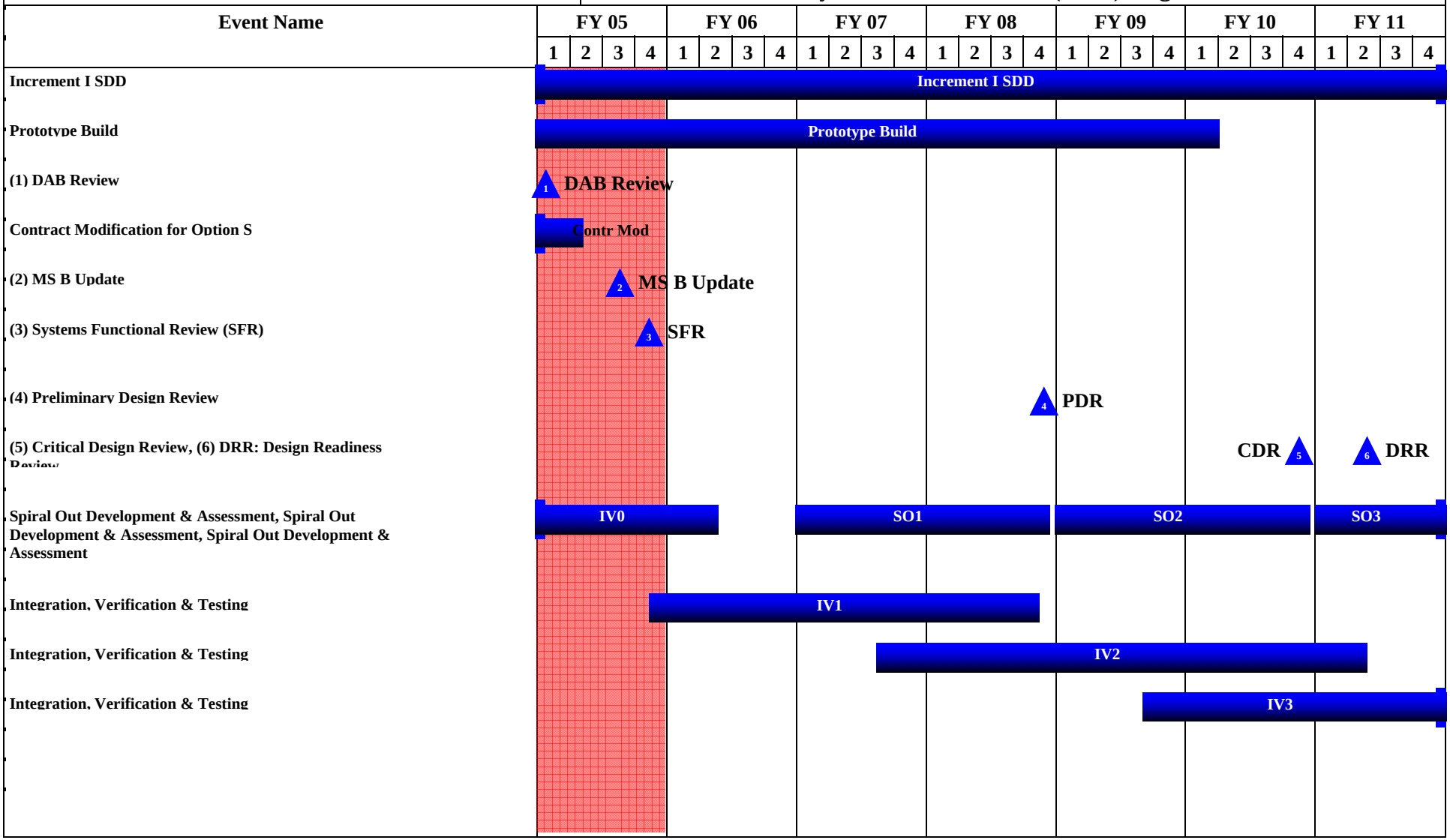
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F52



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F52

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ADM Required MS B Update	3Q						
Definitization of Contract modification for POM-adjusted Program	2Q						
SoS Functional Review (FR)	4Q						
SoS Preliminary Design Review (PDR)				4Q			
Phase 1 Integration at Test Completion	4Q						
Phase 2 Integration at Test Completion			3Q				
Phase 3 Integration at Test Completion				2Q			
SoS Critical Design Review (CDR)						4Q	
Design Ready Review							2Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**	**F53**

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
F53	FCS- UNMANNED GROUND VEHICLES (UGV)	65066	124988	107705	145693	146565	111391	97621	Continuing	799029

A. Mission Description and Budget Item Justification: This FCS project includes contractor efforts for developmental and engineering effort for requirement analysis, specification determination and justification, and detail design packages for integration of common and mission equipped Unmanned Ground Vehicles. The focus is on a producible, reliable, sustainable, maintainable, and affordable design. Also included are subsystem prototypes, models, and/or simulations to support development, tests, and demonstrations. Unmanned platforms include: Armed Robotic Vehicles-Reconnaissance (ARV-RSTA) and ARV-Assault (ARV-A), Small Unmanned Ground Vehicle (SUGV), Multi-function Utility/Logistics Equipment-Transport (MULE-T), MULE-Countermine (CM), and ARV-A Light (ARV-L). In addition to the UGV, this project includes the development of the hardware and software for the Autonomous Navigation System (ANS) required for operation of the UGVs and leader-follower capability for the Manned Ground Vehicles (MGV).

ARV

The ARV comes in two variants: the Assault (ARV-A) variant, and the Reconnaissance, Surveillance and Target Acquisition (ARV-RSTA) variant. The ARV-A and ARV-RSTA will have different mission payloads mounted on a common chassis capable of staying with MGVs. The ARV-A will be utilized to maneuver forward of the mounted and dismounted elements in the attack or within the defense. The ARV-A will provide direct fire and anti-tank (AT) weapons; occupy key terrain and provide over-watching fires and effects; provide Line-of-Sight (LOS) fires; provide Beyond-Line-of-Sight (BLOS) fires to destroy vehicles and fortified positions; employ non-lethal munitions; remotely provide limited reconnaissance capability; remotely deploy sensors; remotely assess battle damage; and act as a communications relay. The ARV-RSTA variant will provide Reconnaissance, Surveillance and Target Acquisition for the FCS (BCT). The ARV-RSTA accompanies mounted and reconnaissance units and fills the role of an additional "scout", gathering information forward of the MGVs. The ARV-RSTA consists of a common chassis platform with payloads that provide video capability, digital communications/audio relay modules (plug in/out), and advanced sensors/mission modules. The ARV-RSTA will provide reconnaissance capability in Urban Military Operations in Urban Terrain and other battlespace; deploy sensors, highlight targets (direct-fire weapons and special munitions into buildings, bunkers, and other urban features); locate or by-pass threat obstacles in buildings, bunkers, tunnels, and other urban feature,act as a communications relay and perform battle damage assessment.

MULE

The MULE Vehicle is a 2.5-ton UGV that will support dismounted operations. It consists of four major components:

• Mobility platform or common chassis.

• ANS. The ANS is the mission payload package that will be integrated on both the MULE vehicle and ARVs to provide a robotic semiautonomous capability and also on the family of MGVs to provide a leader-follower capability.

• Operator Control Unit (OCU).

• Three Mission equipment packages.

The MULE vehicle has three variants sharing a common chassis: transport(MULT-T), countermine (MULE-CM), and the ARV-A(L). The MULE-T will carry 1,900-2,400 pounds of equipment and rucksacks for dismounted infantry squads with the mobility needed to follow squads in complex terrain. The MULE-CM will provide the capability to

detect, mark and neutralize individual anti-tank mines by integrating a mine detection mission equipment package from the Ground Standoff Mine Detection System (GSTAMIDS) FCS program. The ARV-A(L)is a mobility platform with an integrated weapons and RSTA package to support the dismounted infantry's efforts to locate and destroy enemy platforms and positions. The centerpiece of the MULE Common Chassis's is superior mobility built around an articulated suspension system to negotiate obstacles and gaps that a dismounted squad might encounter.

SUGV
The SUGV is a small, lightweight, manportable UGV capable of conducting military operations in urban terrain tunnels, sewers, and caves. The SUGV enables the performance of manpower intensive or high-risk functions (i.e. urban Intelligence, Surveillance, and Reconnaissance (ISR) missions, chemical/Toxic Industrial Chemicals/Toxic Industrial Materials, reconnaissance, etc.) without exposing Soldiers directly to the hazard. The SUGV's modular design allows multiple payloads to be integrated in a plug-and-play fashion. Weighing less than 30 pounds, it is capable of carrying up to six pounds of payload weight.

IAW Section 214 of the FY2006 National Defense Authorization Act, this project will be converted to a stand alone Program Element commencing with the FY2008 President's Budget submission to Congress.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
ARV Systems Engineering and Program Management (SEPM) - FY06 will continue to refine the platform specifications for review at the ARV System Functional Review (SFR) in 4QFY06. This milestone review will verify that system level requirements are properly aligned with the SoS specification. FY07 will continue the maturation of the platform designs. This activity will be reviewed at the ARV Preliminary Design Review (PDR) which will verify that system designs are compliant with system level requirements as outlined in the ARV Prime Item Development Specifications (PIDS) documents.	11098	15997	17351
ARV Common - FY06 will continue to refine the platform specifications and develop Integrated UGV Platform Simulations for review at the ARV SFR, to verify that system level requirements are properly aligned with the SoS Specification and correctly flowed down to the Common Mobility Platform and common subsystems for the ARV-Assault (ARV-A) and ARV-RSTA variants. Common component level testing will be initiated to support efforts leading to the PDR in FY07. Develop initial ARV Automotive Test Rig (ATR) consisting of chasis,suspension,bandtrack, propulsion and vehicle management subsystems to mitigate mobility, RAM-T and ANS integration risks. Major components included in the ATR are Chassis, Engine, Steering, Transmission, Cooling System, Suspension System, Vehicle Management System Controller and Software. Initial ARV simulations (including Autonomous Navigation System simulations) will be prepared and tested in FY06. FY07 will continue the maturation of the ARV Common Mobility Platform and other common component designs leading to the ARV PDR. ARV PDR will verify that system preliminary designs are compliant with system level requirements as outlined in the ARV PIDS. Updated ARV simulations and emulations will be delivered to the SoSIL with support for testing for IV1. Conduct Technology and Integration Risk Reduction Activities. ARV ATR (including the ANS system) will complete final integration, system checkout and testing to demonstrate key semi-autonomous and tele-operated mobility modes. Complete fabrication, and install pre-prototype ANS. Initial integrated system checkout will begin in early FY07. Initiate ARV Automotive Test Rig (ATR) testing to verify mobility performance and component reliability to support the ARV PDR. Conduct Technology and Integration Risk Reduction Activities. Develop Integrated UGV platform software simulations and deliver to SOSIL.	6226	17647	12797
MULE Common Components - FY06 will continue to refine the platform specifications and develop Integrated UGV Platform Simulations for review at the MULE SFR, to verify that system level requirements are properly aligned with the SoS Specification and	6945	7919	5856

correctly flowed down to MULE common sub-systems. Common component level testing will be initiated to support efforts leading to the PDR. Conduct Technology and Integration Risk Reduction Activities. MULE Common Platform Engineering Evaluation Unit (EEU) completes preliminary design, fabrication and integration. Major components included in the EEU are Hub Motor,Gearbox,Starter/Generator, Cooling System, Engine,Hydraulic Suspension System, Chassis, Bi-Directional Controllers and Common Power Controllers. Initial integrated system checkout will also begin just prior to FY07. Updated MULE simulations (including Autonomous Navigation System updated simulations) will be prepared and tested. FY07 Mule PDR will verify that system preliminary designs are compliant with system level requirements as outlined in the MULE PIDS documents. The updated MULE simulations and emulations will be delivered to the SoSIL with support for testing for IV1. We will conduct Technology and Integration Risk Reduction Activities. MULE EEU (including the ANS system)will complete all integrated system checkout.			
MULE SEPM - FY06 will continue to refine the MULE platform specifications. This activity will be reviewed at the MULE SFR, which will be used to verify that system level requirements are properly aligned with the SoS Specification and correctly flowed down to MULE sub-systems. FY07 will continue the maturation of the MULE platform designs. This activity will be reviewed at the MULE PDR. This review will be used to verify that system designs are compliant with system level requirements as outlined in the MULE PIDS documents. Complete the MULE simulation and support testing at the SoSIL. Simulations and Emulations - FY07 - Updated digital system simulations will be delivered to the LSI SoS and C4ISR SILs to support IV1 activities.	8294	25919	26610
MULE-T- FY06 will continue to refine the MULE-T platform specifications. Procurement and fabrication of an EEU will be accomplished. Component level testing will be accomplished to support efforts leading to the Preliminary Design Review in FY07. Integrate the update ANS simulation and update the MULE-T simulation for delivery to the SoSIL. FY07 - Continue the maturation of the MULE platform designs,leading to the MULE PDR 4Q FY07 to show readiness to enter detailed design. Complete fabrication of the pre prototype MULE-T, to include installing pre-prototype ANS. Initiate MULE-T EEU testing to reduce risk in support the MULE PDR. Prototype and Hardware Deliveries - FY06 - 07 Pre-prototype EEU and component level fabrication, procurement, and testing.- Simulations and Emulations- Updated digital system simulations will be delivered to the LSI SoS and C4ISR SILs to support IV1 activities.	5456	8508	8258
ANS - FY06 will continue to refine the ANS specifications. This activity will be reviewed at the ANS SFR, which will be used to verify that system level requirements are properly aligned with the SoS Specification and the MGV and UGV platform PIDS, and correctly flowed down to ANS sub-systems. Will initiate fabrication of ANS pre-prototypes and install on legacy vehicles to conduct robotic operations. Update the ANS simulation for delivery and integration into the MULE, ARV, and MGV simulations. Procurement of the GPS/INS hardware for delivery to the NLOS-C prototypes. Complete System Functional Reviews (establishment of requirements baseline). Develop system specification and test approach for Robotic Convoy systems including design and build of HEMTT drive-by-wire capability, surrogate communication system, and operator control unit. Initiate the software design and development activities for required Robotic Convoy behaviors and initiate build of the ANS OCU, CPU, LIPM, and IPM breadboards. FY07 will continue the maturation of the ANS design, which will be reviewed at the ANS PDR. Complete fabrication of the ANS for legacy vehicles and initiate testing of robotic operations to support the PDR. Six surrogate vehicles to support ANS development. Fabricate ANS pre-prototypes for the MULE EEU and ARV EEU. ANS pre-prototypes for legacy platforms for robotic operations. Support integration of the ANS simulation into the MULE, ARV, and MGV simulations. Component level fabrication and testing Image Perception Module of the ANS. Conduct Robotic Convoy system integration and test of all hardware/software systems (LIPM, IPM, ANS computer, MMW, GPS/INS) on legacy vehicles (Stryker and HEMTT). Conduct increasingly more difficult experiments and demonstrations of Robotic Convoy capabilities, including teleoperation, leader/follower, move-on-route, wingman, and forward leading.	18908	37513	28121
SUGV- FY06 will continue to refine the specifications for review at the SUGV SFR, which will be used to verify that system level	8139	11485	8712

requirements are properly aligned with the SoS Specification and correctly flowed down to SUGV sub-systems. Rapid prototyping of pre-prototypes design concepts will be fabricated and tested to support the SUGV risk reduction in mobility performance, weight, and integration. SUGV simulation will be delivered for use in the SoSIL. Pre-prototype will include Chassis, brushless DC motor controller, Power board, Head Controller board, video board, and Neck Drive board. Conduct Technology and Integration Risk Reduction Activities beyond the pre-prototypes. Develop Integrated UGV Platform Simulations for delivery. Complete PDR for SUGV, to verify initial design meets requirements baseline prior to detail design initiation. FY07 will continue the maturation of the design for the SUGV CDR to verify that system design is compliant with system level requirements as outlined in the SUGV PIDS and ready for full prototype fabrication. Another pre-prototype will be fabricated and tested to support the minimal integrated risk levels needed at SUGV CDR. Simulation and support testing will be conducted using the SoSIL. Simulations and Emulations - Updated digital system simulations will be delivered to the LSI SoS and C4ISR SILs to support IV1 activities. Conduct Technology and Integration Risk Reduction Activities. Continue pre-prototype SUGV integration. Develop Integrated UGV Platform Simulations.			
Total	65066	124988	107705

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0604645 F52 Unmanned Areial Vehicles (UAV)	51034	52135	65555	68490	87574	131662	90626	0	547076
6004645 F53 Unmanned Ground Vehicles (UGV)	65066	124988	107705	145693	146565	111391	97621	0	799029
0604645 F54 (UGS)	15015	32131	17731	16515	12771	15913	1318	0	111394
0604645 F55 Sustainment	56613	143356	146106	164538	197448	169671	147496	0	1025228
6064645 F57 (MGV)	313263	513896	570241	583483	821110	755918	411264	0	3969175
6064645 F61 SoS Engineering & Program Management	1597139	1879210	2403139	2303689	1853009	1829927	1884924	0	13751037
0604646 F72 Non-Line of Sight Launch System (NLOS-LS)	119767	231209	322880	274793	256283	89143	17759	0	1311834
0604647 F58 Non-Line of Sight Cannon (NLOS-C)	286853	146271	112237	117605	90647	84160	44356	0	882129
WTCV	0	0	0	0	0	0	0	0	0
0604645 F59 Common Components	0	0	0	0	0	0	0	0	27500
0604645 F60 Family of Systems, Analysis & Integration	0	0	0	0	0	0	0	0	165302
0604645 F62 Mission Equipment Platforms	0	0	0	0	0	0	0	0	132537
0604645 F63 Network Software	0	0	0	0	0	0	0	0	111745
0604645 F64 Other Contracts Costs	0	0	0	0	0	0	0	0	313536
0604645 F65 SoS Engr & Prog Mgt	0	0	0	0	0	0	0	0	190331
0604645 F66 SoS Test and Evaluation	0	0	0	0	0	0	0	0	56347
0604645 F67 Supportability	0	0	0	0	0	0	0	0	5252

0604645 F69 Training	0	0	0	0	0	0	0	0	7756
0604645 F70 NLOS Launch System	0	0	0	0	0	0	0	0	49502

C. Acquisition Strategy During the FY06-11 POM process, the Army restructured the PM BCT Acquisition Program. The plan strengthened the FCS Program and simultaneously improved the Current Force through early delivery of selected FCS capabilities. The adjustments maintained the Army focus on FCS-equipped Brigade Combat Team (BCT) development and substantially reduced program risk. The adjustments to the FCS Program acquisition strategy fall into four primary categories:

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ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F53

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
Armed Robotic Vehicle Assault (ARV- A)	OTA/FAR	The Boeing Company Seattle Washington see remark 2	4068	0	1-3Q	0	1-3Q	0	1-3Q	0	0	0
Armed Robotic Vehicle Reconaissance (ARV- R)	OTA/FAR	The Boeing Company Seattle Washington see remark 2	0	0	1-3Q	0	1-3Q	0	1-3Q	0	0	0
MULE Armed Robotic Vehicle Light (ARV- A(L))	OTA/FAR	The Boeing Company Seattle Washington see remark 3	0	0	1-3Q	0	1-3Q	0	1-3Q	0	0	0
Small Unmanned Ground Vehicle (SUGV)	OTA/FAR	The Boeing Company Seattle Washington see remark 1	3471	8139	1-3Q	11485	1-3Q	8712	1-3Q	0	0	0
MULE T	OTA/FAR	The Boeing Company Seattle Washington see remark 3	12286	5456	1-3Q	8508	1-3Q	8258	1-3Q	0	0	0
Autonomous Navigation System - Software	OTA/FAR	The Boeing Company Seattle Washington see remark 4	10396	18908	1-3Q	37513	1-3Q	28121	1-3Q	0	0	0
MULE CM	OTA/FAR	The Boeing Company Seattle Washington see remark 3	0	0	1-3Q	0	1-3Q	0	1-3Q	0	0	0
ARV SEPM	OTA/FAR	The Boeing Company Seattle Washington see remark 2	0	11098	1-3Q	15997	1-3Q	17351	1-3Q	0	0	0
ARV COMMON	OTA/FAR	The Boeing Company Seattle Washington see remark 2	0	6226	1-3Q	17647	1-3Q	12797	2Q	0	0	0
MULE STE	OTA/FAR	The Boeing Company Seattle Washington see remark 3	0	0	1-3Q	0	1-3Q	0	1-3Q	0	0	0
MULE SEPM	OTA/FAR	The Boeing Company Seattle Washington see	0	8294	1-3Q	25919	1-3Q	26610	1-3Q	0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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PROJECT
F53

		remark 3										
MULE Common	OTA/FAR	The Boeing Company Seattle Washington see remark 3	0	6945	1-3Q	7919	1-3Q	5856	1-3Q	0	0	0
Subtotal:			30221	65066		124988		107705		0	0	0

Remarks: Remark 1: Subcontractor: iRobot Corp. - Burlington, MA
Remark 2: Subcontractor: BAE - Ground Systems Division - Santa Clara, CA
Remark 3: Subcontractor: Lockheed Martin Missile and Fire Control - Grand Prairie, TX
Remark 4: Subcontractor: General Dynamics Robotic Systems - Westminister, MD

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
Government Statutory Reductions	Direct	PM FCS (BCT), St. Louis, MO	0	0		0		0		0	0	0
Subtotal:			0	0		0		0		0	0	0

Remarks: All support costs for this project are included in F61 SoS Engineering and Program Management project.

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									

Remarks: All Test and Evaluation costs for this project are included in F61 SoS Engineering and Program Management project.

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									

Project Total Cost:			**30221**	**65066**		**124988**		**107705**		**0**	**0**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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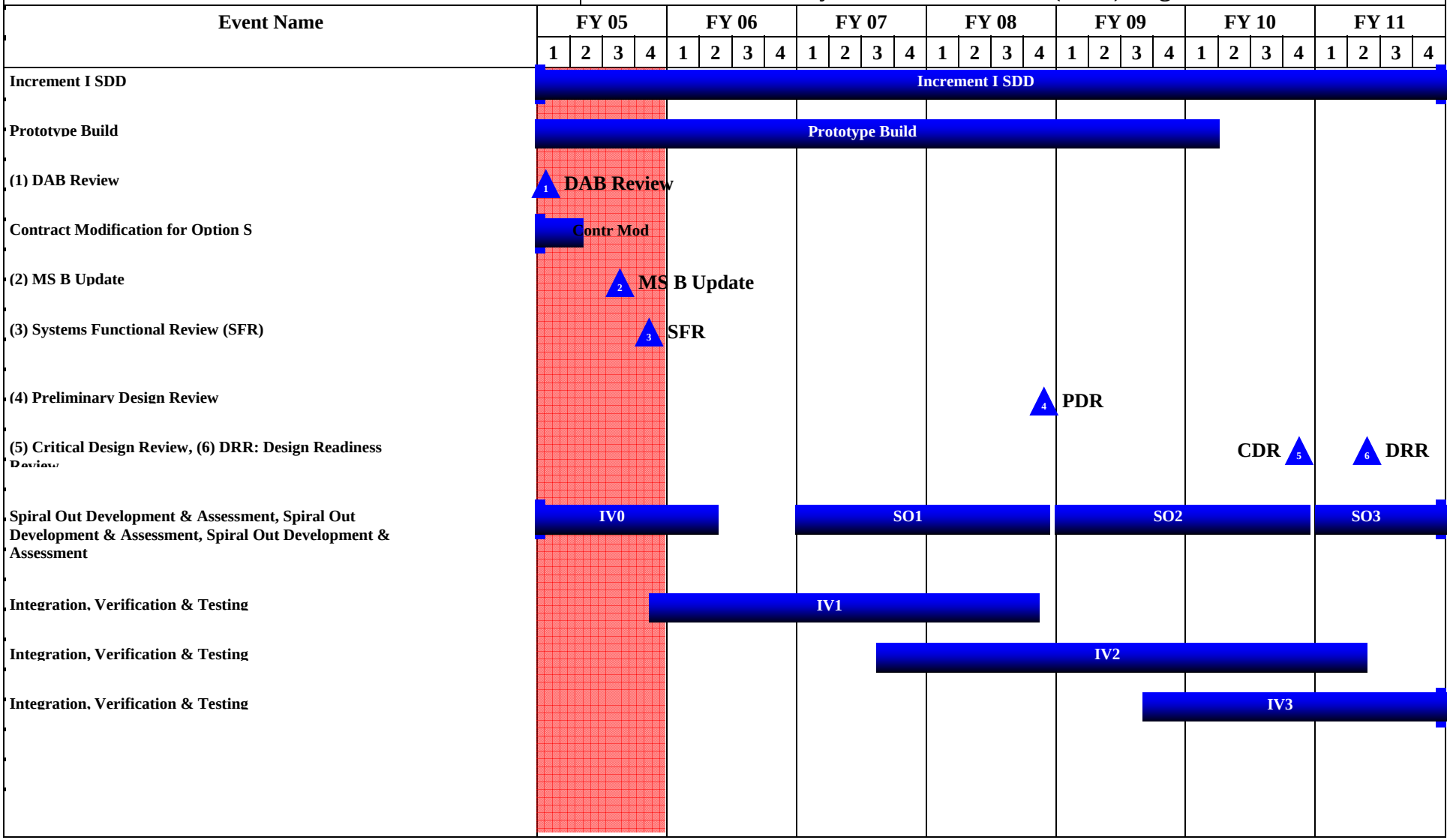
PROJECT
F53



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F53

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ADM Required MS B Update	3Q						
Definitization of Contract Modification for POM-adjusted Program	2Q						
SoS Functional Review (FR)	4Q						
SoS Preliminary Design Review (PDR)				4Q			
Phase 1 Integration at Test Completion	4Q						
Phase 2 Integration at Test Completion			3Q				
SoS Critical Design Review (CDR)						4Q	
Phase 3 Integration at Test Completion				2Q			
Design Ready Review							2Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**	**F54**

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
F54	UNATTENDED SENSORS	15015	32131	17731	16515	12771	15913	1318	Continuing	Continuing

A. Mission Description and Budget Item Justification: This FCS project includes UGS development, engineering, prototype procurement and integration assembly.
The UGS systems is based on low risk, proven technologies that deliver critical capabilities. The modular design of these systems allow for integration of new capabilities within subsequent FCS Spin Outs.
The UGS program is an end-to-end, turnkey system of integrated acoustic and seismic sensors, multi-layer and multi-sensor fusion algorithms, networked and fielded hardware to provide warfighters with high confidence detection, classification and tracking of non-line of sight, mobile, time-critical targets in denied enemy areas. High confidence levels and precision will allow for indirect fire weapon targeting, remote scouting and augmentation/cueing of other C4ISR systems.

There are two configurations of UGS; Tactical and Urban. Tactical-UGS (T-UGS), which includes Intelligence, Surveillance and Reconnaissance (ISR)-UGS and Chemical, Biological, Radiological and Nuclear (CBRN)-UGS. The UGS (T-UGS) are designed for remote tactical operations in open spaces, at road choke points, avenues of approach, etc, and are designed to be emplaced by hand or by remote deployment methods. The T-UGS system consists of five configuration items (nodes), each containing a unique set of sensing capabilities, and sharing a common hardware form factor. The common form factor enables simplified scalability and upgrade paths for future technology insertion, while the distributed sensing capability enhances mission flexibility and system versatility. The T-UGS ISR node provides for vehicle and personnel detection capabilities via seismic, acoustic and magnetic sensors. The principal means of vehicle detection and tracking are the acoustic bearing sensors. Multiple sensors support precision location and simultaneous tracking of multiple targets. Seismic sensors are the primary means of personnel detection. When confirmed as a valid target of interest, Imaging nodes will autonomously capture multiple images of the target. The CBRN node provides for chemical, biological, radiological, and nuclear sensing and reporting capability. The Hazard/Clear Lane Marker (H/CLM) nodes are deployed to mark hazardous keep-out zones, or to define cleared lanes though hazardous areas such as minefields. The final component of the T-UGS system is the Long-Haul gateway node that provides radio communications and integration into the FCS network.

The Urban-UGS (U-UGS), also known as Urban Military Operations in Urban Terrain Advanced Sensor System. The Urban Unattended Ground Sensor (U-UGS) system is designed for use in confined spaces such as rooms, halls, attics, basements, sewers, caves, and alleyways. When a platoon or squad clears a building for example, U-UGS are left behind to perform surveillance that would otherwise require dedicated soldiers. The U UGS system provides a self-organizing wireless network that consists of three configuration items; personnel detect sensors, imaging sensors, and gateways. Personnel Detect Sensors provide dual mode, passive infrared and RF microwave motion sensing for "trip-wire" detection of intruders. Imaging Sensors provide electro-optical visual imaging with a near-infrared illuminator for operation in full darkness. Gateways organize and manage the sensor network, and communicate sensor data to FCS C2 systems and to the local dismounts.
IAW Section 214 of the FY2006 National Defense Authorization Act, this project will be converted to a stand alone Program Element commencing with the FY2008 President's Budget submission.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
UNATTENDED GROUND SENSORS - FY06 - UGS program will utilize M&S to support concept definition, UGS design analysis and trades, and integration into the FCS (SoS) network-centric environment. UGS CIs/SCSIs will be released in early FY06 to support PDR Phases 1 and 2 and will begin the detailed design phase of the program. The Critical Design Review (CDR), Aug 2006, marks the design	15015	32131	17731

completion and initiates the fabrication and prototype build phase. In FY06, a IV phase 1 (IV1) is being performed to develop and exercise models consistent with the Spin Out 1 UGS configuration and FCS Environment Tests and Experiments. Tests include HALT Test, HAST Test, and Endurance test as well as the start of system integration testing. FY07 - Delivery of pre-qualification hardware to Boeing's C4ISR System Integration Lab (SIL) is scheduled in FY07 for integration testing with the C4ISR network elements. The delivery will augment other UGS Modeling & Simulation (M&S) efforts to conduct the Integration & Verification (IV) phase activities. A series of Integration & Verification (IV) phase activities are planned. Testing will be completed in FY07 to be followed by full system Integrated Qualification Test (IQT). Integration & Verification efforts and UA feedback will be utilized to refine the Spin Out 1 UGS system design and products, as well as provide input in subsequent Spin Outs. The UGS program is on track to deliver fully qualified UGS systems to the (SoS) SIL in FY 2007.			
Total	15015	32131	17731

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0604645 F52 UAV Recon Platform and Sensors	51034	52135	65555	68490	87574	131662	90626	0	547076
0604645 F53 (UGV)	65066	124988	107705	145693	146565	111391	97621	0	799029
0604645 F54 (UGS)	15015	32131	17731	16515	12771	15913	1318	0	111394
0604645 F55 Sustainment	56613	143356	146106	164538	197448	169671	147496	0	1025228
0604645 F57 Manned Ground Vehicles (MGV)	313263	513896	570241	583483	821110	755918	411264	0	3969175
0604645 F61 SoS Engineering & Program Management	1597139	1879210	2403139	2303689	1853009	1829927	1884924	0	13751037
0604646 F72 Non-Line of Sight Launch System (NLOS-LS)	119767	231209	322880	274793	256283	89143	17759	0	1311834
0604647 F58 Non-Line of Sight - Cannon (NLOS-C)	286853	146271	112237	117605	90647	84160	44356	0	882129
WTCV	0	0	0	0	0	0	0	0	0
0604645 F59 Common Components	0	0	0	0	0	0	0	0	27500
0604645 F60 Family of Systems,Anal & Int	0	0	0	0	0	0	0	0	165302
0604645 F62 Mission Equipment Platforms	0	0	0	0	0	0	0	0	132537
0604645 F63 Network Software	0	0	0	0	0	0	0	0	111745
0604645 F64 Other Contract Costs	0	0	0	0	0	0	0	0	313536
0604645 F65 S OF S Engr & Prog Mgt	0	0	0	0	0	0	0	0	190331
0604645 F66 S OF S Test and Evaluation	0	0	0	0	0	0	0	0	56347
0604645 F67 Supportability	0	0	0	0	0	0	0	0	5252
0604645 F69 Training	0	0	0	0	0	0	0	0	7756
0604645 F70 NLOS Launch Systems	0	0	0	0	0	0	0	0	0

C. Acquisition Strategy During the FY06-11 POM process, the Army restructured the PM BCT Acquisition Program. The plan strengthened the FCS Program and simultaneously improved the Current Force through early delivery of selected FCS capabilities. The adjustments maintained the Army focus on FCS-equipped Brigade Combat Team (BCT) development and substantially reduced program risk. The adjustments to the FCS Program acquisition strategy fall into four primary categories:

- The development of system integration/verification phases to build FCS (BCT) capability iteratively over time, reducing overall technical risk by using a building block approach.
- The five previously deferred FCS core systems: 1) UAV Class II, 2) UAV III, 3) Armed Robotic Vehicle (ARV) -Assault, 4) ARV-Reconnaissance and 5) FCS Maintenance and Recovery Vehicle have been funded. These five systems will be fielded with the first FCS-equipped BCT allowing fielding of the complete 18 + 1 + 1 FCS core systems to the Army with delivery beginning in 2014.
- More robust experimentation and evaluation are included in the program to prove revolutionary concepts, mature the architecture and components, and assist in the spinout development.
- A series of Spinout packages will begin procurement in 2009 and continue approximately every two years through 2014 to insert FCS capability into Current Force Modular Brigade Combat Teams (M-BCTs) to include Heavy and Infantry.

The current OTA was initially modified on 6 Aug 2004 to cover the new Scope of Work (SOW) of the approved POM program. Final definitization of this modification occurred on 2 March 2005. Since FY05 funding was based on the original Milestone B approved program, two major reprogramming have occurred in order to align funding of the restructured program.

The Assistant Secretary of the Army (Acquisition, Logistics and Technology) in May 05 directed that the current FCS (BCT) OTA with the LSI be converted from an OTA to a Federal Acquisition Regulation-based contract. This transition was executed through the award of an Unpriced Contractual Action (UCA) in Sep 05.

The letter contract became effective 30 Sep 2005, and replaced the FCS SDD Other Transaction Agreement (OTA) DAAE07-03-9-F001 for most SDD effort performed beginning 20 Sep 2005 and thereafter. The LSI and the Government recognize that some effort remains to be completed under the OTA after 30 Sep 05, having to do with orderly OTA close-out and the like. Therefore, future funding profiles will be adjusted based on the definitization of UCA and subsequent adjusted Earned Value Management Baseline. The FAR based contract is scheduled to be definitized in March 2006.

IAW Section 214 of the FY2006 National Defense Authorization Act, this project will be converted to a stand alone Program Element commencing with the FY2008 President's Budget submission to Congress.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F54

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
Unattended Ground Sensors (UGS)	OTA/FAR	The Boeing Company - Seattle, Wash., See Remark 1	6000	15015	1-3Q	32131	1-3Q	17731	1-3Q	0	0	0
Subtotal:			6000	15015		32131		17731		0	0	0

Remarks: Remarks 1: Subcontractor: Textron Systems,Intelligent Battlefield System Division - Willington, MA

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

Remarks: All support costs for this project are included in F61 SoS Engineering and Program Management project.

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									

Remarks: All Test and Evaluation costs for this project are included in F61 SoS Engineering and Program Management project.

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									
Project Total Cost:			**6000**	**15015**		**32131**		**17731**		**0**	**0**	**0**

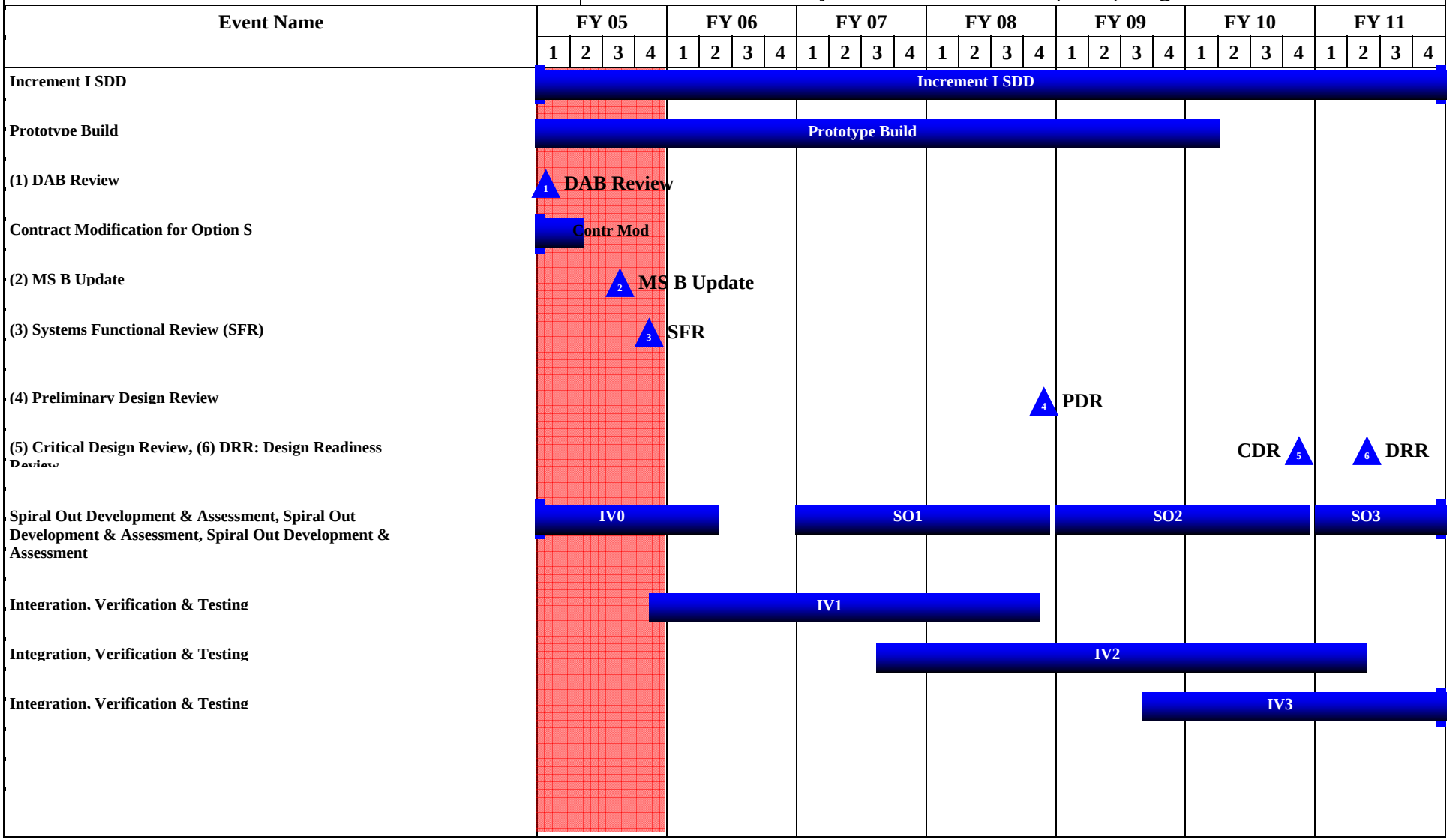
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F54



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F54

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ADM Required MS B Update	3Q						
Definitization of Contract Modification for POM-adjusted Program	2Q						
SoS Functional Review (FR)	4Q						
SoS Preliminary Design Review (PDR)				4Q			
Phase 1 Integration at Test Completion	4Q						
Phase 2 Integration at Test Completion			3Q				
SoS Critical Design Review (CDR)						4Q	
Phase 3 Integration at Test Completion				2Q			
Design Ready Review							2Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**	**F55**

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
F55 SUSTAINMENT	56613	143356	146106	164538	197448	169671	147496	Continuing	1025228

A. Mission Description and Budget Item Justification: This project contains funding for Logistics and Training Support System Development for the Future Combat Systems(FCS) Brigade Combat Team (BCT).

The logistics effort includes the development of the management, products, and services required to design, develop, assemble, integrate, and test the supportability processes and supporting automated applications within the FCS System of Systems (SoS). It also funds analysis to aid in life cycle product support decision making, to include developing and implementing metrics, performance standards, and warranty requirements. Definition of the Performance Based Logistics (PBL) business processes, performance metrics, standards, data management and analysis process, and the PBL concept for sustainment in accordance with the FCS supportability strategy is also included in this project.

This logistics portion of this project includes the following:
Test Support and Demonstration - Provisioning of test support for equipment testing and demonstration for SoS and Family of Systems (FoS) supportability performance verification. Validation of maneuver sustainment, PBL, and other applicable logistics support concepts during SoS Test and SoSIL simulations. Assurance that sensor collection of data for logistics decision support system software is adequate to support logistics modeling verification and validation efforts, as well as operational PBL.

Logistics Management Product Integration - Provides integration of supportability products into the SoS elements,including diagnostics and prognostics functions. Conduct logistics technical reviews at the system, vehicle, and component levels.

Fielding - Development of process for deploying vehicles to home base locations to include facilities analysis. Includes the use of integrated real and virtual test and evaluation to obtain and validate engineering data and design for the FCS equipped portion of the (BCT) and interfaces with the non-FCS equipped portion of FCS(BCT). Includes fielding analyses and recommendations of the best fielding methodology for FCS.

Training includes contractor analysis to support training for the System of Systems (SoS). This effort includes the design and development engineering, integration, embedded training, and testing of unique training devices, training systems engineering, training products, training support packages, and training integration.

Training also provides for the management, plans, products, verification and validation, and services required to ensure design, development, fabrication, integration, and test of a FCS (BCT) training program and FCS (BCT) training system capable of meeting Operational Requirements Document (ORD) objectives. Assure that the training system is designed as an integral part of the overall SoS design to meet Increment 1 requirements and provides for future increment upgrades. Identify, assess, and mitigate training risks as part of the SDD risk reduction effort and coordinate these risk reduction efforts with the SoS Engineering technical risk manager. Support the distributed network and platform development efforts required to implement embedded and stand alone training designs within (FoS) products necessary to ensure these designs meet ORD requirements. Includes training product design and interfaces as required to address U.S. Army training implementation beyond the SoS and/or FoS levels for consistency with the existing and planned U.S. Army training infrastructure. Apply a common systematic approach to identify, define, and assess training system technologies and training environments for potential application to FCS training requirements.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**	**F55**

IAW Section 214 of the FY2006 National Defense Authorization Act, this project will be converted to a stand alone Program Element commencing with the FY2008 President's Budget submission to Congress.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Training - FY06 Develop Embedded Training (ET) capability and products, including Spin Out #1; Training (Instructional) Support Packages (TSPs); Interactive Multi-media Instruction (IMI); Training Aids and Devices, Simulations and Simulators (TADSSs); ET software. Deliver first increment (CGF) of Training Common Components (TCCs) integrated with SOSCOE (ultimate reuse of 14.6 Million Government developed lines of code). Continue development of individual and collective Training Support Plans (1,500+ tasks). Deliver the second increment of the Single Operational Roles List (SORL) as part of the total FCS operational architecture description. The second increment of the Single Integrated Task List (SITL) (collective tasks that need to be performed by FCS units) will be delivered for use in the development of training packages for FCS training capabilities to be developed in Engineering Iteration #1. Develop TCCs Build 1 with OOS SAF/CGF and additional common components into SOSCOE 1.5 and test in the FCS Training Systems Integration Laboratory (SIL). Identify training requirements. Develop training support products in preparation for Integrated Mission Test 1 (IMT-1) and support for Experiment 1.1 in Training SIL. Develop and demonstrate Individual and Collective FCS TSPs as part of Experiment 1.1 and support testing of technology and products for Spin Out #1. FY07 - Continue to develop Embedded Training capability and products, Experiment 1.1 & Spin Out #1, (TSPs), Interactive Multi-media Instruction (IMI), Training Aids and Devices, Simulations and Simulators (TADSSs) and ET software. Develop (TCCs) Build 2 integrated with OOS and additional common components into SOSCOE 2.0 and tested in the FCS Training SIL. Deliver second increment of TCCs. Continue development of Training Support Plans (1,500+ tasks). Deliver the third increment of the (SORL) and the (SITL). Develop Leader and Battle Staff tasks for the FCS equipped units (500+ tasks).	40722	99703	102933
Logistics Systems Management - FY06 - A Supportability Design Assessment that looks across entire UA to determine how it will be supported during wartime and peacetime will be conducted. The Material Fielding Plan, PBL Implementation Plan and Supportability Strategy, Modeling and Simulating (M&S) activities will be updated. Logistics Analysis is supporting development of data sets and model software to insert logistics impacts as Operational Availability (Ao), Log Footprint and Life Cycle Costs into war fighter models (JANUS Simulation) and supportability assessments and trades. Provide logistics attributes and capabilities documents to support modeling and simulation activities in War games and major availability analyses. Logistics Products B1PC for SW Build 1 (EI1/IV1). IETM: Deliver D786-11067-1, IETM specification to DM (DP049). Deliver Water Generation Phase I Kit. CLA/SORA Data Product Update. Level of PBL requirement for FCS Prototypes E-BCT determined. Perform/Present UA Supportability Performance Assessment For IV0. KPP4 Assessment Completed (IV0). KPP5 Assessment Completed (IV0). FY07 Update the Material Fielding Plan, the PBL implementation plan, the Supportability Strategy, and the M&S models. Deliver the first phase of logistics products (Logistics Planning software) developed during the FCS Program's engineering iteration 1, to the C4ISR System Integration Lab (SIL) in February. Continue development of Log Data Management Systems (LDMS). SoS Specification Baselined. PIDS to CSCI Interfaces Documented. FCS (BCT) Integrated Architecture Development Baseline Documented. EI1 - Supportability Plan. IETM Specification and Requirements Development. So 1 Supportability Strategy Final Draft Released. SO1 PBL Implementation Plan approved. FCS Materiel Fielding Plan updated for EI1 RA.	15891	42352	41820
GFX - PEO STRI SME Training Support	0	1301	1353
Total	56613	143356	146106

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0604645 F52 UAV Recon Platforms and Sensors	51034	52135	65555	68490	87574	131662	90626	0	547076
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0604645 F59 Common Components	0	0	0	0	0	0	0	0	27500
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0604645 F63 Network Software	0	0	0	0	0	0	0	0	111745
0604645 F64 Other Contract Costs	0	0	0	0	0	0	0	0	313536
0604645 F65 SoS Engr & Prog Mgt	0	0	0	0	0	0	0	0	190331
0604645 F66 SoS Test and Evaluation	0	0	0	0	0	0	0	0	56347
0604645 F67 Supportability	0	0	0	0	0	0	0	0	5252
0604645 F69 Training	0	0	0	0	0	0	0	0	7756
0604645 F70 NLOS Launch System	0	0	0	0	0	0	0	0	49502

C. Acquisition Strategy During the FY06-11 POM process, the Army restructured the PM BCT Acquisition Program. The plan strengthened the FCS Program and simultaneously improved the Current Force through early delivery of selected FCS capabilities. The adjustments maintained the Army focus on FCS-equipped Brigade Combat Team (BCT) development and substantially reduced program risk. The adjustments to the FCS Program acquisition strategy fall into four primary categories:

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and Recovery Vehicle have been funded. These five systems will be fielded with the first FCS-equipped BCT allowing fielding of the complete 18 + 1 + 1 FCS core systems to the Army with delivery beginning in 2014.
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ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F55

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
Training Specifications &Training Products	OTA/FAR	The Boeing Company - Seattle Washington - see remarks 1-3	31607	40722	1-3Q	99703	1-3Q	102933	1-3Q	0	0	0
Logistics Systems Management	OTA/FAR	The Boeing Company - Seattle Washington	64732	15891	1-3Q	42352	1-3Q	41820	1-3Q	0	0	0
Subtotal:			96339	56613		142055		144753		0	0	0

Remarks: Remark 1: Subcontractor: Computer Science Corp. Federal Sector Defense Group - Hamptom, VA;
Remark 2: Subcontractor: Dynamics Research Corp. Systems Division - Andover, MD;
Remark 3: Subcontractor: Northrop Grumman, Information Tech, Defense Enterprise Solutions Div, - Mclean, VA

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
GFX - PEO STRI SME Training Support	Direct	PM FCS (BCT), St. Louis, MO	0	0		1301	1-3Q	1353	1-3Q	0	0	0
Subtotal:			0	0		1301		1353		0	0	0

Remarks: All support costs for this project are included in F61 SoS Engineering and Program Management project.

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									

Remarks: All Test and Evaluation costs for this project are included in F61 SoS Engineering and Program Management project.

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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**	**F55**

Project Total Cost:	**96339**	**56613**		**143356**		**146106**		**0**	**0**	**0**

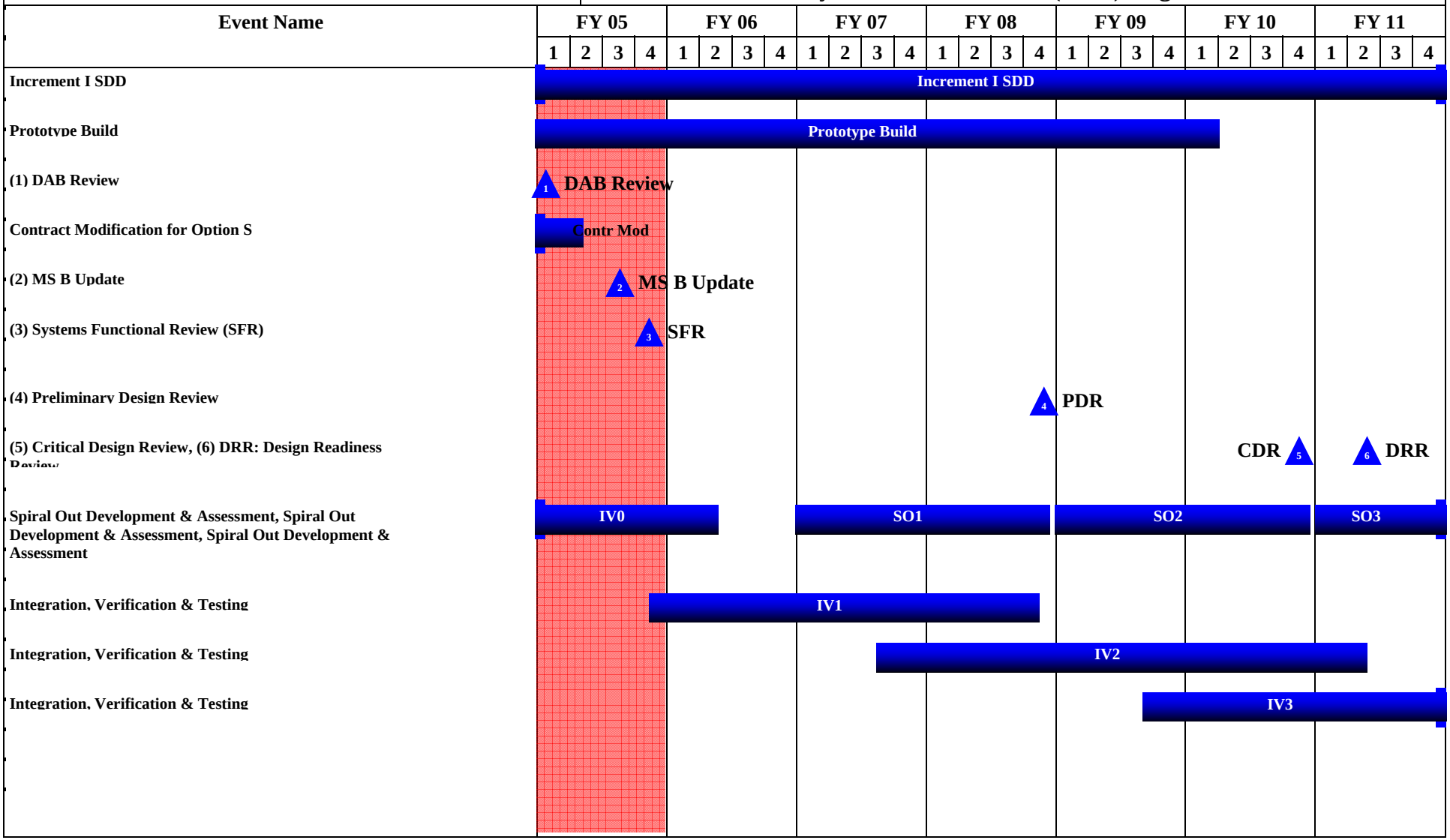
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F55



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F55

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ADM Required MS B Update	3Q						
Definitization of Contract Modification for POM-adjusted Program	2Q						
SoS Functional Review (FR)	4Q						
SoS Preliminary Design Review (PDR)				4Q			
Phase 1 Integration at Test Completion	4Q						
Phase 2 Integration at Test Completion			3Q				
SoS Critical Design Review (CDR)						4Q	
Phase 3 Integration at Test Completion				2Q			
Design Ready Review							2Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**	**F57**

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
F57	MANNED GROUND VEHICLES	313263	513896	570241	583483	821110	755918	411264	Continuing	Continuing

A. Mission Description and Budget Item Justification: This FCS project includes contractor efforts for Manned Ground Vehicles (MGVs) (other than Non-Line of Sight - Cannon NLOS-C) and includes the contractor development, engineering, sub-component and prototype fabrication, integration and assembly of all variants including development of unique mission equipment (such as main armament and fire control). Platforms include: Infantry Carrier Vehicle (ICV), Mounted Combat System (MCS), Non-Line of Sight Mortar (NLOS-M), Command and Control Vehicle (C2V), Recon and Surveillance Vehicle (RSV), FCS Recovery and Maintenance Vehicle (FMRV), Medical Vehicle (MV). This project also includes development of Common subsystem components for all MGV variants, including NLOS-C, (mobility, power, communication, command and control, vehicle utility, survivability, structure, and vetronics sub-systems).

The ICV consists of four platform versions: a Company Commander; a Platoon Leader; a Rifle Squad; and a Weapon Squad. The ICV will effectively employ weapon systems and rapidly maneuver during blackout, day and night operations, inclement weather, and limited visibility periods. The ICV will deliver the dismounted force to the close battle and support the squad by providing self-defense and supporting fires. The ICV can move, shoot, communicate, detect threats, and protect crew and critical components under most land-surface environments.

The MCS provides direct and Beyond-Line-of-Sight (BLOS) offensive firepower allowing FCS Brigade Combat Teams (BCTs) to close with and destroy enemy forces. The MCS delivers precision rapid fires to destroy multiple targets at standoff ranges. This complements the fires of other systems in the FCS(BCT). It is highly mobile and maneuvers out of contact to positions of advantage. It is capable of providing direct support to the dismounted infantry in an assault, defeating bunkers and breaching walls during the attack. The MCS also provides BLOS fires enabled by the horizontal integration and battle command provided by our integrated sensor and communications network. The MCS will consist of the common MGV chassis, the ammunition handling system and primary weapons assembly.

The NLOS-M is the U.S. Army's first semi-automated breach loaded mortar system. The NLOS-M incorporates vastly, improved ammunition handling, loading, and firing systems which will enable it to provide unparalleled responsiveness and lethality to the FCS BCT commander. The NLOS-M features transformational technologies that will be common to all FCS Manned Ground Vehicles, including hybrid-electric drive and drive-by-wire capabilities that enable the system to move rapidly, stop quickly and deliver lethal first round effects in record time. The mortar will provide supportive, destructive and special purpose fires in close support of tactical maneuvers. It provides highly responsive, reliable, timely, accurate and sustained rates of fire and rates of kill with 24/7 availability in all weather and terrain conditions at extended ranges. The NLOS-M will have a multiple round simultaneous impact (MRSI) capability as well as the capability to fire the Precision Guided Mortar Munitions (PGMM) and deliver lethal fires to destroy high payoff and most dangerous targets.

The C2V platform provides the information management of the integrated network of communications and sensor capability within the BCT and provides the tools for commanders to synchronize their knowledge of combat power with the human dimension of leadership.

RSVs feature a suite of advanced sensors to detect, locate, track, classify and automatically identify targets from increased standoff ranges under all climatic conditions, day or night. RSVs also feature the onboard capability to conduct automatic target detection, aided target recognition and level one sensor fusion.

The FRMV is the recovery and maintenance system for the BCT and contributes to sustaining and generating combat power to the BCT. Included in this suite are a mast-mounted, long-range electro-optic infrared sensor, an emitter mapping sensor for radio frequency (RF) intercept and direction finding, remote chemical detection, and a multifunction RF sensor. Each BCT will have a small number of 2-3 man Combat Repair Teams within the organic Forward Support Battalion (FSB) to perform; field maintenance requirements beyond the capabilities of the crew chief/crew, more in-depth Battle Damage Assessment Repair (BDAR) and limited recovery operations. The FRMV is designed to hold a crew of three with space allotted for three additional recovered crew. The FRMV has a Close Combat Support Weapon (CCSW) .

The MV is designed to provide advanced trauma life support within 1 hour to critically injured soldiers. These MVs serve as the primary medical system within the BCT and will have two mission modules, Evacuation and Treatment. The time-sensitive nature of treating critically injured soldiers requires an immediately responsive force health protection system with an expedient field evacuation system. The FCS MV-Evacuation vehicle allows trauma specialists, maneuvering with combat forces, to be closer to the casualty's point-of-injury and is used for casualty evacuation. The MV-Treatment vehicle enhances the ability to provide Advanced Trauma Management (ATM)/Advanced Trauma Life Support (ATLS) treatments and procedures forward for more rapid casualty interventions and clearance of the battle space. Both FCS MV mission modules will be capable of conducting medical procedures and treatments using installed networked telemedicine interfaces, Medical Communications for Combat Casualty Care and the Theater Medical Information Program (TMIP).

The Common Subsystems are defined as end-items that are produced for inclusion into multiple vehicle platforms. In FY05 common subsystem were partially funded in the NLOS-C and the MGV products. For FY06 and out all MGV, NLOS-C common components will be totally accounted for in the MGV line. This project includes developmental and engineering effort for requirement analysis, specifications, detailed design packages, and the integration of common components and sub-systems into the complete platform and weapon systems. The focus is on a producible, reliable, sustainable, maintainable, and affordable design. Also included are subsystem prototypes, models, and simulations as necessary to support development as well as tests and demonstrations.

Active Protection System (APS) Consists of Government Support Subject Matter Experts (SMEs) to assist LSI in development of APS. APS is comprised of systems that sense incoming threats and employ countermeasures to physically intercept and defeat them. A generic APS consists of sensor subsystem, a countermeasure subsystem and data processing. Data processing uses the tracking data to determine the appropriate countermeasure, calculate the firing solution and deploy the countermeasure. Includes APS Spiral, APS sensors and processors and Countermeasures: APS includes Common Radar Integration Architecture and analysis for use with Hit Avoidance Countermeasures. Countermeasure deployment and gimbal brass board test, evaluation and analysis.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Contractor Infantry Carrier Vehicle (ICV) FY06 Initiate preliminary design and integration activities. Update Subsystem CIDS. Conduct Subsystem Best Technical Approach (BTA). Update Subsystem Interface Control Documents (ICDs). Develop specification, SOW and release RFP for ICV multimedia slip ring. Develop ammo feed system demonstrator.FY07 Conduct Manned Ground Vehicles (MGV) Interim Preliminary Design Review (PDR). Update Architecture products and ICDs. Initiate design activities, Software builds, SigMan tests. Complete Human Factors Engineering(HFE)testing. Integrate C4ISR Emulators into SIL and Rig. Start brass board ammunition feed system fabrication to evaluate reliability versus affordability trade. Perform specialty engineering analysis (reliability, maintainability, logistics, HFE, and system survivability).	4202	8054	16913
Contractor Mounted Combat Systems (MCS) FY06 the MCS team will execute the System Functional Review (SFR), design and test	27600	55103	54882

sympathetic detonation barrier coupons, fabricate three cannons for testing, compete contracts for major sub-systems, and begin long lead procurement for and initial assembly for the static firing fixture. and begin long lead procurements for the mobile firing test rig.FY 07- Contractor Mounted Combat System (MCS) Complete the majority of the preliminary design efforts on the Mounted Combat System (MCS) Armament consisting of the turret structure, ammunition handling system, and primary weapons assembly and initiate firing fixture testing in preparation for the MGV preliminary design review in the 3rd quarter of fiscal year 2008. Complete phase two of the static firing fixture testing and eevelop initial fire control software for the firing fixture testing and begin development of software for mobile testing. Start initial integration assembly of the software and communications on the mobile firing test rig.			
Non-Line of Sight Mortar (NLOS-M) FY06 NLOS-M will complete its system functional review in coordination with the rest of the FCS and MGV systems allocating system requirements and baselining a concept. The tube and breech vendor will be selected and preliminary design will begin on the integrated vehicle. Component Maturation will continue with round retention ammunition handling and slip ring technology development and integration. The reliability investment program will continue. Development and construction of an NLOS-M firing platform will begin. FY07 NLOS-M Preliminary Design Efforts Continue. NLOS Mortar Firing Platform is delivered and NLOS-M Firing Platform First Shot Down Range. Component maturation and integration continues on round retention, ammunition handling, and slip ring. Reliability Investment Program continues.	6286	16498	17560
Contractor Command & Control Vehicle (C2V) -FY06 C2V - Conduct Manned Ground Vehicles (MGV) System Functional Review (SFR) and transition into design activities. Continue C2V habitability study and Soldier-centric evaluations. Update subsystem critical item development specifications and interface control documents. Begin C2V installed performance and roof-top communications equipment de-confliction analysis. FY07 C2V - Continue preliminary design activities for C2V mission work station and integrated platform. Integrate mission module and development efforts with C4ISR emulators into the system integration lab. Conduct software build efforts including common software integration. Update subsystem critical item development specifications and interface control documents. Continue human factors engineering analysis and testing. Conduct C2V installed performance component maturation testing.	18556	20651	8243
Contractor Reconnaissance & Surveillance Vehicle (RSV) - FY06 Functional Review (SFR) and transition into design activities. Update subsystem critical item development specifications and interface control documents. Complete RSV mock-up build. Begin RSV installed performance and roof-top sensor de-confliction studies. FY07 RSV - Continue preliminary design activities for RSV mission work station and integrated platform. Update subsystem critical item specifications and interface control documents. Conduct software build efforts including common software integration. Continue human factors engineering analysis and testing. Integrate mission module and common development efforts with C4ISR Emulators into the system integration lab. Conduct RSV installed performance component maturation testing.	16460	20123	19075
Contractor FCS Recovery & Maintenance Vehicle (FRMV) FY06 - Initiate preliminary design and integration activities. Update Subsystem CIDS. Conduct Subsystem BTA. Update Subsystem Interface Control Documents (ICDs). Develop FRMV Integrated System Model to evaluate alternate crane designs. Perform platform stability analysis for Tactical Crane System. Fabrication of Tactical Crane System FY07 FRMV - Update Architecture products. Update ICDs. Initiate detailed design activities. Concept maturation and fabrication of FRMV towing system. Create full scale wooden FRMV mock-up, and evaluate MANPRINT issues.	6602	8977	20334
Contractor Medical Vehicle (MV) - FY06 - Initiate preliminary design and integration activities. Update Subsystem CIDS. Conduct Subsystem BTA. Update Subsystem Interface Control Documents (ICDs). Update full scale wooden mock-up and integrate litter lift system. Perform integration of MC-4 Software. FY07 MV - Update Architecture products. Update ICDs. Initiate detailed design activities. Initiate development of treatment table. Complete system and subsystem level trade studies.	4225	6162	8134
Common SubsystemsFY06 - Specify, design, procure and begin testing of Increment 0 Threshold Common subsystems; Software Build 1	228860	332700	383634

Life Cycle Objective (LCO) Review. Complete MGV SFR. Begin Preliminary Design. Baselined SW Build 1 Design Initiated. Complete system, functional and software architecture for MGV. Complete ATR Design. Order LLI. Subsystem size, weight, power, cooling, reliability and cost allocations completed. Complete best technical approach. Complete initial Interface Control Documents (ICDs) for internal and external interfaces. Document risks and associated mitigation plans. System Integration Plans Initiated. Initiate solid based model design. Perform interim requirements compliance assessments for the Common. Initiate Procurement of Inc 1 Subsystems. Band Track Component Maturation. Procurement and Integration of ATR. Procure Servo Motor Controller and Track Tensioner. Develop flex bus and connector concepts. Procurement and Integration of ATR . Procurement of Servo Motor Controller, Remote Interface Units. Develop and baseline a Thermal Architecture. Procure Environmental Control System, Vapor Control System, Water Distribution System and Air Handling Unit. Develop a 24 Ton Modular-Scalable BTA IAW new ECC/FCC. Develop Station Architecture. Procure Propulsion Generator, Air Induction System and Final Drive. FY07 - Provide emulators and stimulators to SILS for Integration/Testing. Automotive Test Rig (ATR) Fabrication and testing. Complete Common Software Build One Suspension Systems into Labs for Testing. Vetronics - Continue Integration/Test in the ATR. Systems into Labs for Integration/Testing. Integration of ICS and VMS/INS onto ATR/MGV NBC/ECS. Procure Nuclear Biological Chemical System. Develop A&B Armor and Mine Resistant Structure CMMP Common Crew Station. Station Architecture Systems into Labs.			
Government GFX XM307 FY06 - Development prototypes. Testing to be provided as GFX to the LSI. - A light weight portable Advanced Crew Served Weapon utilizing 25mm air burst ammunition. XM-307 has a full solution fire control system that includes a laser range finder and a day /night sight. It is highly portable within small soldier units and provides overwhelming lethality compared to existing systems. General Dynamics Ordnance and Tactical Systems is developing ammo. Kaman Dayron is developing the fuze and Raytheon is developing the full solution fire control.FY06 - Develop requirements/specifications and ICDs for the XM307 weapon to be used on UGV or MGV variants. FY07 Continue the development build prototype of the XM307 for verifying, validating and proving the concept.	0	44075	39200
Government GFX MK-44 AMMO Development FY07 Begin requirement/specification and ICDs for MK-44 Ammo.	0	0	1266
Government GFX Active Protection System (APS) - FY06 Active Protection Systems - APS Developer Base Program Award and Preliminary Design Review/Critical Design Review. Finalize APS Testing Strategy.FY07 Active Protection Systems - Begin APS SIL Integration. Initial Developmental Testing. APS FY07 expected contract awards include; Laser Warning Receiver award, Multi-function countermeasures award, and a Survivability Coordinator Software award.FY06 Hit Avoidance - Initiate EMA concepts for integration on MGV, Update BTA to reflect EMA.	472	1553	1000
Total	313263	513896	570241

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0604645 F52 UAV Recon Platforms and Sensors	51034	52135	65555	68490	87574	131662	90626	0	547076
0604645 F53 (UGV)	65066	124988	107705	145693	146565	111391	97621	0	799029
0604645 F54 (UGS)	15015	32131	17731	16515	12771	15913	1318	0	111394
0604645 F55 Sustainment	56613	143356	146106	164538	197448	169671	147496	0	1025228
0604645 F57 (MGV)	313263	513896	570241	583483	821110	755918	411264	0	3969175
0604645 F61 SoS Engineering & Program Management	1597139	1879210	2403139	2303689	1853009	1829927	1884924	0	13751037

0604646 F72 Non-Line of Sight Launch System (NLOS-LS)	119767	231209	322880	274793	256283	89143	17759	0	1311834
0604647 F58 Non-Line of Sight Cannon (NLOS-C)	286853	146271	112237	117605	90647	84160	44356	0	882129
WTCV	0	0	0	0	0	0	0	0	0
0604645 F59 Common Components	0	0	0	0	0	0	0	0	27500
0604645 F62 Mission Equipment Platforms	0	0	0	0	0	0	0	0	132537
0604645 F63 Network Softwaret	0	0	0	0	0	0	0	0	111745
0604645 F64 Other Contract Costs	0	0	0	0	0	0	0	0	313536
0604645 F65 S of S Engr & Prog Mgt	0	0	0	0	0	0	0	0	190331
0604645 F66 S of S Test and Evaluation	0	0	0	0	0	0	0	0	56347
0604645 F67 Supportability	0	0	0	0	0	0	0	0	5252
0604645 F69 Training	0	0	0	0	0	0	0	0	7756
0604645 F70 NLOS Launch Systemt	0	0	0	0	0	0	0	0	49502

C. Acquisition Strategy During the FY06-11 POM process, the Army restructured the PM BCT Acquisition Program. The plan strengthened the FCS Program and simultaneously improved the Current Force through early delivery of selected FCS capabilities. The adjustments maintained the Army focus on FCS-equipped Brigade Combat Team (BCT) development and substantially reduced program risk. The adjustments to the FCS Program acquisition strategy fall into four primary categories:

- The development of system integration/verification phases to build FCS (BCT) capability iteratively over time, reducing overall technical risk by using a building block approach.
- The five previously deferred FCS core systems: 1) UAV Class II, 2) UAV III, 3) Armed Robotic Vehicle (ARV) -Assault, 4) ARV-Reconnaissance and 5) FCS Maintenance and Recovery Vehicle have been funded. These five systems will be fielded with the first FCS-equipped BCT allowing fielding of the complete 18 + 1 + 1 FCS core systems to the Army with delivery beginning in 2014.
- More robust experimentation and evaluation are included in the program to prove revolutionary concepts, mature the architecture and components, and assist in the spinout development.
- A series of Spinout packages will begin procurement in 2009 and continue approximately every two years through 2014 to insert FCS capability into Current Force Modular Brigade Combat Teams (M-BCTs) to include Heavy and Infantry.

The current OTA was initially modified on 6 Aug 2004 to cover the new Scope of Work (SOW) of the approved POM program. Final definitization of this modification occurred on 2 March 2005. Since FY05 funding was based on the original Milestone B approved program, two major reprogramming have occurred in order to align funding of the restructured program.

The Assistant Secretary of the Army (Acquisition, Logistics and Technology) in May 05 directed that the current FCS (BCT) OTA with the LSI be converted from an OTA to a Federal Acquisition Regulation-based contract. This transition was executed through the award of an Unpriced Contractual Action (UCA) in Sep 05.
The letter contract became effective 30 Sep 2005, and replaced the FCS SDD Other Transaction Agreement (OTA) DAAE07-03-9-F001 for most SDD effort performed beginning 20 Sep 2005 and thereafter. The LSI and the Government recognize that some effort remains to be completed under the OTA after 30 Sep 05, having to do with orderly OTA close-out and the like. Therefore, future funding profiles will be adjusted based on the definitization of UCA and subsequent adjusted Earned Value Management Baseline. The FAR based contract is scheduled to be definitized in March 2006.

IAW Section 214 of the FY2006 National Defense Authorization Act, this project will be converted to a stand alone Program Element commencing with the FY2008 President's Budget submission to Congress.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F57

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
INFANTRY CARRIER VEHICLE (ICV)	OTA/FAR	THE BOEING COMPANY - SEATTLE WASHINGTON, see remark 2	35245	4202	1-3Q	8054	1-3Q	16913	1-3Q	0	0	0
MOUNTED COMBAT SYSTEMS (MCS)	OTA/FAR	THE BOEING COMPANY - SEATTLE WASHINGTON, see remark 1	80637	27600	1-3Q	55103	1-3Q	54882	1-3Q	0	0	0
NON-LINE OF SIGHT MORTAR (NLOS-M)	OTA/FAR	THE BOEING COMPANY - SEATTLE WASHINGTON, see remark 3	17519	6286	1-3Q	16498	4Q	17560	1-3Q	0	0	0
Contractor Common Component Vehicle Subs	OTA/FAR	THE BOEING COMPANY - SEATTLE WASHINGTON, see remark 1,2,3,4,5	0	228860	1-3Q	332700	1-3Q	383634	1-3Q	0	0	0
COMMAND & CONTROL VEHICLE (C2V)	OTA/FAR	THE BOEING COMPANY - SEATTLE WASHINGTON, see remark 1	20870	18556	1-3Q	20651	1-3Q	8243	1-3Q	0	0	0
RECONNAISSANCE & SURVEILLANCE VEHICLE (RSV)	OTA/FAR	THE BOEING COMPANY - SEATTLE WASHINGTON, see remark 1	23368	16460	1-3Q	20123	1-3Q	19075	1-3Q	0	0	0
Medical Vehicle (MV)	OTA/FAR	THE BOEING COMPANY - SEATTLE WASHINGTON, see	0	4225	1-3Q	6162	1-3Q	8134	1-3Q	0	0	0

		remark 2										
FCS RECOVERY & MAINT VEH (FRMV)	OTA/FAR	THE BOEING COMPANY - SEATTLE WASHINGTON, see remark 2	0	6602	1-3Q	8977	1-3Q	20334	1-3Q	0	0	0
GFX XM307 Prototypes	Direct	General Dynamics Arm. & Tech. Products, Charlotte, NC	0	0	1-3Q	44075	2-3Q	39200	1-3Q	0	0	0
GFX MK44 AMMO	Direct	General Dynamics Arm. & Tech. Products, Charlotte, NC	0	0		0		1266	1-3Q	0	0	0
GFX APS	Direct	PM FCS (BCT) St.Louis,MO	0	472	1-3Q	1553	1-3Q	1000	1-3Q	0	0	0
Subtotal:			177639	313263		513896		570241		0	0	0

Remarks: Remark 1: Subcontractor: General Dynamics - Sterling Heights, MI
Remark 2: Subcontractor: BAE - Ground Systems Division - Santa Clara, CA
Remark 3: Subcontractor: BAE - Armament Systems Division - Minnepolis,MN
Remark 4: Subcontractor: Raytheon Network Centric Systems - Plano, TX
Remark 5: Subcontractors: General Dynamics Armament & Technical Products - Charlotte, NC

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

Remarks: GFX Support provides Subject Matter Experts for the Active Protection Systems (APS).
All other support costs for this project are included in F61 SoS Engineering and Program Management project.

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									

Remarks: All Test and Evaluation costs for this project are included in F61 SoS Engineering and Program Management project.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F57

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

Remarks: FY05 estimates do not reflect the latest two reprogrammings taht were approved in June and August 2005. Actuals ratioed to reflect this adjustment.

FY06 estimates do not reflect the current Earned Value Management Baseline; they reflect the FY06 President's Budget. The FY06 President's Budget submit occurred prior to contract definitization and baselining. Once the FY06 Budget is approved, a reprogramming action will be submitted to realing the Budget with the EVM Baseline. For purpose of this estimate, the FY06 Baseline numbers were adjusted to fit within the President's Budget allocation.

Project Total Cost:			**177639**	**313263**		**513896**		**570241**		**0**	**0**	**0**

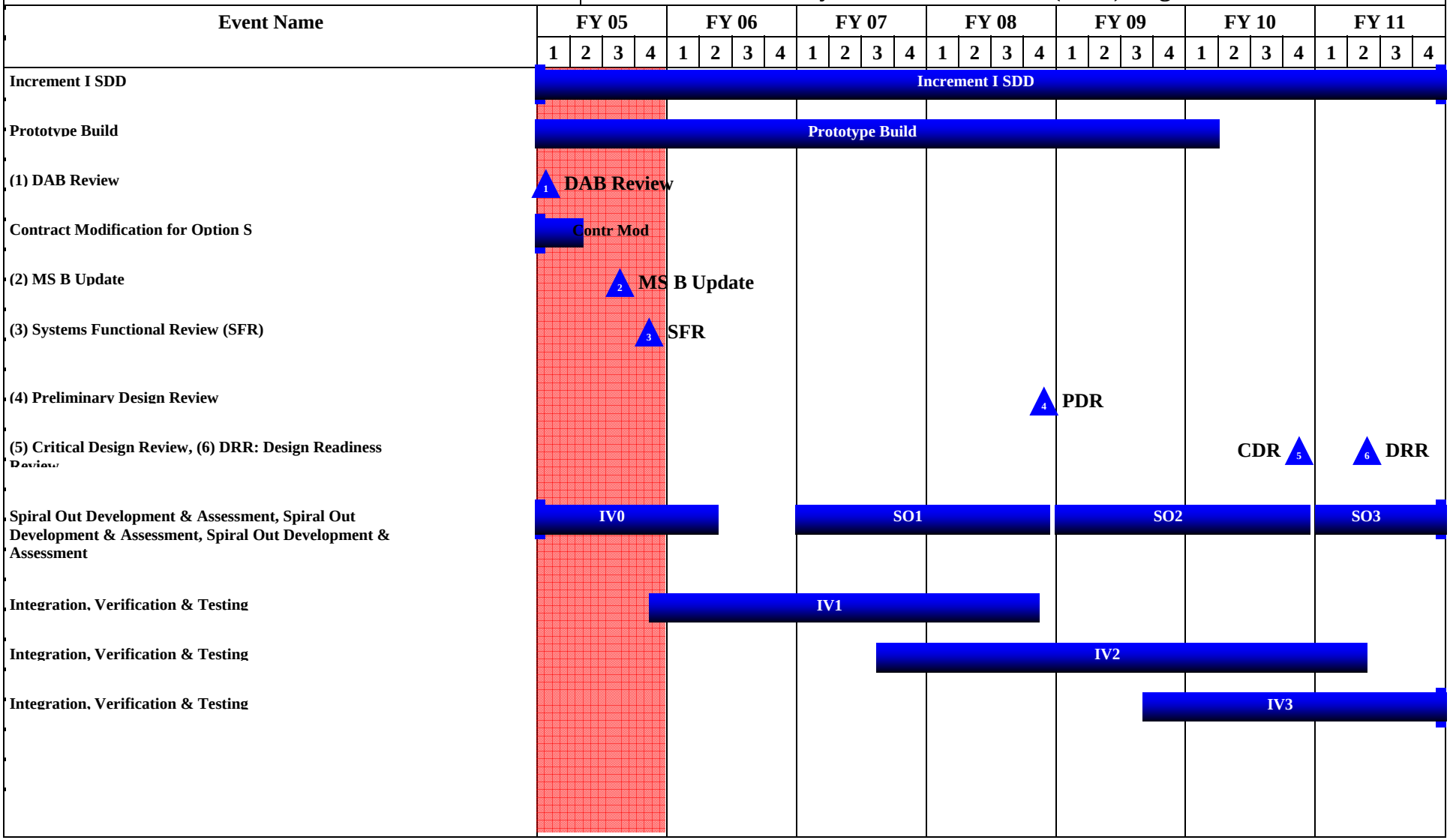
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F57



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F57

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ADM Required MS B Update	3Q						
Definitization of Contract Modification for POM-adjusted Program	2Q						
SoS Functional Review (FR)	4Q						
SoS Preliminary Design Review (PDR)				4Q			
Phase 1 Integration at Test Completion	4Q						
Phase 2 Integration at Test Completion			3Q				
SoS Critical Design Review (CDR)						4Q	
Phase 3 Integration at Test Completion				2Q			
Design Ready Review							2Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604645A - Armored Systems Modernization (ASM)-Eng. Dev.**	**F61**

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
F61	S o S Engineering and Program Management	1597139	1879210	2403139	2303689	1853009	1829927	1884924	Continuing	Continuing

A. Mission Description and Budget Item Justification: This PE includes government and System Development and Demonstration (SDD) contractor efforts associated with System of Systems (SoS) engineering Family of Systems (FoS) analysis and integration, Network Software and Hardware, Government SoS test and evaluation, Contractor SoS Test and evaluation, and contractor and government program management. This project includes support to other DOD agencies for joint programs and collaboration efforts with Future Combat System (FCS).

Major program milestones include the FCS Maturity Reviews and FCS Design Reviews. FCS Maturity Reviews provide program-level System of Systems (SoS) synchronization through the review of critical elements of the development program. These reviews, held approximately once per year, provide status of the phased Engineering, Integration and Verification progress. FCS Design Reviews monitor the design maturity of the FCS system leading to the FY12 MS-C decision. To address the overall FCS design impact of FCS System acceleration associated with the Spin-out strategy, an incremental design review approach based on DoD 5000 principles for Spin Out development has been adopted. The Incremental SoS level Design Reviews provide an early design assessment of the accelerated FCS Systems and focus on the FCS design impacts associated with these systems. The Incremental SoS level Design Reviews are included in the FCS Maturity Review process. The following is a summarized list of these key program reviews:

The SoSFR was conducted in Aug 2005. This will be followed by the System level SFRs for each platform, that will review the resulting SoSFR requirements to determine if all the requirements can be met by the individual platform. The role up of these System level Functional Reviews will occur at the Engineering Maturity Review (Jun 07), where the SoS requirements will be once again reviewed for completeness. After the requirements have reviewed again, the system level PDRs will take place, culminating in the SoSPDR scheduled for Aug 08.

The following summarizes what is included within the SOS Engineering and Program Management Project:

SoS Engineering - Conduct SoS reviews, top level trade studies, and architectural design of the SoS including requirements decomposition, requirements flow down, development of specifications, interface definitions, configuration management oversight, specialty engineering, and the analysis and verification of integrated force effectiveness.

Program management - The development of processes,tools,meetings, EVM, Risk, software, etc used to manage the total program (to include subcontractors/Partners) to achieve the SoS program goals within the available dollars and schedules.

Network Software - Provides the SoS engineering effort to transform the FCS Operational Requirement Document (ORD) into a networked SoS architecture. Develop and Build/Test software codes for the FCS. Provides the SoS engineering effort to transform the FCS Operational Requirement Document (ORD) into a networked SoS architecture. It includes the conduct of system reviews, trade studies, and architectural design of the SoS network including requirements flow down, configuration management, SoS software requirements, functional & operational architecture, and design reviews to ensure network integration across all of the BCT Battlefield Functional Areas to meet FCS requirements and SoS integration. Network software management traces, cost, schedule, and performance throughout the program. Network Software Analysis and Integration links definition, design, procurement, construction, integration, experimentation, and testing of the elements of the distributed network system across the FoS in accordance with the Software Development Plan (SDP), SoS specification, C4ISR, Spin Out, and applicable segment and subsystem specifications.

Common Network Hardware - Includes design, development and prototype procurement of common hardware required for implementation of the data network. This includes sensors, communications hardware and computer processing capabilities.

SoS Test and Evaluation - Includes contractor and Government test and analysis to ensure SoS and FoS performance is effectively and efficiently achieved to specific criteria. The results of the SoS test is validation/verification that the resulting specifications meet the ORD and O&O requirements

Government Support Costs - Includes funding for government personnel to include labor, travel, training, supplies, and other support costs (support contractors, Automated Data Processing (ADP), communications, supplies, and equipment). Supports other services for Joint Programs, Multinational Project Arrangements, and collaborative efforts. Includes the procurement of Government Furnished Equipment/Items/Data (GFX) for the LSI. GFX is used when procurement through the government is less expensive than through the LSI.

IAW Section 214 of the FY2006 National Defense Authorization Act, this project will be converted to a stand alone Program Element commencing with the FY2008 President's Budget submission to Congress.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
GOVERNMENT - SYSTEM ENGINEERING & PROGRAM MANAGEMENT (SEPM) SoS Engineering - Participate and ensure the government's best interest/value are considered in the following: SoS reviews, trade studies, architectural management, requirements decomposition, requirements flow down, development of specifications, interface definitions, configuration management oversight, specialty engineering, and the analysis and verification of integrated force effectiveness, Software Management, Risk Management, Modeling and Simulation Management, Performance Assurance Management, Integration & Verification Management, Technology Management, Experimentation, and FCS Spin Out Development. PM - Provide integrated program management (i.e. planning, directing, tools and controlling functions, for all development activities, including data and supplier management, program control, procurement and contracts management, operations management, Congressional title 10 oversight, cost analysis and management, Budget development and justification, Earned Value Management, integrated master schedule development and management, Complementary Program management and operations management associated with the LSI overarching management of the OTA/FAR.	115991	144817	149098
GOVERNMENT - System Test & Evaluation (STE) Defense Research Engineering Network (DREN) Connectivity: Funding for connectivity (point-of-service fees and hardware purchases) of SoSIL nodes to the (DREN). Ammunition: Procurements includes ammunition to support firing fixture testing and integration testing, along with NLOS-C, ARV-A, and ARV-RSTA testing. ATEC Test Integration Network (ATIN): Development of the ATIN providing intra-range and inter-range connectivity between all ATEC test centers and the SoSIL distributed network. Threat Systems/Simulators and Test Targets: Funds PM-ITTS to develop and procure threat systems and simulators and test targets in support of FCS test. Infrastructure: Development of the SoSIL nodes at the White Sands Missile Range and at the APG for local integration efforts of FCS variants. Modeling and Simulation for Test: The development of test tools to analyze results from Force-on-Force simulations, integrated spectral terrains for FCS applications, Digital Collection, Analysis and Review (DCARS), Test Conduct and Reporting System (TCARS), and Role Player Work Station (RPWS). FCS Unique Instrumentation: The development and implementation of FCS unique instrumentation (Advanced Passive Armor Test Capabilities, Precision Engagement Instrumentation, enhancements to meet E3 specification, and telemetry expansions) which will bridge critical instrumentation shortfalls at	68072	117010	166301

ATEC ranges. Test Range Support (Test Execution at Army Test Ranges): Specialty testing to include initial nuclear radiation (INR) survivability testing of MGV components and CBRN coupon material testing, MCS gun qualification and AHS compatibility testing, NLOS-C and NLOS-M compartmentation testing, NLOS-C cannon pre-fatigue testing, cannon breech cooling testing, and laser ignition testing, co-site and sensor performance testing, UGV ANS testing, co-site, and sensor performance, and NLOS-C and MCS lethality testing will be conducted.			
GOVERNMENT - Modeling and Simulation (M&S) Funds are provided for enhancement of ATEC, RDECOM and TRADOC M&S capabilities essential to implement the FCS M&S strategy. This strategy is dependent on linking FCS based M&S requirements with existing Army M&S capabilities with a focus on minimum 'built from scratch' program M&S and maximum reusable integration of Army M&S capabilities. PM FCS (BCT) will work with 3 Commands to create persistent, leave behind capabilities for the Army in the area of SoS M&S. 3CE will develop enhanced, more interoperable M&S tools, capabilities and processes that will increase the overall capabilities of M&S These improved capabilities will reduce the overall costs to the LSI in integration, lifecycle applicability and reduce cycle time from requirements to integration with FCS simulation environment, particularly in IP1 and beyond. Application will be developing reference implementations that move M&S from cold war capabilities to those of NW-centric M&S. 3CE will also provide a larger library of tools available for consideration, incorporation and breakdown of the funding based on integrated 3CE ongoing planning, M&S technical program management and integration with FCS program. M&S persistent network nodes that link all 3CE commands together and to the SoSIL network. M&S requirements, architecture and gap analysis for 3CE and integration with the same from FCS LSI. M&S capability identification and development of emerging technologies. Capability Integration and interoperability support. FCS IV&V support will continue throughout the program. IV&V Strategy and Master Plan. Multi Cell & Dismounted Command and Control (M&DC2). M&DC2 is being recommended by TRADOC for use by the Army and for a replacement for the MC2 Device at UAMBL (their current BC surrogate). M&DC2 needs to convert from OTB to OOs as its principal battle environment.	21355	11000	21000
GOVERNMENT SPIN OUT 1 - This effort includes procurement of prototype hardware (brackets, wiring harnesses) to be used in the EBCT to integrate the ICS (as an appliqué) onto the Abrams (MIA2SEP), or Bradley (M2A3) and HMMWV (M1151) vehicle systems. IAW Section 214 of the FY2006 National Defense Authorization Act, this project will be assigned a unique SpinOut program element commmencing with the FY2008 President's Budget submission to Congress.	0	6400	27900
GOVERNMENT - OTHER and GFX - GFX supports the LSI contract. Dollars to fund GFX efforts came off the LSI contract as part of the definitization of the transition contract award. GFX requirements include the following: Government support to JEFX Experimentation, Multinational Interoperability support, C4ISR hardware to support Experiments 1 and 2, C4ISR End to End Network, hardware required to support Spin Out 1 assessment, TRADOC support including (TDY), Modeling and Simulation software updates, Mobility Shaker Support rent, support to NV labs. Government Other costs include ACE site licenses funding, SE/PM government labor, other non labor government costs and STEs from the base contract and transition.	34958	160530	190995
GOVERNMENT - Statutory Reductions - (4% allotment against the ASM PE for SBIR/STTR and other OSD statutory reductions)	0	49882	135793
CONTRACTOR - Program Management SoS PM - Develop the processess, models, tools and management structure to integrate all subcontractor partners into one team, to meet cost, schedules,and technical performance requirements in the contract. This includes program overview, demonstration, Earned Value Management, briefings, Demos, reports, meetings to support Program, risk Management, subcontract Management, Small and Minority Business Integration, data management, operation Management, contract Management, CDRL Management, Procurement, Acquisition Management, SDD Affordability/CAIV/ Life Cycle Management, Development of program baseline and Integrated Master Schedule Development	165440	144670	159779
CONTRACTOR - FEE This includes both the LSI fixed and incentive fee.	276401	288909	350709

Contractor Network Systems - FCS (BCT) Network program performance for C4ISR is on track. SOSCOE V1.5 was successfully tested and released to FCS OTPs to support EI1 software development. SOSCOE V1.8 will be released in FY07 to provide the software infrastructure to support IP1 software development. The PM FCS (BCT) continues to perform System of Systems (SoS) JIM interoperability and systems engineering work in support of the System of Systems Engineering and Integration (SSEI) effort. Joint Tactical Radio System (JTRS) Cluster 1, 5 and AMF are expected to receive official DAB approval to proceed with their Option 3, providing an FCS coordinated forward path for the FCS Transport Layer. Several Simulator Updates will be delivered in FY06 and will be tested as part of Integration/Verification 1 (IV1). In FY07 1 ASTAMIDS prototype will be delivered and 4 TSP prototypes are expected. The LSI will deliver 10 Tactical UGS prototypes in FY07 and 6 U-UGS prototypes that will be used for Spin Out 1. Additional sensors and updates will be delivered in the outyears. The first delivery of the prototypes will be in FY07. In FY07 1 ASTAMIDS prototype will be delivered and 4 TSP prototypes are expected. Subcontractors supporting JEFX are: Boeing, SAIC, Raytheon, Overwatch Systems, General Dynamics, Lockheed Martin, Northrup Grumman, Sparta and Textron. We have purchased 46 SuperMicro computers for JEFX most of which will be used in Experiment 1.1.	414005	527146	705098
Contractor System Requirements & Integration - SoS Engineering - Conduct architectural design, requirements decomposition and flow down, development of specifications, interface definitions, configuration management oversight, specialty engineering, and the analysis and verification of integrated force effectiveness. This includes: completing baseline system and software architectures, complete initial Interface Control Documents (ICDs) for internal and external interfaces, complete the baseline Prime Item Development Specifications (PIDS)-(1200 requirements). The Integrated concepts and requirements refinement for operational Systems engineering include; conducting FD/FA, develop and design the Design Reference Mission Profiles to insure FCS equipment meets Army requirements, conduct Force Trade assessment, O & O Refinement, and Operational Views for Architecture. Participate in Experiment 1.1, Produce Software Description documents, develop PIDs and CIDs for Spin Out 1, Develop ICD with Current force equipment, design, procure, and assemble B Kits for Spin Out 1. Develop/Plan/ and execute IV1, to include architecture development, and defining interfaces for systems entering preliminary design. Support JFEX Experimentation with A/B kit design and fabrication. Support Experiment 1.1 by modifying vehicles surrogates to integrate the JTRS cluster 1/Cluster 5 and WIN-T radios, FBCB2, AFATDS, DCGS-A. Develop Experiment detailed test procedures. Assembly of Test Consoles for Battle Command Suite Test and Integration, Integration of MGV, UGV, UAV electronic compartment Mock-ups, Initial Test of Laboratory Test equipment software, Initiate Network system Communication test event, Develop IV1 simulation requirements documentation, Develop IV1 simulation Test procedures, Integration and test of Ground and Air Sensor Simulations from " One Team Partners", Integrate SoSCOE into an integrated C4ISR software suite.	471713	394083	454134
Contractor SoS Test - FY06 - Integration Phase 0 - Establish foundational ties between requirements, architecture, and interface products & the time-phased SoS-level H/W & S/W Capability/Functionality buildup planning products. Develop and execute test plans for the Integration Phase 0 Integrated Mission Test to include: stand-up SoS Integration and Verification, and Test Capabilities and Processes; FCS to perform the Networked Fires and Provide Force Health Protection Integrated Processes; initial interoperability with the AFATDS, FBCB2, and GCCS-A complementary programs; maturation of the test articles, environment, and infrastructure. Participate in JEFX 06 This experiment is a multi-service focused on network centric operations and ISR fusion as well as advanced command and control systems. FY07- Demonstrate initial capability to establish and control the UA Network, manage selected sensors, display initial BCT level Common Operating Picture interface with selected external M-BCT assets, demonstrate selected Distributed Systems functions and provide test data to support Spin Out 1. Execute Experiment 1.1 with the following objectives: effect of quality of service implementations on network performance; assess maturity of distributed fusion management; assess interoperability and IA between selected assets; assess maturity of JTRS CL 1 and the WNW waveform, and CL 5 and the SRW waveform; demonstrate progress and maturity of selected FCS technologies; support selected KPP analysis and risk mitigation.	29204	34763	42332

Total	1597139	1879210	2403139

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0604645 F52 UAV Recon Platforms and Sensors	51034	52135	65555	68490	87574	131662	90626	0	547076
0604645 F53 (UGV) Unmanned Ground Vehicles	65066	124988	107705	145693	146565	111391	97621	0	799029
0604645 F54 (UGS) Unattended Ground Sensors	15015	32131	17731	16515	12771	15913	1318	0	111394
0604645 F55 Sustainment	56613	143356	146106	164538	197448	169671	147496	0	1025228
0604645 F57 (MGV) Manned Ground Vehicles	313263	513896	570241	583483	821110	755918	411264	0	3969175
0604645 F61 SoS Engineering & Program Management	1597139	1879210	2403139	2303689	1853009	1829927	1884924	0	13751037
0604646 F72 Non-Line of Sight Launch System (NLOS-LS)	119767	231209	322880	274793	256283	89143	17759	0	1311834
0604647 F58 Non-Line of Sight Cannon (NLOS-C)	286853	146271	112237	117605	90647	84160	44356	0	882129
WTCV Weapons and Tracked Combat Vehicles	0	0	0	0	0	0	0	0	0
0604645 F59 Common Components	0	0	0	0	0	0	0	0	27500
0604645 F60 Family of System, Anal & Int	0	0	0	0	0	0	0	0	165302
0604645 F62 Mission Equipment Platforms	0	0	0	0	0	0	0	0	132537
0604645 F63 Network Software	0	0	0	0	0	0	0	0	111745
0604645 F64 Other Contract Costs	0	0	0	0	0	0	0	0	313536
0604645 F65 S of S Engr & Prog Mgt	0	0	0	0	0	0	0	0	190331
0604645 F66 S of S Test and Evaluation	0	0	0	0	0	0	0	0	56347
0604645 F67 Supportability	0	0	0	0	0	0	0	0	5252
0604645 F69 Training	0	0	0	0	0	0	0	0	7756
0604645 F70 NLOS Launch System	0	0	0	0	0	0	0	0	49502

C. Acquisition Strategy During the FY06-11 POM process, the Army restructured the PM BCT Acquisition Program. The plan strengthened the FCS Program and simultaneously improved the Current Force through early delivery of selected FCS capabilities. The adjustments maintained the Army focus on FCS-equipped Brigade Combat Team (BCT) development and substantially reduced program risk. The adjustments to the FCS Program acquisition strategy fall into four primary categories:

- The development priority, in descending order, is; the 1) Network, 2) Unattended Munitions, 3) Unmanned systems, and finally 4) Manned Ground Vehicles (MGV). Consequently, the MGV development duration may be extended. However, Non Line of-Sight-Cannon (NLOS-C) leads MGV development and delivers prototype NLOS-C systems in 2008 and delivers Block 0 NLOS-C prototypes in 2010.
- The five previously deferred FCS core systems: 1) UAV Class II, 2) UAV III , 3) Armed Robotic Vehicle (ARV) -Assault, 4) ARV-Reconnaissance and 5) FCS Maintenance and Recovery Vehicle have been funded. These five systems will be fielded with the first FCS-equipped BCT allowing fielding of the complete 18 + 1 FCS core systems to the Army with delivery beginning in 2014.
- More robust experimentation and evaluation are included in the program to prove revolutionary concepts, mature the architecture and components, and assist in the spinout development.
- A series of Spinout packages will begin procurement in 2009 and continue approximately every two years through 2014 to insert FCS capability into Current Force Modular Brigade Combat Teams (M-BCTs) to include Heavy and Infantry.

The current OTA was initially modified on 6 Aug 2004 to cover the new Scope of Work (SOW) of the approved POM program. Final definitization of this modification occurred on 2 March 2005. Since FY05 funding was based on the original Milestone B approved program, two major reprogrammings have occurred in order to align funding of the restructured program. Similarly, the FY06 funding request was submitted prior to definitization and prior to completion of the contract/program budget baseline. Therefore, future funding profiles will be adjusted based on the definitized program Earned Value Management Baseline. IAW Section 214 of the FY2006 National Defense Authorization Act, this project will be converted to a stand alone Program Element commencing with the FY2008 President's Budget submission to Congress.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F61

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
CONTRACTOR- PROG MGT	OTA/FAR	The Boeing Company - Seattle, WA	313348	165440	1-3Q	144670	1-3Q	159779	1-3Q	0	0	0
CONTRACT FEE	OTA/FAR	The Boeing Company - Seattle, WA	0	276401	2-3Q	288909	1-3Q	350709	1-3Q	0	0	0
CONTRACTOR NETWORK SYSTEMS	OTA/FAR	The Boeing Company - Seattle, WA see remarks 1 - 7	0	414005	1-3Q	527146	1-3Q	705098	1-3Q	0	0	0
CONTRACTOR SYSTEM REQUIREMENTS AND INTEGRATION	OTA/FAR	The Boeing Company - Seattle, WA	0	471713	1-3Q	394083	1-3Q	454134	1-3Q	0	0	0
Subtotal:			313348	1327559		1354808		1669720		0	0	0

Remarks: Remark 1: Subcontractor: Textron, wilmington, MA
2: Subcontractor: SAIC, Huntington Beach, CA
3: Subcontractor: SPARTA, Hungtington Beach, CA
4: Subcontractor: Northrop Grumman, Carson, CA
5: Subcontractor: Raytheon, Fort Wayne, IN
6: Subcontractor: Overwatch Systems, Austin, TX
7: Subcontractor: General Dynamics, Scottsdale, AZ

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
GOVERNMENT SYS ENG PROGRAM MGT	DIRECT	PM FCS UA - ST. Louis, MO	0	115991	1-4Q	144817	1-4Q	149098	1-4Q	0	0	0
GOVERNMENT OTHER	DIRECT	PM FCS UA - ST. Louis, MO	0	34958	1-3Q	160530	1-3Q	190995	1-3Q	0	0	0
GOVERNMENT-STATUTORY REDUCTIONS	DIRECT	PM FCS UA - ST. Louis, MO	0	0		49882	1Q	135793	1Q	0	0	0
SPIN OUT	Direct	PM FCS UA - ST. Louis, MO	0	0		6400	1-3Q	27900	1-3Q	0	0	0
Subtotal:			0	150949		361629		503786		0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F61

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
CONTRACTOR - SoS Test	OTA/FAR	The Boeing Company - Seattle, WA	0	29204	1-3Q	34763	1-3Q	42332	1-3Q	0	0	0
GOVERNMENT - STE	DIRECT	PM FCS-UA - ST. Louis, MO , see remarks 1-6	0	68072	1-3Q	117010	1-3Q	166301	1-3Q	0	0	0
GOVERNMENT MODELING & SIMULATION	DIRECT	PM FCS-UA - ST. Louis, MO	0	21355	1-3Q	11000	1-3Q	21000	1-3Q	0	0	0
Subtotal:			0	118631		162773		229633		0	0	0

Remarks: Remark 1:Subcontractor, Whitman, Requardt & Assoc, Baltimore, MD;
2: John C. Grimberg Co., Rockville, MD
3: ADT Corp, Baltimore, MD
4. Netversant Co., Baltimore, MD
5. 3D Research, Huntsville, AL
6. Jacobs/Sverdrup, Aberdeen, MD

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

Remarks: FY05 estimates do not reflect the latest two reprogrammings that were approved in June and August 2005. Actuals ratioed to reflect this adjustment.

FY06 estimates do not reflect the current Earned Value Management Baseline; they reflect the FY06 President's Budget. The FY06 President's Budget submit occurred prior to contract definitization and baselining. Once the FY06 Budget is approved, a reprogramming action will be submitted to realing the Budget with the EVM Baseline. For purpose of this estimate, the FY06 Baseline numbers were adjusted to fit within the President's Budget allocation.

Project Total Cost:	**313348**	**1597139**		**1879210**		**2403139**		**0**	**0**	**0**

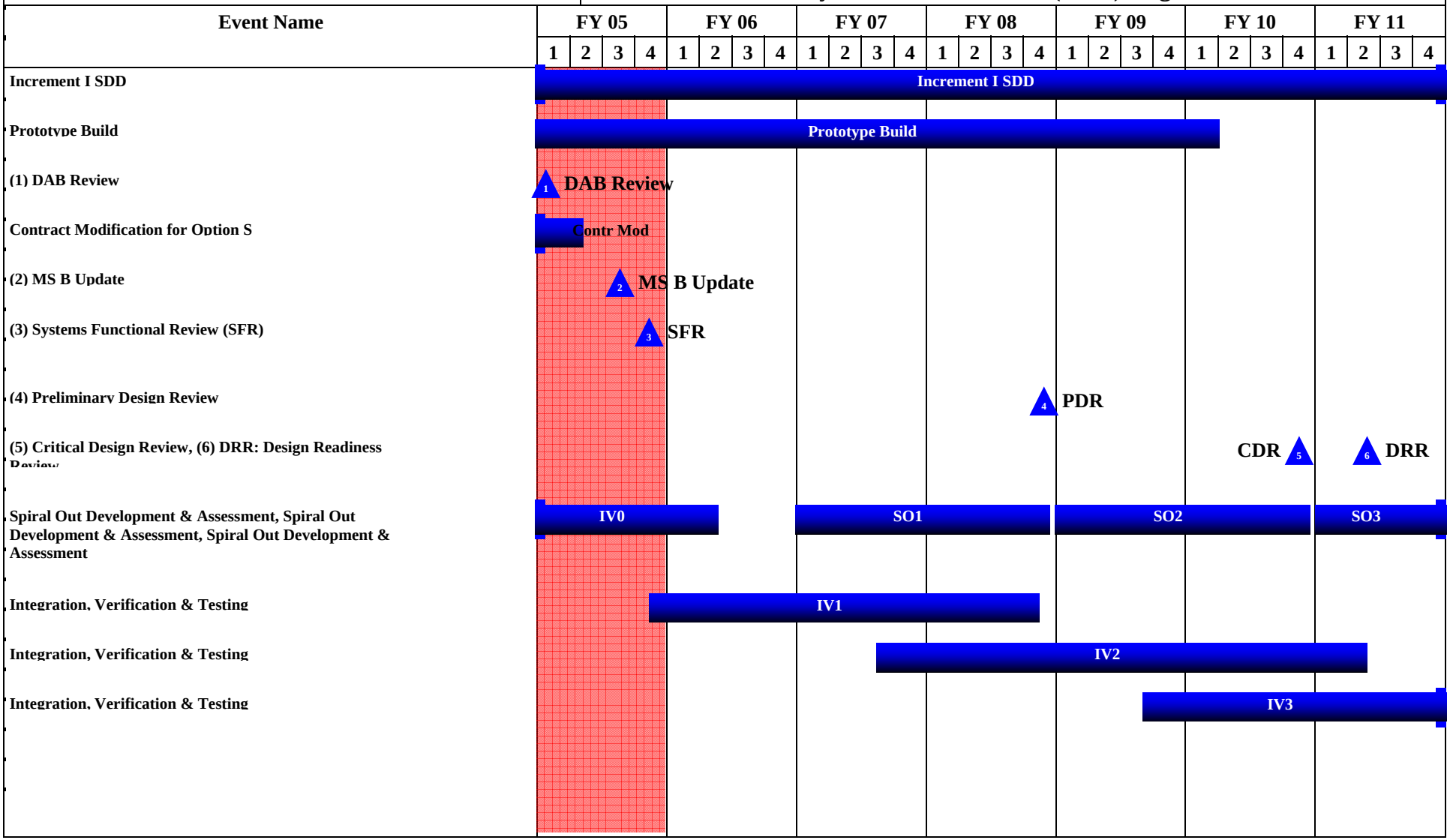
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F61



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604645A - Armored Systems Modernization (ASM)-Eng. Dev.

PROJECT
F61

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ADM Required MS B Update	3Q						
Definitization of Contract Modification for POM- Adjusted Program	2Q						
SoS Functional Review (FR)							
SoS Preliminary Design Review (PDR)				4Q			
Phase 1 Integration at Test Completion	4Q						
Phase 2 Integration at Test Completion			3Q				
SoS Critical Design Review (CDR)						4Q	
Phase 3 Integration at Test Completion				2Q			
Design Ready Review							2Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604646A - Non Line of Sight Launch System**	**F72**

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
F72	NON LINE OF SIGHT LAUNCH SYSTEM	119767	231209	322880	274793	256283	89143	17759	0	1311834

A. Mission Description and Budget Item Justification: This project funds the System Development and Demonstration (SDD) for the Non Line of Sight-Launch System (NLOS-LS), which is a core system of the Army's Future Combat System (FCS).

This project focuses on the development of a materiel solution to meet the NLOS-LS operational need as delineated in the FCS Operational Requirements Document (ORD), 31 Jan 05. NLOS-LS provides enabling lethality for the FCS Unit of Action (UA). NLOS-LS consists of a family of missiles and a highly deployable, platform-independent Container Launch Unit (CLU) with self-contained technical fire control, electronics, communications and software for remote, unmanned operations. The NLOS-LS configuration will consist of Precision Attack Missiles (PAMs) focused on defeating hard targets and Loitering Attack Missiles (LAMs) focused on defeating fleeting, high-value targets as well as supporting both targeting information and Battle Damage Assessment. Each of the missiles will be vertically launched directly from the CLU based on fire missions received via the FCS UA network and will be capable of being updated in-flight via on-board radios by the network. The vertical launch capability permits a system that is highly deployable as well as the ability to engage a wide spectrum of targets in diverse environments and terrain. Both missiles will have limited Automatic Target Recognition (ATR) capability which can be upgraded in future versions.

The FY 06-07 funding supports the NLOS-LS SDD program. Efforts will focus on allocation of requirements, design activities, component build and test, and conduct of both a Preliminary Design Review (PDR) and Critical Design Review (CDR). In addition, pre-CDR design verification flight testing will be conducted. Beginning in FY 05, the NLOS-LS (CLU and PAM) was realigned to meet the FCS Spin Out 1 requirements and to be evaluated in the Evaluation Brigade Combat Team (EBCT) for insertion in current forces using their communications capability in lieu of the FCS network. Due to affordability, LAM is currently in the Army's Science and Technology (S&T) Base.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Completed PAM System Functional Review (SFR) and Preliminary Design Review (PDR), Insensitive Munitions (IM) screening tests on warhead and motor designs, Control Actuation System (CAS) breadboard integration with pintle rocket motor, transitioned S&T EPAM seeker design as PAM baseline design, Electro-Magnetic Interference testing on EPAM seekers and Captive Flight Tests to validate EPAM Seeker and Moving Target Indicator software performances. PAM detailed system design(FY06), software engineering(FY06/07), radio integration(FY07), Integration and Verification (IV0(FY06) and IV1(FY07)) simulations, pre-CDR ballistic and control tests(FY06), prototype manufacturing(FY06/07), component detailed design(FY06), component procurement(FY07), and qualification testing (engines, warheads, Electric Safe Arm Device (ESAD), etc.)(FY07), pilot line setup(FY07), PAM Integrated Flight Simulation(FY06/07), Captive Flight Tests(FY06/07), air drop test(FY07), and wind tunnel tests(FY06/07).	56865	117702	128879
LAM completed two Ballistic Test Vehicle (BTV) tests. FY05 - Planned system design, software engineering, prototype manufacturing, and testing to include flight tests involving BTV, Control Test Vehicle (CTV), and Guidance Test Vehicle (GTV).	16700	0	0
Container/Launch Unit (CLU) SFR and PDR, developed and received first CLU and battery prototypes, developed and fabricated first full scale CLU structure, CLU/System PDR, procure hardware components and design verification tests (DVT). Planned are detailed system design(FY06), software engineering(FY06/07), radio integration(FY07), current force interoperability(FY07), IV1 emulator(FY07), prototype manufacturing(FY06/07), pilot line setup(FY06/07), procure components/build hardware and deliver EBCT CLUs(FY07),	17389	54250	102931

health hazard assessment(FY07), safety testing(FY07), establishment of Performance Based Logistics(PBL)(FY07), Support for EBCT hardware, CLU component and CLU CDRs, CLU component level qualification testing(FY07), and subsystem hardware builds(FY07).			
Development of a NLOS-LS VMF Integrated Database (VID) and VMF Test Tool (VTT) based on the NLOS-LS ICD to support the FCS IVO simulation exercise, finalize Simulation Support Plan(FY07), draft Countermeasures Assessment Plan(FY06/07) and support Experiment 1.1(FY06/07). Planned SOSCOE integration(FY07), develop interfaces for current force integration(FY06/07), support IVO(FY06) and IV1(FY07) simulation exercises, common component detailed design(FY06), pilot line setup(FY06/07), system level engineering and test and evaluation(FY06/07), FMTV modifications for EBCT(FY07), CLU/AFATDS/SOSCOE interoperability testing(FY07), safety/hazard assessment testing(FY07), integration of hardware/software into Hardware in the Loop (HWIL) facility(FY06/07), updated Verification & Validation Plan to include countermeasures hardware in the loop model(FY07), verification/validation of training support package (Operator, I&KP, AFATDS Operator, Staff, and FMTV training)(FY07), System Engineering and Program Management (FY06/07), and Test Support (FY06/07).	28813	59257	91070
Total	119767	231209	322880

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604646A - Non Line of Sight Launch System**	**F72**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	55794	231554	329412
Current BES/President's Budget (FY 2007)	119767	231209	322880
Total Adjustments	63973	-345	-6532
Congressional program reductions			-6532
Congressional rescissions		-3345	
Congressional increases		3000	
Reprogrammings	63973		
SBIR/STTR Transfer			
Adjustments to Budget Years			

Change Summary Explanation: FY 05 funds were reprogrammed from FCS Program Element 0604645A Armored System Modernization Engineering Development, (Project F61) SOS Engineering Program Management, to accelerate NLOS-LS for Spin Out 1. Congressional Plus Up of three million for FY06 for Anti-Tampering and Turbo Jet Engine. Congressional recission of 1.45% across the board.

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 0603581N Navy	5350	10200	16500	37160	51910	51100	92400	0	264620
PE 0603313 A263 Msl & Rocket Adv Tech	29641	39635	14277	0	0	0	0	0	83553

Comment:

D. Acquisition Strategy The Army awarded the NLOS-LS SDD contract, on 19 March 2004, to Netfires Limited Liability Company (LLC), consisting of Lockheed Martin Corporation, doing business through its Missiles and Fire control and operating entity in Grand Prairie, TX, and the Raytheon Corporation, doing business through its Missile Systems Business Unit in Tuscon, AZ. The NLOS-LS SDD contract was definitized 20 Aug 04. LAM activities will continue in the Army's Science and Technology (S&T) program to make improvements through technology development and insertion. A series of four Spin Out packages will begin in 2008 and continue every two years through 2014 to insert NLOS-LS capability into Current Force Modular Brigade Combat Teams (M-BCTs) to include Stryker, Heavy, and Infantry.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604646A - Non Line of Sight Launch System

PROJECT
F72

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
PAM	CPIF	Netfires, LLC - Grand Prairie, Texas	0	56865	1-3Q	117702	1-3Q	128879		214086	0	0
LAM	CPIF	Netfires, LLC - Grand Prairie ,Texas	0	16700	1-3Q	0		0		0	0	0
CLU	CPIF	Netfires, LLC - Grand Prairie ,Texas	0	17389	1-3Q	54250	1-3Q	102931		158371	0	0
NLOS-LS System Integration	MULTI	Netfires, LLC - Grand Prairie, Texas and Various Support	0	15782	1-3Q	31238	1-3Q	61085		161076	0	0
Subtotal:			0	106736		203190		292895		533533	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
Various	Various	Various	0	3141		3478		3479		14994	0	0
Subtotal:			0	3141		3478		3479		14994	0	0

Remarks: .

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
Various	Various	Various	0	1275		6611		11968		45436	0	0
Subtotal:			0	1275		6611		11968		45436	0	0

Remarks: .

IV. Management Services	Contract	Performing Activity &	Total	FY 2005	FY 2005	FY 2006	FY 2006	FY 2007	FY 2007	Cost To	Total	Target

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604646A - Non Line of Sight Launch System

PROJECT
F72

	Method & Type	Location	PYs Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Complete	Cost	Value of Contract
Various	Various	Various	0	8615		17930		14538		44015	0	0
Subtotal:			0	8615		17930		14538		44015	0	0
Project Total Cost:			**0**	**119767**		**231209**		**322880**		**637978**	**0**	**0**

Remarks: .

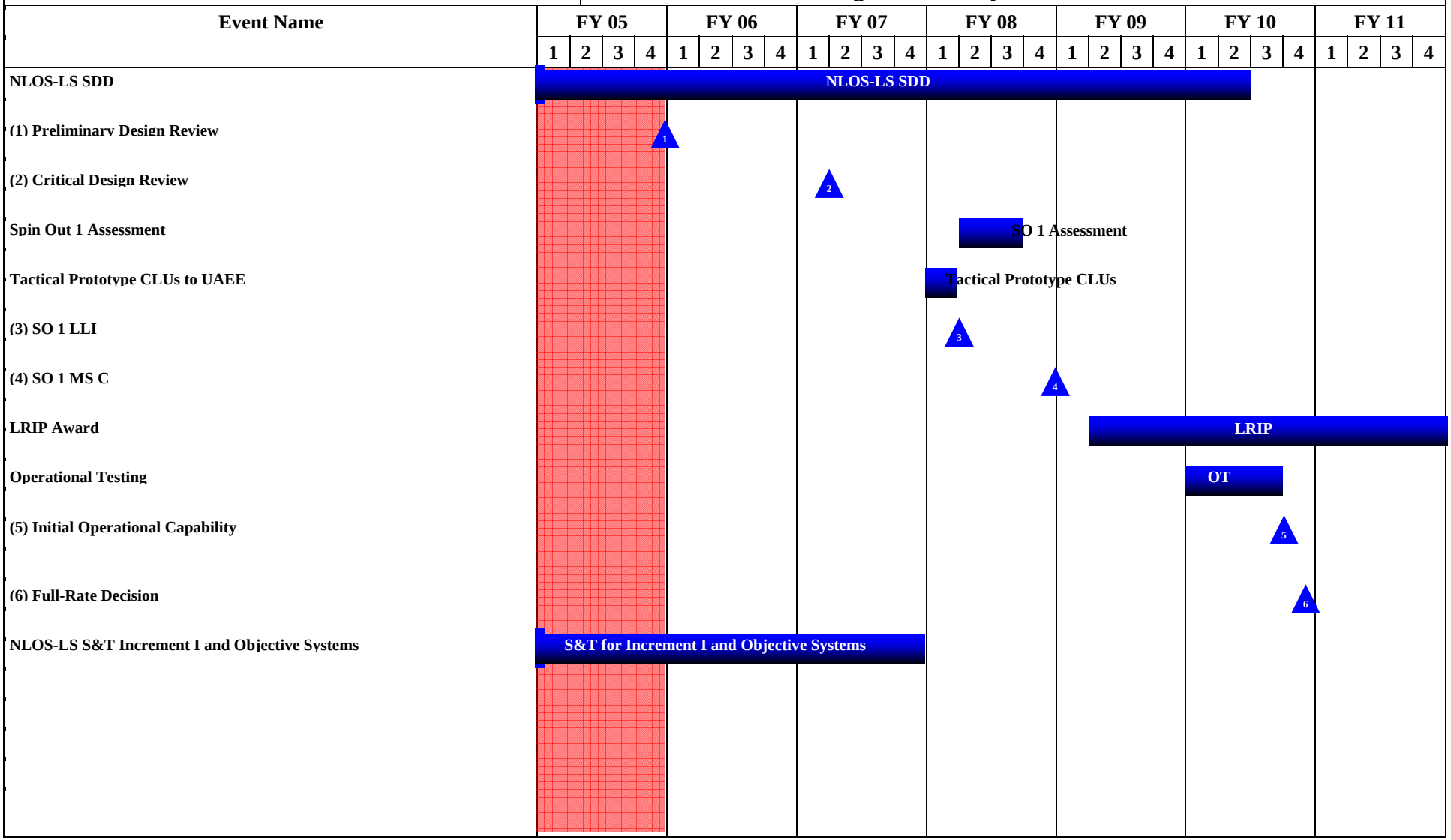
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604646A - Non Line of Sight Launch System

PROJECT
F72



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604646A - Non Line of Sight Launch System

PROJECT
F72

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
NLOS-LS SDD	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-2Q	
Preliminary Design Review	4Q						
Critical Design Review			2Q				
Spin Out 1 Assessment				2-3Q			
Tactical Prototype CLUs to UAEE				1Q			
SO 1 LLI				2Q			
SO 1 MS C					1Q		
LRIP Award					2-4Q	1-4Q	1-4Q
Operational Testing						1-3Q	
Initial Operational Capability						3Q	
Full-Rate Decision						4Q	
NLOS-LS S&T Increment 1 and Objective System	1-4Q	1-4Q	1-4Q				

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)	February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604646A - Non Line of Sight Launch System**	**F72**

Funding in $000

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
F72 NLOS Launch System		129614	176432	154565	150639	52233	13775
Total Termination Liability Funding:		129614	176432	154565	150639	52233	13775

Remarks:
The SDD Contract contains FAR 52.232-22, Limitation of Funds, and FAR 52.249-6, Termination (Cost-Reimbursement) clauses to define allowable termination costs. The above costs are estimated to cover contract performance and termination liability incurred.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604647A - Non Line of Sight Cannon**	**F58**

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
F58	NON LINE OF SIGHT CANNON	286853	146271	112237	117605	90647	84160	44356	0	1133473

A. Mission Description and Budget Item Justification: Future Combat Systems (FCS) will operate as a System of Systems (SoS) that will network existing systems, systems already under development, and new systems to be developed to meet the needs of the transformation of the Army. The network will enable improved intelligence, surveillance and reconnaissance, battle command, real time sensor-shooter linkages, and increased synergy between echelons and within small units. It will also enable the FCS to connect to the Unit of Employment (UE), joining capabilities, and national assets making these capabilities available to the small units of the FCS.

FCS enables the networked FCS(BCT) to develop the situation in and out of contact, set conditions, maneuver to positions of advantage to close with and destroy the enemy through standoff attack and combat assault as articulated in the Future Force Operations and Organizational (O&O) plan.

Currently, the FCS program is contained in three Program Elements (PEs): Non-Line of Sight - Cannon (NLOS-C), Non-Line of Sight - Launch Systems (NLOS-LS) and Armored Systems Modernization (ASM). PE NLOS-C contains the development effort associated with NLOS-C unique work, and in FY05 some of the MGV common components. As discussed with the Professional Staff Members, to avoid confusion about common hardware being split between both MGV and NLOS-C, beginning in FY06 the common sub components for NLOS-C and MGV will be fully funded out of Manned Ground Vehicles (MGV) Program Element 0604645 Project F57. Beginning in FY08 the ASM projects will be divided into new PEs.

NLOS-C provides networked, sustained, extended-range (30km) cannon fires for precision attack of point and area targets in support of the FCS.

The Army is executing the FCS program to achieve the earliest possible fielding of the first FCS. The Army established NLOS-C as the lead MGV of the FCS FoS.The Army plan is to deliver eight prototype NLOS-C increment 0 configurations systems for limited user and developmental testing in 2008. The first Block 0-NLOS-C production units will fielded in CY 2010, with 18 delivered by CY 2012. The full FCS Capability for NLOS-C will be fielded in FY 2014.
The FCS program focus is on providing combat capability at the unit level. Key to this approach is the synergy achieved by integrated development and acquisition of sensors, unmanned vehicles, airframes, and combat vehicles including NLOS-C working together and connected by a network, all operated by skilled soldiers. Commonality of hardware and software within the FCS program is a priority action needed to reduce the Lifecycle costs and logistical footprint of the FCS.
NLOS Cannon will be the US Army's first fully automated howitzer. Integration within the FCS program will create a cannon that is more lethal, survivable, and maintainable and provides the FCS BCT commander the ability to generate more firepower, faster, and more accurately than ever before. The NLOS Cannon features a fully automated 155-mm howitzer that provides push-button, 24/7, all-weather, precision fire support to the Unit of Action commander. The NLOS Cannon's fully automated ammunition handling system and real-time digital operating environment enables two soldiers to do the job of five. The NLOS Cannon will have a multiple round simultaneous impact (MRSI) capability and unmatched sustained rate of fire to provide record effects on target from a smaller number of systems. The NLOS Cannon features transformational technologies that will be common to all FCS Manned Ground Vehicles, including hybrid-electric drive and drive-by-wire capabilities that enable the system to move rapidly, stop quickly and deliver lethal first round effects in record time. Integration with the FCS program allows us to provide maximum commonality between variants which impacts the maintainability and sustainability of the fleet. In fact NLOS-Cannon and Mortar will be very similar with the Mortar leveraging the design and developmental work done on NLOS-Cannon.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007

Ground ISR Sensors (Common) -Selected the Ground Sensor Developers (GSD) and granted Authority to Proceed (ATP). Developed Integrated Computer System (ICS) Emulators with Real Time Operating System (RTOS). Completed competitive procurement for development of Electro Optical/Infrared (EO/IR) sensors, Multi-Function Radio Frequency (MFRF) sensors, Combat Identification (CID) sensors, Aided Target Recognition (AiTR) sensors, and the sensor mast. Developed, integrated and delivered sensor simulations to C4ISR SWIT. Developed Ground Sensor suite simulation and integrated into System Virtual Framework. Developed Ground Sensor Mockups.	87632	0	0
NLOS-C Communications Hardware (Common) - Conducted requirement analysis and trade studies to determine best mixture of rado configurations. Procured JTRS EDMs (radios, antennas, etc.) to support ICD development, Spin Out 1, SIL and SoSIL activities.	37405	0	0
Computers and Processing (Common) - Hardware and Software - Developed requirements and specifications for all platform processing and analyzed needs. Conducted trade studies to maximize capability and minimize sustainment requirements. Started PDR activities to support Spin Out 1 and ICS requirements.	40012	0	0
Platform Integration (Common) - Conducted two design excursions and two best technical approach (BTA) designs to evaluate weight and performance characteristics. Conducted Increment 0 PDR for common subsystems (propulsion, suspension, & vetronics). Conducted weight reduction studies and analysis.	27923	0	0
Non Line of Sight Cannon (NLOS-C) Unique - FY06 Increment 0 Prototypes will complete Design Reviews 2 and 3 which will wrap up the design of these prototype howitzers. Fabrication of the NLOS-C Increment 0 Firing Platform will begin. Sub-contracts will be awarded for the design, procurement and integration of Traction Drive System, Generator Inverter, Environmental Control System, Suspension and Propulsion Cooling Subsystems. Additionally - Procurement of NLOS-C Early Prototype Automotive Test Rig (ATR) and prototype long lead procurement begins. Software Build 1 Flight 1 is delivered for use in the Firing Platform. Deliver Simulation Software to SoSIL (SW BLD 1). Initiate Increment-0 Design Review 3. Increment 1- NLOS-C will complete its system functional review in coordination with the rest of the FCS and MGV systems allocating system requirements and baselining a concept. Start preliminary design for NLOS-C Increment 1. FY07 Increment 0 - Firing platform delivered and test firing begins on ammo handling, wear and fatigue testing, ATR Fabrication starts, Increment 0 prototype fabrication and integration begins. Increment 1 Preliminary design continues for Increment 1 prototypes..	93881	146271	112237
Total	286853	146271	112237

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604647A - Non Line of Sight Cannon**	**F58**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	476736	107587	262492
Current BES/President's Budget (FY 2007)	286853	146271	112237
Total Adjustments	-189883	38684	-150255
Congressional Program Reductions			
Congressional Rescissions	-189669		
Congressional Increases		38684	
Reprogrammings	-214		
SBIR/STTR Transfer			
Adjustments to Budget Years			-150255

FY07: Funds realigned to support Future Combat Systems (0604645A) and Non-Line of Sight Launcher (0604646A).

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0604645 F52 (UAV) Recon Platforms and Sensors	51034	52135	65555	68490	87574	131662	90626	0	547076
0604645 F53 (UGV)	65066	124988	107705	145693	146565	111391	97621	0	799029
0604645 F54 (UGS)	15015	32131	17731	16515	12771	15913	1318	0	111394
0604645 F55 Sustainment	56613	143356	146106	164538	197448	169671	147496	0	1025228
0604645 F57 (MGV)	313263	513896	570241	583483	821110	755918	411264	0	3969175
0604645 F61 SoS Engineering & Program Management	1597139	1879210	2403139	2303689	1853009	1829927	1884924	0	13751037
0604646 F72 Non-Line of Sight Launch System (NLOS-LS)	119767	231209	322880	274793	256283	89143	17759	0	1311834
0604647 F58 Non-Line of Sight Cannon (NLOS-C)	286853	146271	112237	117605	90647	84160	44356	0	882129
WTCV (SSN G86100)	0	0	0	0	0	0	0	0	0
0604645 F59 Common Components	0	0	0	0	0	0	0	0	27500
0604645 F60 Family of Systems Anal & Int	0	0	0	0	0	0	0	0	165302
0604645 F62 Mission Equipment Platforms	0	0	0	0	0	0	0	0	132537
0604645 F63 Network Software	0	0	0	0	0	0	0	0	111745
0604645 F64 Other Contract Costs	0	0	0	0	0	0	0	0	313536
0604645 F65 S of S Engr & Prog Mgt	0	0	0	0	0	0	0	0	190331

0604645 F66 S of s Test of Evaluation	0	0	0	0	0	0	0	0	56347
0604645 F67 Supportability	0	0	0	0	0	0	0	0	5252
0604645 F69 Training	0	0	0	0	0	0	0	0	7756
0604645 F70 NLOS Launch System	0	0	0	0	0	0	0	0	49502

Comment:

D. Acquisition Strategy During the FY06-11 POM process, the Army restructured the PM BCT Acquisition Program. The plan strengthened the FCS Program and simultaneously improved the Current Force through early delivery of selected FCS capabilities. The adjustments maintained the Army focus on FCS-equipped Brigade Combat Team (BCT) development and substantially reduced program risk. The adjustments to the FCS Program acquisition strategy fall into four primary categories:
- The development of system integration/verification phases to build FCS (BCT) capability iteratively over time, reducing overall technical risk by using a building block approach.
- The five previously deferred FCS core systems: 1) UAV Class II, 2) UAV III, 3) Armed Robotic Vehicle (ARV) -Assault, 4) ARV-Reconnaissance and 5) FCS Maintenance and Recovery Vehicle have been funded. These five systems will be fielded with the first FCS-equipped BCT allowing fielding of the complete 18 + 1 + 1 FCS core systems to the Army with delivery beginning in 2014.
- More robust experimentation and evaluation are included in the program to prove revolutionary concepts, mature the architecture and components, and assist in the spinout development.
- A series of Spinout packages will begin procurement in 2009 and continue approximately every two years through 2014 to insert FCS capability into Current Force Modular Brigade Combat Teams (M-BCTs) to include Heavy and Infantry.

The current OTA was initially modified on 6 Aug 2004 to cover the new Scope of Work (SOW) of the approved POM program. Final definitization of this modification occurred on 2 March 2005. Since FY05 funding was based on the original Milestone B approved program, two major reprogramming have occurred in order to align funding of the restructured program.
The Assistant Secretary of the Army (Acquisition, Logistics and Technology) in May 05 directed that the current FCS (BCT) OTA with the LSI be converted from an OTA to a Federal Acquisition Regulation-based contract. This transition was executed through the award of an Unpriced Contractual Action (UCA) in Sep 05.
The letter contract became effective 30 Sep 2005, and replaced the FCS SDD Other Transaction Agreement (OTA) DAAE07-03-9-F001 for most SDD effort performed beginning 20 Sep 2005 and thereafter. The LSI and the Government recognize that some effort remains to be completed under the OTA after 30 Sep 05, having to do with orderly OTA close-out and the like. Therefore, future funding profiles will be adjusted based on the definitization of UCA and subsequent adjusted Earned Value Management Baseline. The FAR based contract is scheduled to be definitized in March 2006.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604647A - Non Line of Sight Cannon

PROJECT
F58

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
ISR Sensors	OTA/FAR	THE BOEING COMPANY, SEATTLE, WASHINGTON - SEE REMARK 2	251344	87632	1-3Q	0		0		0	0	0
Communications Hardware - Air and Ground	OTA/FAR	THE BOEING COMPANY, SEATTLE, WASHINGTON - SEE REMARK 3	0	37405	1-3Q	0		0		0	0	0
Computers and Processing Hardware and Software	OTA/FAR	THE BOEING COMPANY, SEATTLE, WASHINGTON - SEE REMARK 4	0	40012	1-3Q	0		0		0	0	0
Platform Integration	OTA/FAR	THE BOEING COMPANY, SEATTLE, WASHINGTON - SEE REMARK 1	0	27923	1-3Q	0		0		0	0	0
NLOS - Cannon Unique	OTA/FAR	THE BOEING COMPANY, SEATTLE, WASHINGTON - SEE REMARK 1	0	93881	1-3Q	146271	1-3Q	112237	1-3Q	0	0	0
Subtotal:			251344	286853		146271		112237		0	0	0

Remarks: Remark 1 - Subcontractor: BAE Armament Systems Division - Minneapolis, MN; BAE Ground Systems Division, Santa Clara, CA; General Dynamics Land Systems, Sterling Heights, MI
Remark 2 - Subcontractor: Raytheon - Network Centric Systems - Plano, TX
Remark 3 - Subcontractor: BAE - CNIR - Wayne, NJ
Remark 4 - Subcontractor: General Dynamics - Automated Information Systems - Bloomington, MN

FY06 and beyond, all common hardware and software costs are accounted for in MGV.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604647A - Non Line of Sight Cannon

PROJECT
F58

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

Remarks: * All Support Costs are included in PE 0604645A, Project F61, Government Support Costs.

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									

Remarks: * All Government System Test & Evaluation are included in PE 0604645A, Project F61, Government Support Costs.

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

Remarks: * All Management Services costs are included in PE 0604645A, Project F61, Government Support Costs.

Project Total Cost:			**251344**	**286853**		**146271**		**112237**		**0**	**0**	**0**

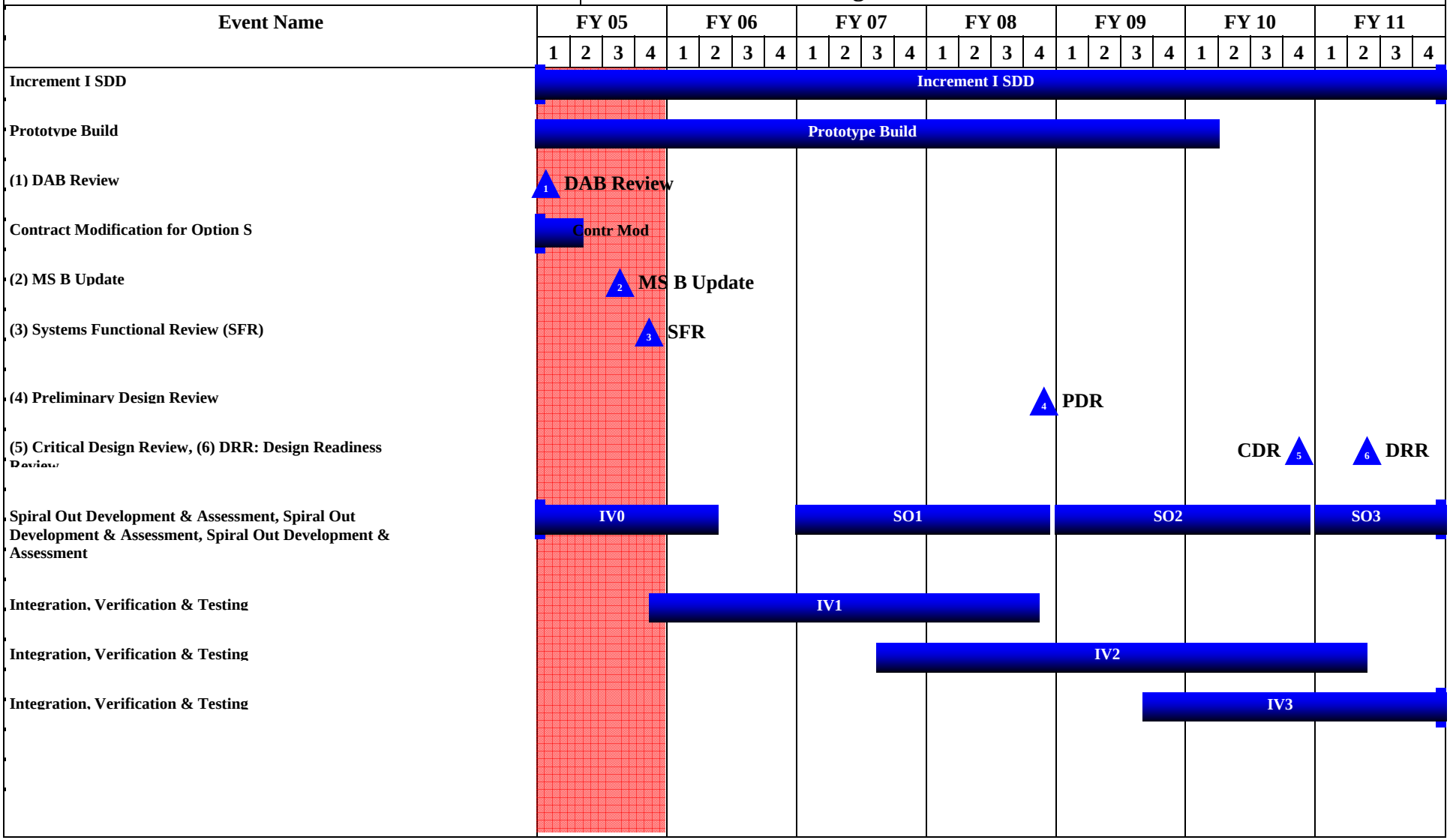
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604647A - Non Line of Sight Cannon

PROJECT
F58



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604647A - Non Line of Sight Cannon

PROJECT
F58

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ADM RequiredMS B Update	3Q						
Definitization of Contract Modification for POM-adjusted Program	2Q						
SoS Functional Review (FR)	4Q						
SoS Preliminary Design Review (PDR)				4Q			
Phase 1 Integration at Test Completion	4Q						
Phase 2 Integration at Test Completion			3Q				
SoS Critical Design Review (CDR)						4Q	
Phase 3 Integration at Test Completion				2Q			
Design Ready Review							2Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604710A - Night Vision Systems - Eng Dev**

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	34107	28980	38821	52227	28688	23163	22554	Continuing	Continuing
L67	SOLDIER NIGHT VISION DEVICES	11653	15589	17074	19659	10349	10347	10347	0	110806
L70	NIGHT VISION DEV ED	19176	13391	17097	13537	10059	12816	12207	Continuing	Continuing
L76	Long Range Advanced Scout Surveillance System - FS	3278	0	4650	19031	8280	0	0	0	54749

A. Mission Description and Budget Item Justification: This program element provides night vision/reconnaissance, surveillance and target acquisition technologies required for U. S. defense forces to engage enemy forces twenty-four hours a day under conditions of degraded visibility due to darkness, adverse weather, battlefield obscurants, foliage and man-made structures. These developments and improvements to high performance night vision electro-optics, radar, laser, and thermal systems and integration of related multi-sensor suites will enable near to long range target acquisition, identification and engagement to include significant fratricide reduction, which will improve battlefield command and control in "around-the-clock" combat operations. Project L67 focuses on night vision electro-optical, laser, and other target identification and location equipment for a variety of Future Combat System of Systems (FCS) Units of Action/Employment and Future Force soldiers. This project includes the enhanced night vision goggle, modular HTI multi-function laser activities, and thermal upgrades to include an uncooled medium thermal weapon sight. Project L70 focuses on night vision, reconnaissance, surveillance and target acquisition (RSTA) sensors and suites of sensors to provide well-defined surveillance and targeting capabilities for a variety of Current, Modular, Future Combat System of Systems (FCS) and Future Force platforms. This project includes night vision sensor acquisition support of FCS core systems, Risk Reduction Demonstration (RRD) of standard uncooled thermal sensor packages, Sense Through The Wall programs, Unattended Ground Sensor systems, common sensor message set management for FCS and other applications, upgrades to existing ground surveillance radars, provides Persistent Surveillance and Dissemination System-of-Systems (PSDS2) enhancements and capability improvements, transitions the 3rd Generation Forward Looking Infrared from an Advanced Technology Objective (ATO), and developes the Driver's Vision Device (DVD). Project DL76 focuses on target acquisition common sensor system that will combine the long-range surveillance and targeting capabilities of the Army's Long Range Advanced Scout Surveillance System (LRAS3) with the laser designation capabilities of the Lightweight Laser Designator Rangefinder's Laser Designation Module (LDM). RDT&E funding is required to design and develop a Block Pre-Planned Product Improvement (P3I) for the LRAS3. In addition to the design activities, sufficient prototype systems will be produced to support testing and other pre-production activities. The system significantly increases the observation and target engagement capabilities over that provided by the current first generation equipment, AN/TAS-4 Night Sight and Ground/Vehicular Laser Locator Designator (G/VLLD). Block P3I upgrades developed under this project will be inserted through ongoing production contracts.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604710A - Night Vision Systems - Eng Dev**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	26119	26449	38224
Current BES/President's Budget (FY 2007)	34107	28980	38821
Total Adjustments	7988	2531	597
Congressional Program Reductions		-127	
Congressional Rescissions		-292	
Congressional Increases		2950	
Reprogrammings	7988		
SBIR/STTR Transfer			
Adjustments to Budget Years			597

Change Summary Explanation: Funding - FY 2005 Congressional reprogrammed into this PE for proper execution: Multiplatform Replacement Sight (MRS) and Persistent Surveillance Dissemination System of Systems (PSDS2). FY 2006 Congressional increase for $1.7M for Soldier Wearable Acoustic Targeting System (SWATS)and $1.25M for Small Arms and Light Weapons, Soldier Mounted Detection and Location System.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604710A - Night Vision Systems - Eng Dev**	**L67**

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
L67	SOLDIER NIGHT VISION DEVICES	11653	15589	17074	19659	10349	10347	10347	0	110806

A. Mission Description and Budget Item Justification: This project develops, improves and miniaturizes high performance night vision electro-optics, thermal and laser systems. It also provides for systems integration of related multi-sensor suites to enable near to long-range target acquisition and engagement as well as improved battlefield command and control in "around-the-clock" combat operations. It focuses on technology that can bring improvements to the dismounted Soldiers' equipment. This project develops or enhances equipment that provides the individual Soldier day/night situational awareness and individual targeting capability, sniper fire detection and location capability, and integrates improved target location and self-location capability to eliminate friendly fire incidents. The Enhanced Night Vision Goggle (ENVG) will be a head/helmet mounted night vision system for the individual Soldier. The system will use both image intensifier and uncooled thermal technology to provide a multi-spectral image to the Soldier. Other efforts include a miniaturized laser designating system for a variety of ground Soldier systems, small Unmanned Aerial Vehicle (UAV), and other air platforms and the development of Sense Through The Wall (STTW) technology giving Soldiers the ability to detect threats through walls during Military Operations on Urban Terrain (MOUT), developing fused electro-optical sights for Special Forces and developing focal plane technology increasing product resolution and range.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue development of next generation Enhanced Night Vision Goggles (ENVG). The digital ENVG will provide Soldiers the ability to use both image intensifier and uncooled thermal technologies during day, night, and obscured battlefield conditions.	7675	4000	3037
Complete development of the Small Tactical Optical Rifle Mounted (STORM) micro-Laser Range Finder (mLRF), which provides Soldiers the ability to perform target location while using individual weapons.	1862	500	0
Completed Thermal Upgrade activities (prototype test and evaluation), which enhances the combat effectiveness of Thermal Weapon Sight (TWS) Heavy/Medium/Light systems.	374	0	0
Continue to reduce target location error through the development of a non-magnetic compass for the Lightweight Laser Designator Rangefinder (LLDR) and an ultra lightweight designator(ULD) to reduce size and weight of the current laser designator module (LDM).	1533	2000	3110
Initiate development of Sense Through The Wall (STTW) technology, which provides dismounted Soldiers with the capability to detect, locate and identify threats through walls during Military Operations on Urban Terrain (MOUT).	0	175	3109
Initiate the development of the Fused Weapon Sight (FWS), which is a passive fused electro-optical sight for Special Operations Forces.	0	0	476
Continue the development, testing and evaluation of Focal Plane Arrays (FPA) with improved sensitivity and range.	0	5464	4340
Completed the development and evaluation of day color camera as a replacement for direct view optics in handheld targeting devices.	209	0	0
Initiate the development of high accuracy Azimuth Vertical Angle Measurement (AVAM) devices for handheld, man-portable target location devices.	0	500	3002
Initiate the development of sniper fire detection and location technology, using portable sensors on Soldiers to locate gunfire.	0	2950	0
Total	11653	15589	17074

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Helmet Mounted Enhanced Vision Devices (K36400) OPA2	182952	146362	229350	232415	322941	336050	377691	CONT	CONT
Thermal Weapon Sight (TWS) (K22900) OPA2	73500	145654	209537	230607	209567	182178	186454	CONT	CONT
Lightweight Laser Designator Rangefinder (LLDR) (K31100) OPA2	43083	12562	50160	93986	77414	80130	62086	CONT	CONT
Multi-Function Aiming Light (K35000) OPA2	20749	28834	26584	29274	21690	21083	17556	CONT	CONT
Sniper Night Sight (K41500)	8625	16060	18206	14948	15893	13298	12192	CONT	CONT

C. Acquisition Strategy The various developmental programs in this project will continue to exercise competitively awarded contracts using best value source selection procedures.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604710A - Night Vision Systems - Eng Dev

PROJECT
L67

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
Enhanced NVG Analysis and Design	C/FP	Various	4507	5412	1Q	3465	1-2Q	2456	1-2Q	Continue	0	0
STORM micro-Laser Range Finder Activity	C/FP	DRS - Torrence, CA / Insight Technologies - Londonderry, NH	615	980	1Q	432	1-2Q	0		0	0	0
Focal Plane Arrays Activity	C/FP	Various	1500	0		4984	1-3Q	3958	1-2Q	Continue	0	0
Ultra Lightweight Designator Development Activity	C/FP	Fibertek - Herndon, VA	1582	1469	1Q	1728	1-2Q	2127	1-2Q	Continue	0	0
Sense Through The Wall (STTW) Activity	C/FP	TBD	0	0		159	1-2Q	2386	1-2Q	Continue	0	0
Fused Electro-Optical Weapon Sight Development	C/FP	TBD	0	0		0		457	1-2Q	Continue	0	0
Day Color Camera Evaluation and Development	C/FP	NVESD - Fort Belvoir, VA	0	185	2Q	0		0		0	0	0
AVAM Development Activities	C/FP	TBD	0	0		240	2-3Q	2402	1-2Q	Continue	0	0
Sniper Fire Detection and Location Technology Development	C/FP	TBD	0	0		2950	2-3Q	0		0	0	0
Subtotal:			8204	8046		13958		13786		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
Matrix Support	MIPR	Various	230	149	2Q	150	1-3Q	439	1-2Q	Continue	0	0
Subtotal:			230	149		150		439		Continue	0	0

III. Test And Evaluation	Contract	Performing Activity &	Total	FY 2005	FY 2005	FY 2006	FY 2006	FY 2007	FY 2007	Cost To	Total	Target

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

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	Method & Type	Location	PYs Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Complete	Cost	Value of Contract
Government Test Support Activity	MIPR	Various	3754	3143	1-2Q	1318	1-3Q	2618	1-2Q	Continue	0	0
Subtotal:			3754	3143		1318		2618		Continue	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Project Management	MIPR	PM Sensors and Lasers	276	315	1-4Q	163	1-4Q	231	1-4Q	Continue	0	0
Subtotal:			276	315		163		231		Continue	0	0
Project Total Cost:			**12464**	**11653**		**15589**		**17074**		**Continue**	**0**	**0**

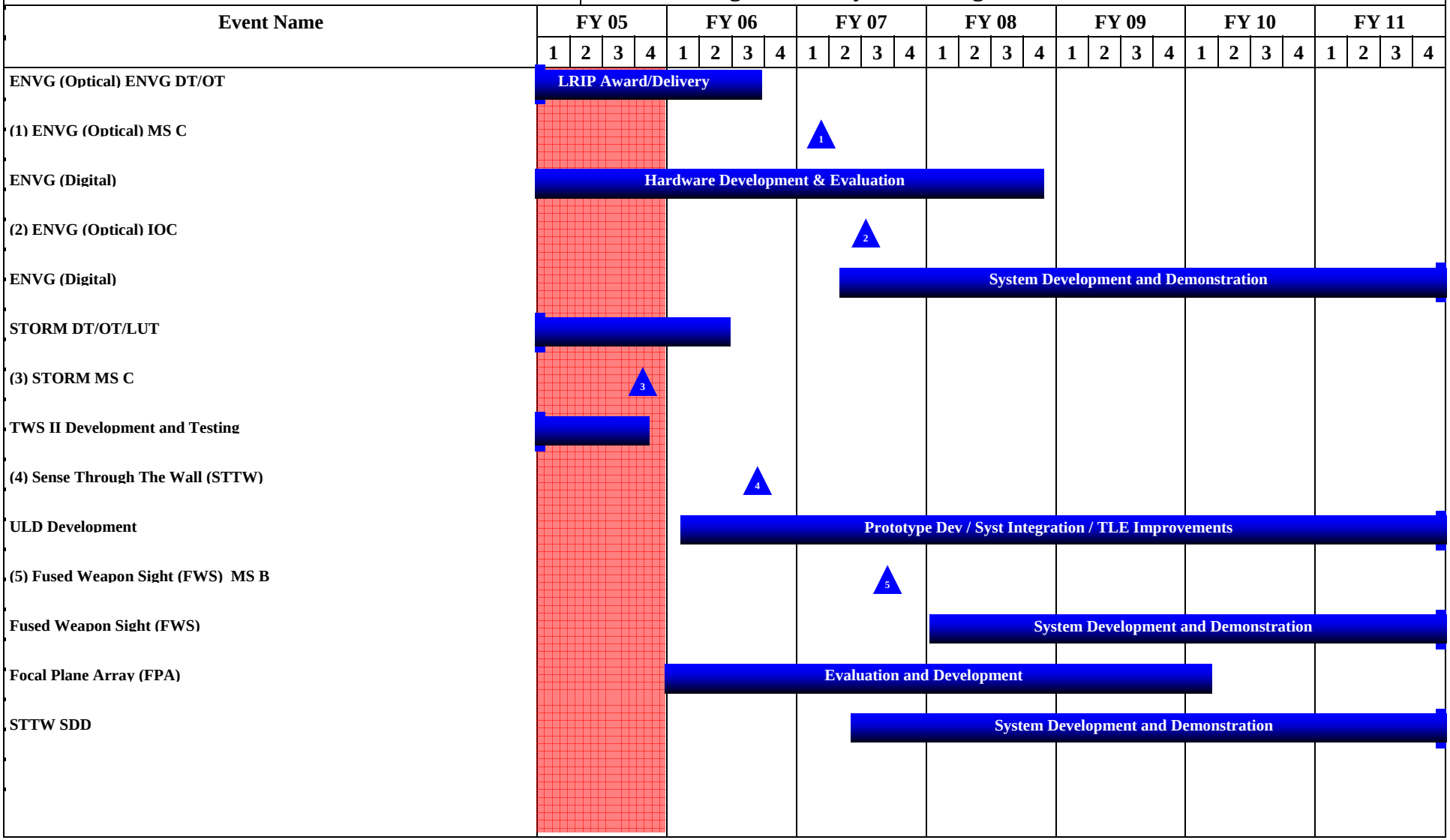
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604710A - Night Vision Systems - Eng Dev

PROJECT
L67



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604710A - Night Vision Systems - Eng Dev

PROJECT
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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Enhanced Night Vision Goggles (ENVG) Optical Development.	1-4Q	1-3Q					
ENVG Digital System Development and Demonstration / LRIP.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Development of the Small Tactical Optical Ranging Module (STORM).	1-4Q	1-2Q					
TWS II Development Testing.	1-3Q						
Fused Weapon Sight (FWS) Development.			3-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Sense Through The Wall (STTW) Technology development.		1-2Q	2-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Ultra Lightweight Designator Prototype Development and Integration.	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Focal Play Array (FPA) Eval and Development.		1-4Q	1-4Q	1-4Q	1-2Q		
Sniper Fire Dectection Development		2-4Q	1-2Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604710A - Night Vision Systems - Eng Dev**	**L70**

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
L70	NIGHT VISION DEV ED	19176	13391	17097	13537	10059	12816	12207	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project performs System Development and Demonstration (SDD) on high performance night vision, Reconnaissance, Surveillance, and Target Acquisition (RSTA) systems and other related systems that allow forces to locate and track enemy units in day, night, and all battlefield conditions, and through natural and man-made structures and obscurants. It also develops and integrates suites of these sensors to provide well-defined surveillance and targeting capabilities, as well as architectures for these sensors to communicate automatically. The focus is on meeting the requisite night vision and RSTA capabilities required for evolving Current Force, Modular Force, and Future Force systems. Efforts will continue to refine a standard architecture among sensors with the Sensor Link Protocol (evolving to a joint message set called Sensor Data Link) to allow these sensors to communicate in a plug and play manner for improved force level sensor data fusion, aided target recognition and target hand-off.

This project will also demonstrate the producibility of interchangeable uncooled thermal focal plane arrays, and develop an uncooled infrared imaging B-Kit sensor family that will result in standardized sensor modules for a variety of applications. By eliminating the requirement for cryogenic coolers, uncooled thermal imagers are inherently smaller, lighter, more reliable, use less power, and are less expensive. Uncooled B-Kits can be used for a variety of Current Force, Modular Force, Future Combat System (FCS), and Future Force systems such as weapon sights, driver's viewers/situational awareness aids, missile seeker sensors, unattended ground sensors/security sensors, and unmanned ground and aerial vehicle payloads.

This project transitions 3rd Gen Forward Looking Infrared (3rd Gen FLIR) technology from the 3rd Gen Infrared Advanced Technology Objective (ATO), developing a 3rd Gen FLIR engine for use in Current Force and Future Force systems. 3rd Gen FLIR provides a dual band, large format Infrared (IR) detector and image processor which enables high performance target detection algorithms and target identification at detection ranges.

This project develops, demonstrates and tests Sense Through the Wall (STTW) technology in support of Future Combat System and other Future Force requirements. This will leverage earlier technology base efforts for an Unmanned and Limited Stand-Off capability of detecting personnel and personnel with concealed weapons/concealed explosives through and behind walls and buildings in support of dismounted and mounted MOUT operations and to significantly enhance survivability and situational awareness.

This project continues Unattended Ground Sensors (UGS) hardware development, demonstration and test for a family of UGS systems for Intelligence, Surveillance and Reconnaissance (ISR). This will provide FCS and the Army a remotely employable Unattended Ground Sensor capability for ISR and physical security.

This project developed the Persistent Surveillance and Dissemination System-of-Systems (PSDS2), a system-of-systems which linked numerous sensors (currently in theater) together, providing theater commanders with a single coordinated picture of the battlefield and the capability to quickly disseminate this "actionable information" to responders. This project also continues efforts to integrate technological improvements to improve overall system performance capabilities.

This project develops, integrates, and tests an upgrade to the long Range Advanced Scout Surveillance System (LRAS3) system, making it capable of digitizing, compressing and transmitting target information and imagery across the battlefield Network using Standard Army Radios. This enables the Current Force and Modular Force with the ability to

cross-cue sensors that are linked to the network as well as share/exploit imagery and data from networked sensors on the battlefield.

This project develops the Driver's Vision Device (DVD) - leveraging Commercial Off-The-Shelf (COTS) available hardware to demonstrate and qualify a "Low Cost, lower Performance" configuration of the Driver's Vision Enhancer (DVE).

FY 2007 funding supports continuation of efforts for: Uncooled B-kit, Unattended Ground Sensor and Unmanned Air Vehicle (UAV) Electro-Optical/Infrared/Laser Designator (EO/IR/LD) Payloads developments; spirals in RSTA technologies from FCS into the Current Force; and continues evolution of Sensor Link Protocol.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue Sensor Link Protocol (SLP) as part of the DoD Joint Variable Message Format (JVMF) standard while maintaining configuration management and modifying application software tools. Sensor Link Protocol (SLP)/Sensor Architecture - A uniform and standard means of describing and coordinating the collection, preprocessing, communication, and fusion of RSTA functions for the Future Force and FCS. FY06/07 provides additional refinement of SLP in support of FCS architecture and new Current Force/Modular Force requirements.	435	340	340
Uncooled B-Kit (UBK)- Continues development of the uncooled thermal B-Kit for platform sensors, navigation systems and target acquisition devices. Funds the Risk Reduction Demonstration (RRD) for B-Kit development on the first UBK configuration. FY05 supported awards to multiple (3) vendors. FY06/FY07 completes the RRD phase and qualifies the detector in candidate systems.	5583	2091	1454
Unattended Ground Sensors (UGS) - Develop ISR, Chemical, Biological, Radiological, Nuclear (CBRN) and Urban UGS for FCS and other Army customers. Funds continue spiral integration efforts to include sensor systems remote employment capabilities. Demonstrate viability and technical feasibility of remotely employing a networked Unattended Ground Sensors (UGS) system from a UAV delivery platform. Demonstration will look at achieving required accuracies for dispensing UGS from a UAV at various altitudes in support of mission scenario objectives.	1250	1640	825
Third Generation FLIR (3rd Gen FLIR) System Development and Demonstration (SDD) of 3rd Gen FLIR. FY07 initiates development and qualification of a 3rd Gen FLIR engine (or "B-Kit") for use in current and Future Force high performance RSTA systems. This 3rd Gen FLIR will provide increased capability for: the Long Range Advanced Scout Surveillance System (LRAS3), the Stryker Mast Mounted Sensor, the Armed Reconnaissance Helicopter (ARH), the FCS Medium and Long Range Sensors, and other RSTA applications.	0	0	7080
Development of payloads for the Army's UAV in accordance with TRADOC priorities and in support of FCS. This effort provides an EO/IR payload with an integrated laser designator for use in FCS Class 3 and 4 UAVs. This effort is a joint program with PM Close Combat Support (CCS), expanding the capability of the Airborne Surveillance Target Acquisition and Minefield Detection System (ASTAMIDS) by adding the designator.	347	950	1750
Ground Moving Target Indicator (GMTI) Radar - complete productization and testing of improved performance radar. Improvements include reduced size and weight, material updates, and operational mode expansion. FY05 fully funds reliability testing that started in 4QFY05.	1080	0	0
Sense Thru The Wall (STTW) Stand-Off/Unmanned - Transition STTW technology from D131, applying it to Unmanned Vehicle applications to provide a Stand-off Sense-Through-The-Wall capability.	0	0	3886
Persistent Surveillance and Dissemination System-of-Systems (PSDS2) is operational in OIF. Efforts entail integrating technological	10481	4651	0

improvements in all associated sensors where feasible; developing an interoperability linkage with DCGS and CRAM programs; improving the current architecture; updating information assurance through migration to version 6.4; improving tools to facilitate the dissemination of video and imagery; acquiring Central Technical Support Facility (CTSF) validation where required; improving UAV exploitation to accommodate multiple types of UAV data made available to the warfighter; ensuring Army Battlefield Command System (ABCS) 6.4 compliance; and, integrating Rapid Aerostat Initial Deployment (RAID) system high definition cameras to facilitate the processing of video signals along with other system enhancements and/or fixes.			
LRAS3 Netted Sensor - Development, integration, and testing of hardware and software that supports digital compression, transmission and display of imagery and data to/from the battlefield network. This enable the Current Force and Modular Force with the ability to cross-cue sensors that are linked to the network as well as share/exploit imagery and data from networked sensors on the battlefield.	0	3219	0
Driver's Vision Device (DVD) - The effort leverages Commercial Off-The-Shelf (COTS) available hardware to demonstrate a "Low Cost, lower Performance" configuration of the Driver's Vision Enhancer (DVE).	0	500	1762
Total	19176	13391	17097

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Night Vision DVE K31300 OPA2	16336	19748	43041	38373	30950	25392	25412	CONT	CONT
Future Combat System, G86100 WTCV	0	0	0	170104	334124	1545296	3682551	CONT	CONT
Advanced TUAV Payloads B00302 OPA2	0	41647	33328	39215	20285	25867	34282	CONT	CONT

C. Acquisition Strategy The development programs in this project are currently based on competitive awards and under cost reimbursement type contracts.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604710A - Night Vision Systems - Eng Dev

PROJECT
L70

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
DVE Development	C/CPIF	Various	21831	0		0		0		0	21831	0
Modular HTI Multifunction Laser Activities	C/CP	Insight Technologies, Londonderry, NH & DRS Technologies, Torrence, CA	3868	0		0		0		0	3868	0
LLDR RAPT	C/CP	Various	4253	0		0		0		0	4253	0
Light Forward Observer Optics	C/CP	Various	1258	0		0		0		0	1258	0
Thermal Upgrades for DVE (Dual wavelength) and competition	C/CP	Kaiser Electric San Diego, CA, Various	3608	0		0		0		0	3608	0
LLDR Advanced Demonstration System	C/CP	Litton Laser, Apopka, FL	2556	0		0		0		0	2556	0
Sensor Architecture/Digital RSTA/SLP	C/CPIF & C/CP	Various	10753	435	1Q	340	2Q	340	1Q	Continue	Continue	0
Various Prototypes and Studies	C/CPIF	Various	2947	0		0		0		0	2947	0
Thermal Upgrades for TWS (target location)	C/CP	Raytheon, El Segundo, CA, Various	5811	0		0		0		0	5811	0
HTI Laser Trade Studies	C/CP	Various	1020	0		0		0		0	1020	0
Enhanced NVG Analysis & Design (TX to DL67)	C/CP	Various	4782	0		0		0		0	4782	0
HTI Laser MFS3 design and prototype activities	C/CPIF	Raytheon, Dallas,TX	565	0		0		0		0	565	0
MANTECH Focal Plane Array and optics	C/CP	Raytheon, Dallas, TX	1500	0		0		0		0	1500	0
Digital MELIOS Design & Fabrication	C/FP	Litton Lasers, Inc.	1000	0		0		0		0	1000	0
AN/TMQ-41 Trade Studies and related activities	C/CP	Various	1232	0		0		0		0	1232	0
Image Fusion for DVE	C/CP	Raytheon, Dallas, TX	1274	0		0		0		0	1274	0
Digital RSTA SDD	C/CP	Booz-Allen Hamilton, Tysons Conner, VA	2190	0		0		0		0	2190	0

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604710A - Night Vision Systems - Eng Dev**	**L70**

CIRISS Efforts	C/CP	Various	1500	0		0		6076	1Q	0	6076	0
LLDR Vehicle applications	C/CP	Litton Laser, Apopka, FL Various	3487	0		0		0		0	3487	0
FLIR develop/integrate	Various	Various	1731	0		0		0		0	1731	0
Uncooled B-Kit	Various	Various	1555	5189	4Q	1674	2Q	743	1Q	Continue	Continue	0
EO/IR/LD UAV Payloads	C/CP	Lockheed Martin	1783	0		712	2Q	1505	1Q	Continue	Continue	0
LLDR EMD	C/CP	Litton Lasers, Apopka, FL	19873	0		0		0		0	19873	0
GMTI Radar	C/FP & CP	General Atomics	1712	1080	2-3Q	0		0		0	1712	0
UGS	CP/FFP	Various	708	0		0		0		0	708	0
FCS UGS / UGS	C/CP	FCS Boeing/Textron/Various /TBD	3375	332	1Q	790	2Q	0		Continue	Continue	0
STTW Stand-Off/Unmanned	C/CP	TBS	0	0		0		3396	1Q	Continue	Continue	0
PSDS2 Efforts	C/CPFF	Various	0	8070	2-3Q	3681	2Q	0		0	11751	0
LRAS 3	SS/CP	Network Centrics, McKinney Texas	0	0		2471	3Q	0		0	0	0
DVD (DVE Light)	C/CP	CACI	0	0		238	3Q	1440	3Q	Continue	Continue	0
Subtotal:			106172	15106		9906		13500		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	Various	14341	1007	1Q	1925	1-2Q	2753	1Q	Continue	Continue	0
Matrix Support	MIPR	NVESD	0	720	2Q	0		0		0	720	0
Matrix Support	MIPR	TRADOC	0	400	2Q	0		0		0	400	0
Matrix Support	MIPR	Various	0	231	2Q	0		0		0	231	0
Subtotal:			14341	2358		1925		2753		Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604710A - Night Vision Systems - Eng Dev

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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
DT/IOT&E*	MIPR	ATEC	8769	0		0		0		0	8769	0
Other Test Support*	MIPR	Various	4366	845	2Q	735	3Q	405	2Q	Continue	Continue	0
Subtotal:			13135	845		735		405		Continue	Continue	0

Remarks: * Includes PSDS2, UGS, STTW, 3GF and other sensor test and evaluation activities.
Includes PSDS2 and FCS UGS test and evaluation.

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
Project Management	In house support	PM, NV/RSTA, Fort Belvoir, VA & Ft. Monmouth, NJ	4628	867	1-4Q	825	1-4Q	439	1-4Q	Continue	Continue	0
Subtotal:			4628	867		825		439		Continue	Continue	0
Project Total Cost:			**138276**	**19176**		**13391**		**17097**		**Continue**	**Continue**	**0**

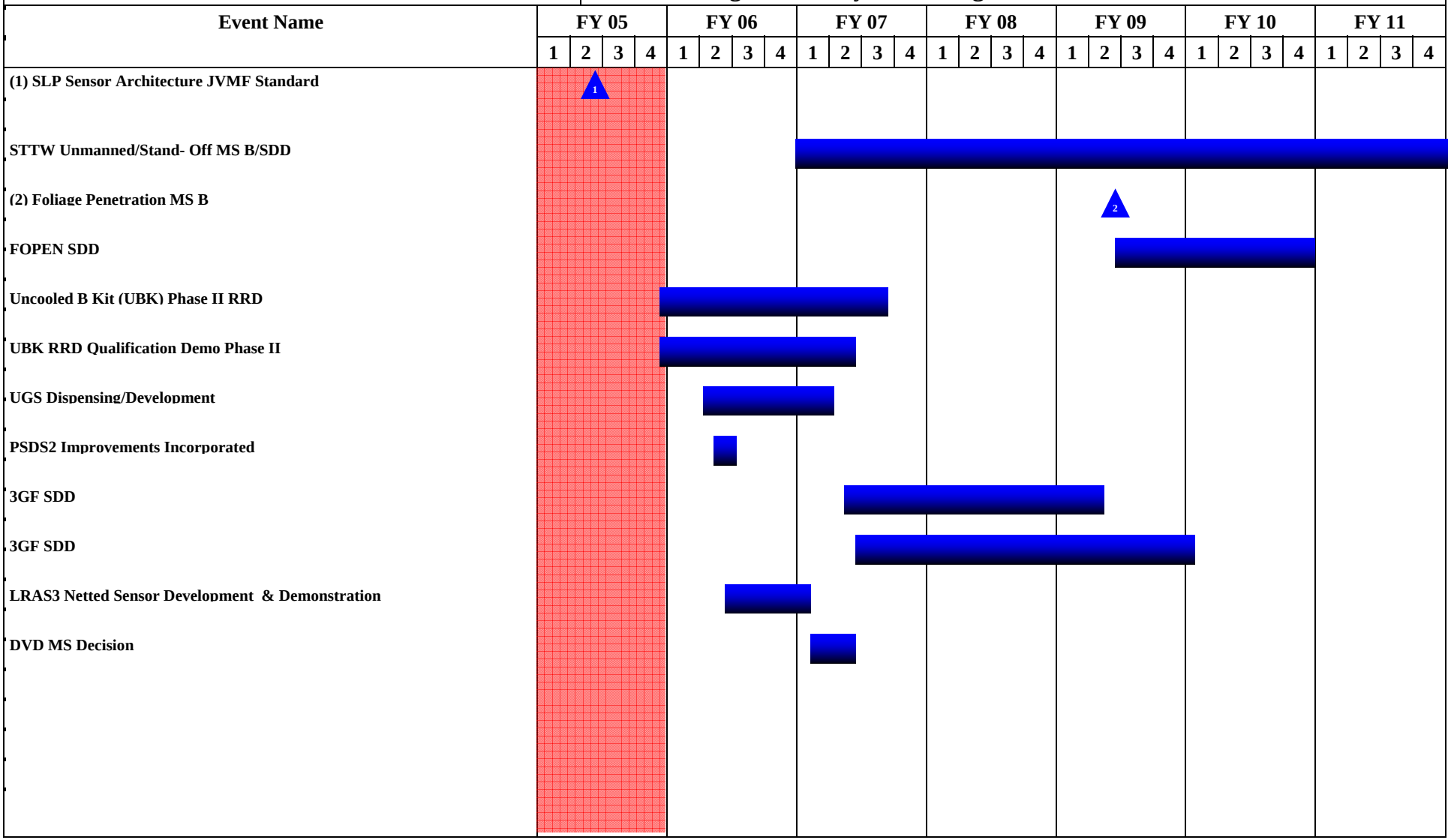
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604710A - Night Vision Systems - Eng Dev

PROJECT
L70



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Sensor Link Protocol (SLP) Architecture - JVMF Standard	2Q						
Uncooled B-Kit Risk Reduction Demonstration Phase II	4Q	1-4Q	1-2Q				
Foliage Penetration (FOPEN) MS B for FCS Block II					2Q		
FOPEN SDD					2-4Q	1-4Q	
Sense Through the Wall (STTW) SDD			1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Persistent Surveillance and Dissemination System-of-Systems (PSDS2) Award	2Q						
PSDS2 DT/OT	3Q						
PSDS2 IOC (OPA Funded)	3Q						
PSDS2 Improvements		3-4Q					
3GF SDD			2-4Q	1-4Q	1-4Q		
UGS Dispensing Development		2-4Q	1-2Q				
LRAS3 Netted Sensor Development		2-4Q	1Q				
DVD Industry Assessment		2-4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604710A - Night Vision Systems - Eng Dev**	**L76**

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
L76	Long Range Advanced Scout Surveillance System - FS	3278	0	4650	19031	8280	0	0	0	54749

A. Mission Description and Budget Item Justification: The Army's mounted Fire Support and Combat Observation Lasing Teams (COLT) require a day/night targeting sensor that can detect, observe, and pinpoint the locations of threats for attack. The sensor must be able to determine the precise target location of the target and digitally transfer this information, or laser designate the target for precision engagement by laser-guided munitions.

This target acquisition common sensor system will combine the long-range surveillance and targeting capabilities of the Army's Long Range Advanced Scout Surveillance System (LRAS3) with the laser designation capabilities of the Lightweight Laser Designator Rangefinder's Laser Designation Module (LDM). RDT&E funding is required to design and develop a Block Pre-Planned Product Improvement (P3I) for the LRAS3. In addition to the design activities, sufficient prototype systems will be produced to support testing and other pre-production activities. The system significantly increases the observation and target engagement capabilities over that provided by the current first generation equipment, AN/TAS-4 Night Sight and Ground/Vehicular Laser Locator Designator (G/VLLD).

FY07 begins the Block P3I design and development activities and initiates prototype development.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Conduct Qualification Validation Test and implement corrective actions on integration of the LDM with the LRAS3	842	0	0
Fabricate Multi-platform Replacement Sight (MRS) prototypes	1333	0	0
MRS Integration and test	1103	0	0
Initiate design and development activities for the LRAS3 Block P3I program.	0	0	4366
Initiate fabrication of 11 prototypes.	0	0	284
Total	3278	0	4650

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
LRAS3 K38300 OPA2	102625	41769	179594	168279	201498	161935	103041	0	958741

C. Acquisition Strategy The development of a Block P3I for the Long Range Advanced Scout Surveillance System will be executed through a Sole Source Cost Plus Fixed Fee (CPFF) award to Raytheon Inc.

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
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PROJECT
L76

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
FS3 Development	SS/T&M	Raytheon Inc., McKinney TX	2346	0		0		0		0	2346	0
FS3 Development	SS/CPFF	Raytheon Inc., McKinney, TX	7380	0		0		0		0	7380	0
FS3 Development	SS/FFP	Raytheon, Inc., McKinney, TX	1312	842	1Q	0		0		0	2154	0
Multi-Platform Replacement Sight (MRS)	SS/CPFF	Penn State Univ EOC, PA	6028	1908	4Q	0		0		0	7936	0
LRAS3 Block P3I	SS/CPFF	Raytheon, Inc., McKinney, TX	0	0		0		2858	2Q	Continue	Continue	0
Subtotal:			17066	2750		0		2858		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	MIPR	NVESD, CECOM, Other	1083	223	1Q	0		689	1Q	Continue	Continue	0
Subtotal:			1083	223		0		689		Continue	Continue	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
ATEC Planning and Preparation	MIPR	ATEC	215	0		0		0		0	215	0
Subtotal:			215	0		0		0		0	215	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604710A - Night Vision Systems - Eng Dev

PROJECT
L76

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
Project Management	In House	PM NV/RSTA, Fort Belvoir VA	1755	305	1Q	0		1103	1Q	Continue	Continue	0
Subtotal:			1755	305		0		1103		Continue	Continue	0
Project Total Cost:			**20119**	**3278**		**0**		**4650**		**Continue**	**Continue**	**0**

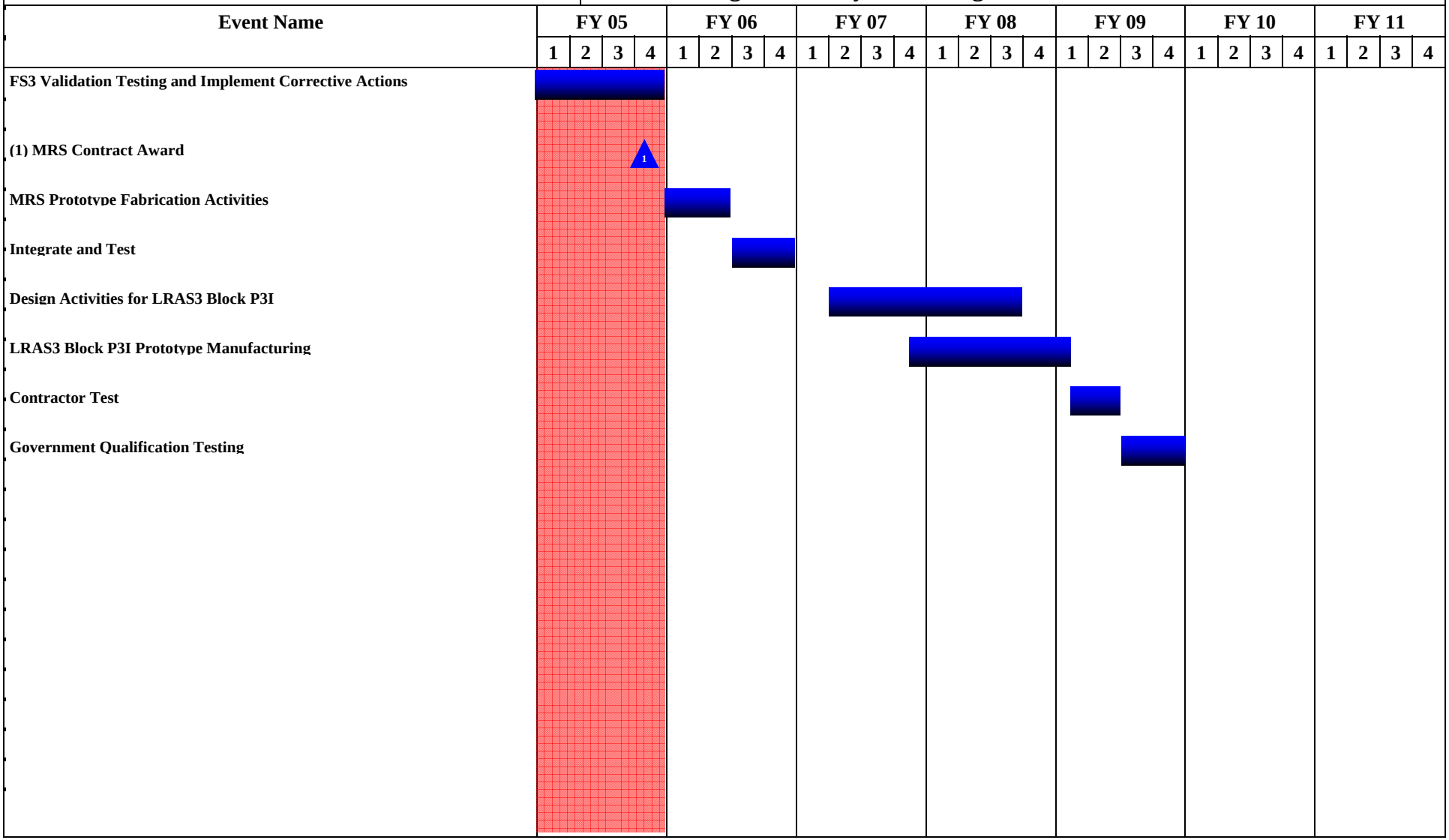
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604710A - Night Vision Systems - Eng Dev

PROJECT
L76



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604710A - Night Vision Systems - Eng Dev

PROJECT
L76

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
FS3 Validation Testing and Implement Corrective Actions	1-4Q						
MRS Prototype Fabrication Activities		1-2Q					
MRS Integrate and Test		3-4Q					
Design Activities for LRAS3 Block P3I			2-4Q	1-3Q			
LRAS3 Block P3I Prototype Manufacturing			4Q	1-4Q	1Q		
Contractor Testing					1-2Q		
Government Qualification Testing					3-4Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604713A - Combat Feeding, Clothing, and Equipment

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	107912	3334	3017	2520	2519	2154	2199	0	300128
548	MIL SUBSISTENCE SYS	1945	3334	3017	2520	2519	2154	2199	0	21294
667	LAND WARRIOR	76114	0	0	0	0	0	0	0	208246
668	SOLDIER ENHANCE PGM	15168	0	0	0	0	0	0	0	34789
680	MOUNTED WARRIOR	9022	0	0	0	0	0	0	0	9022
C40	SOLDIER SUPPORT EQUIPMENT - ED	549	0	0	0	0	0	0	0	14312
L40	CLOTHING & EQUIPMENT	5114	0	0	0	0	0	0	0	12465

A. Mission Description and Budget Item Justification: This program element (PE) supports System Development and Demonstration (SDD) and Non-Developmental Item (NDI) evaluation of unit/organizational equipment, clothing, individual equipment, field shelters, field service equipment, subsistence, and food service equipment that will enhance soldier efficiency, effectiveness, lethality, sustainability and survivability. The system integration of demonstrated subsystems, components, or NDI in order to reduce integration risks associated with system development and demonstration of various commodities, components, and technologies are also included in this PE. The PE also supports demonstration of engineered development models and the associated developmental and operational testing of systems, components, and commodities prior to their transition to the Production and Deployment phase to include a new generation of field service support items of soldier equipment. The Land Warrior program will produce the first fully integrated fighting system for dismounted combat soldiers. The Soldier Enhancement Program supports soldier items that will transition into production in three years or less. In FY06, Projects 668,C40, L40 transition to a new Program Element, 0604601A. Projects D667,D680 transition to Program Element, 0604827.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604713A - Combat Feeding, Clothing, and Equipment

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	98445	3383	2952
Current BES/President's Budget (FY 2007)	107912	3334	3017
Total Adjustments	9467	-49	65
Congressional Program Reductions		-15	
Congressional Rescissions		-34	
Congressional Increases			
Reprogrammings	9478		
SBIR/STTR Transfer	-11		
Adjustments to Budget Years			65

Change Summary Explanation: Funding - FY05: Funds provided by the Army in support of the program.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604713A - Combat Feeding, Clothing, and Equipment**	**548**

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
548 MIL SUBSISTENCE SYS	1945	3334	3017	2520	2519	2154	2199	0	21294

A. Mission Description and Budget Item Justification: This project supports the development and demonstration and Non-Developmental Item (NDI)/Commercial Off The Shelf (COTS) evaluation of combat feeding equipment to enhance soldier efficiency and survivability, and to reduce food service logistics requirements for all four services. The project supports multi-fuel, rapidly deployable field food service equipment initiatives and engineering and manufacturing development to improve equipment, enhance safety in food service, and decrease fuel and water requirements. This project develops critical enablers that support the Joint Future Force Capabilities and Joint Expeditionary mindset, by maintaining readiness through fielding and integrating new equipment; by enhancing the field soldier's well-being; and providing soldier usable equipment. They also reduce sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, the combat zone footprint, and costs for logistical support.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY06-07: Completes operational testing of components/packaging for all combat ration platforms; individual (MRE), group (UGR), assault/special purpose (MCW/LRP) to ensure continuous product improvement. Conducts operational testing of UGR-B. Presents product package recommendation decision brief to Joint Services Operation Ration Forum (JSORF), obtains approval. Completes procurement documentation and transitions to Defense Logistics Agency (DLA).	0	764	233
FY 07: Provides decision brief on new First Strike Ration (FSR) to the JSORF. Finalize procurement documentation for FSR and transition to Defense Logistics Agency (DLA).	0	0	84
FY05-FY07: Completed in house tests and evaluation of the Good Cow milk machine, including recommendation for shipboard user tests. Initiated the development of an advanced combination oven for shipboard food service and a food warmer for Los Angeles Class submarine, completed refinements of advanced applications. Developed product for Insta-Cook automated mashed potato-dispensing machine for shipboard use. FY: 06-07 Serve as certifying agent for all Navy Vessels for Food Service Equipment to be used onboard Navy vessels. Monitor commercial development in food service to accommodate reduction in shipboard labor, extend service life of equipment. Evaluate automated food production equipment for shipboard application. Test; down select; and list approved Galley equipment in Navy Food Service Equipment catalog.	425	542	434
FY05: Developed and tested integration of thermostatic controlled Modern Burner Unit (MBU) in field kitchen appliances and field sanitation systems.	89	0	0
FY05: Completed Assault Kitchen (AK) developmetal testing at Aberdeen Test Center, Maryland. FY 06: Prepare Milestone C documentation and performace specification for the AK and transition into production.	276	95	0
FY05: Developed alternate layout for Load Handling System compatible Containerized Kitchen (CK) prototype and release contract to upgrade prototype. Developed a CK augmentation kit to be used by MEDCOM. FY 06: Conduct cost analysis and design a system to effectively reduce by-products of combustion and improve thermal efficiency of cooking equipment in the CK. FY 07: Fabricate and test the recommended improved system for the CK.	205	481	558
FY06: Award contract to develop a co-generator that produces heat for cooking and sanitation as well as electrical energy for the Mobile Kitchen Trailer (MKT), CK, and other systems. Evaluates the prototype co-generator through bench top testing and optimize the design.	0	248	278

FY 07: Conduct Developmental and Operational Testing on an optimized prototype.			
FY05: The Single Pallet Expeditionary Kitchen Advanced (SPEK-A) system was field-tested by the Massachusetts Air National Guard 104th Fighter Wing to support field-feeding operations as part of a Unit Training Assembly (UTA) during the Thunder War Exercise. The performance of the SPEK-A system meet the Air Forces requirements of feeding 550 Airmen in a 2-hour period both UGR-H&S and A rations. User field tests of the latest SPEK-A field feeding equipment such as the Mobile Field Griddle and Oven were highly successful. The Mobile Field Griddle was submitted for application of US Patent. The Technical Data Package (TDP) was updated and delivered to the Air Force to include a revised pack out manual to reduce the logistical footprint, a training video, equipment operational procedures to include preventive maintenance sections, as well as detailed engineering drawings and bill of material structures for procurement.	200	0	0
FY05: Completed fabrication testing, and functionality testing of the Advanced Design Refrigerater (ADR) 1200. Performed in-house testing to evaluate system performance and functionality. Transitioned technical requirements and performance documentation to the Air Force for procurement.	175	0	0
FY05-FY07: Investigated an auxiliary accessory for the Tray Ration Heater/Multi Ration Heater to heat potable water for preparing hot beverages in the field. Designed and tested a flexible polymer bag with welded screw top spout for pouring and sealing, integral holding handle, and flat bottom for stability. Developed and tested sub- hatchable, lightweight, flexible container to transport highly perishable frozen product at sea. FY 06-07: Continue to develop and evaluate improvements to fielded food service systems as required by services for integration into existing and future systems to improve user acceptance of fielded equipment. Test and evaluate approved Navy Food Service equipment integrated into AFC DIC and Bear (initial/final) kitchens and Marine Corps Tray Ration Heater in order to reduce overall costs, improve capability, and ensure Joint Service commonality. Refine a Quad Cold refrigeration system to meet Marine Corps requirements. Conducts, user evaluation, and provide support, performance specifications, and Technical Data Package (TDPs) to Marine Corps.	200	138	134
FY07: Developes oven and skillet improvements to the Mobile Kitchen Trailer (MKT).	0	0	131
FY05: Conducted field evaluation of Containerized Deployment Kitchen (CDK) to determine changes and present standards, in order to develop improved food service efficiency, enhance cooked food quality and extend the life of the CDK inventory. Designed and developed prototype Mobile Hot Food Counter for replacement in current CDK. Tested and conducted user evaluations of the Legion Skittle and Pressure-less steamer for equipment enhancements to the CDK. FY 06: Continues to implement equipment for modernization and conduct user field tests to optimize the CDK's operational efficiency. Update one CDK from Tyndall Air Force Base and develop equipment replacement list for Air Force Procurement and an enhancement package that will be transitioned to the Air Force.	175	299	0
FY06: Initiate development of grey water treatment options for the field food sanitation system and design/evaluate refined concept for mitigation of combustion by-products. FY 07: Conduct technical evaluation of grey water treatment devices, and initiate development of a containerized or trailer mounted field food sanitation system.	0	246	225
FY06: Complete Multi-Temperature Refrigerated Container System (MTRCS) Developmental/Operational Testing and Logistics Demonstration. Prepare Milestone C for transition into production.	0	306	0
FY07: Complete Market Research and develops/tests a sanitation kit for field feeding operations in remote or forward areas to provide Field Sanitation capability.	0	0	225
FY 06: Complete Market Research to identify COTS items for providing chilled drinking water storage capability in military tactical vehicles. Purchase and evaluate prototypes.	0	74	0
FY07: Conduct developmental and operational testing on prototype Integrated Bare Base electric field kitchen and sanitation center.	0	0	266

FY 05: Completed testing and evaluation on selected icemakers/dispensers both counter top and large batch type. Completed report on counter-top icemaker/dispensers and provided recommendations to the Navy for procurement and installation on Navy ships and submarines. Completed report on large batch type bin units for large decks such as aircraft carriers, along with recommendations and transitioned to the Navy.	200	0	0
FY 07: Procures new coated food service equipment to reduce labor requirements and the generation of greywater test items, and initiate field-testing of durable nonstick coatings and disposable cookware/cookware liners for field kitchens, provide service, testing, and approval.	0	0	278
FY 07: Integrates food service equipment into the AF recommended shelter system to support the Air Force Basic Expeditionary Airfield Resources (BEAR) single kitchen system to replace four separate ageing field-feeding systems with one state of the art solution; conducts developmental testing and operational testing.	0	0	171
FY 06: Procure prototype Optimized Insulated Food containers and conduct a field evaluation. Evaluate results. Prepare/modify the procurement documentation to reflect the improved lightweight version. Transition to DLA.	0	141	0
Total	1945	3334	3017

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0603747.610, Food Adv Dev	3846	3344	2770	3825	3921	4315	4405	CONT	CONT
OPA3, M65803, Kitchen, Containerized, Field	8163	5685	8623	8351	12592	13981	14668	CONT	CONT
OPA 3, M65802, Sanitation Center, Field Feeding	6084	12285	16859	16252	15704	15888	15000	CONT	CONT

C. Acquisition Strategy Complete System Development and Demonstration of food items and equipment for transition into competitive procurement contract.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604713A - Combat Feeding, Clothing, and Equipment

PROJECT
548

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
Various combat feeding eq, multi-fuel and water eq	In-House	RDECOM, NSC	11181	935	1-4Q	1510	1-4Q	1399	1-4Q	Continue	Continue	Continue
DoD Field Feeding Equipment	Contracts	Various	2715	345	1-4Q	575	1-4Q	492	1-4Q	Continue	Continue	Continue
Army Field Feeding Equipment Development	In-House	PM Force Sustainment System (FSS)	257	204	1-4Q	340	1-4Q	291	1-4Q	Continue	Continue	Continue
Subtotal:			14153	1484		2425		2182		Continue	Continue	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
Subtotal:			0									

Remarks: Not Applicable

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
Various	MIPR	TECOM/OEC/ATC	4300	348	1-4Q	580	1-4Q	496	1-4Q	Continue	5724	Continue
Subtotal:			4300	348		580		496		Continue	5724	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
CFP Management	In-House	RDECOM	1069	113	1-4Q	329	1-4Q	339	1-4Q	Continue	0	Continue
Subtotal:			1069	113		329		339		Continue	0	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604713A - Combat Feeding, Clothing, and Equipment**	**548**

Project Total Cost:	**19522**	**1945**		**3334**		**3017**		**Continue**	**5724**	**Continue**

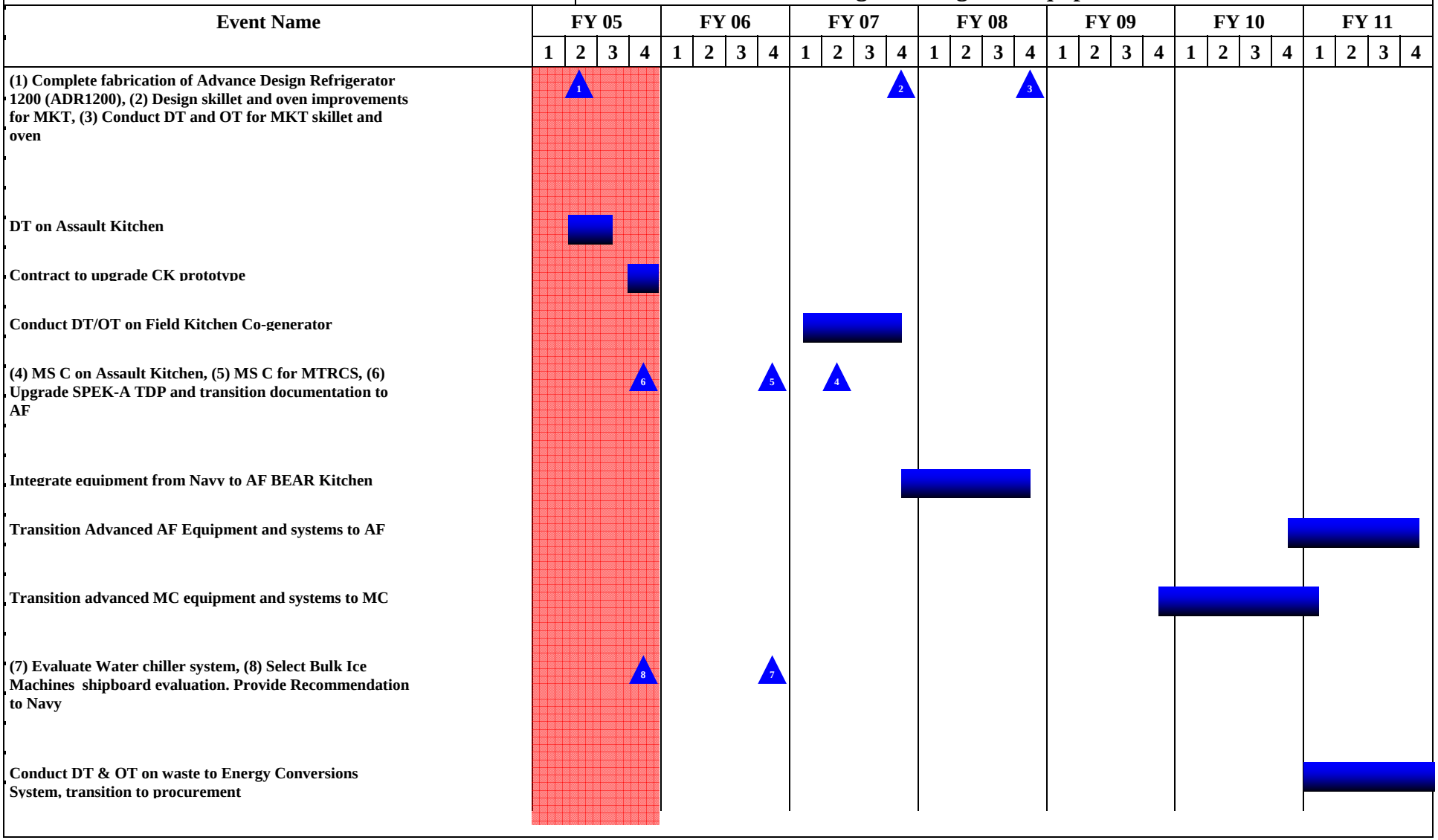
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604713A - Combat Feeding, Clothing, and Equipment

PROJECT
548



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604713A - Combat Feeding, Clothing, and Equipment

PROJECT
548

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Continue Developmental and Operational Testing for the Advanced Design Refrigerator -1200 (ADR-1200)	3Q						
Prepare performance specification for ADR1200 and transition to Services for procurement.	4Q						
Redesign Containerized Kitchen (CK) prototype.	4Q						
Conduct Assault Kitchen Developmental Testing.	2-3Q						
Conduct Milestone C on Assault Kitchen (AK).		3Q					
Upgrade SPEK-A Technical Data Package and transition documentation to AF for procurement.	4Q						
Transition Advanced AF equipment and systems to AF for procurement.						4Q	1-4Q
Integrate equipment from Navy program to AF BEAR Kitchen and Marine Corps Tray Ration Heater.			4Q	1-4Q			
Transition Advanced Marine Corps (MC) equipment and systems to MC for procurement.					4Q	1-4Q	1Q
Transition Advanced Navy Equipment and Systems to Navy for procurement.	4Q	4Q	4Q	4Q	4Q	4Q	4Q
Conduct DT and OT on MKT/CK co-generation system.			1-4Q				
Complete fabrication of the ADR1200.	2Q						
Select bulk ice machines for shipboard evaluation. Provide specifications and recomendations to Navy	4Q						
Conduct Operational Test of individual ration components		3Q	3Q	3Q	3Q	3Q	3Q
Transition individual rations/ration components documentation to DLA and services		4Q	4Q	4Q	4Q	4Q	4Q
Conduct operational test of Unitized Group Ration (UGR) -B		3Q					
Transition updated UGR-B assembly and component documents to DSCP for procurement		4Q					
Conduct operational test of UGR components/packaging			1Q				
Transition UGR component/packaging documents to DSCP for Procurement			4Q				

Conduct DT and OT on Basic Expeditionary Airfield Resource (BEAR) System and transition to Air Force			4Q	4Q	4Q	4Q	
Conduct DT and OT on Waste to Energy Conversions systems and transition services for procurement							1-4Q
Conduct field evaluation of the Containerized Deployment Kitchen (CDK)	4Q						
Optimize and transition CDK to AF for procurement		4Q					
Complete Milestone C on Multi Temp Refrigerated Container System (MTRCS)			1Q				
Design Containerized Kitchen (CK) PQT prototype		3Q					
Fabricate and test CK PQT items			4Q				
Fabricate CK PVT items				4Q			
Fabricate test cogeneration for MKT PVT item				4Q			
Design skillet and oven improvements for MKT			4Q				
Conduct DT and OT for MKT skillet and oven				4Q			
Conduct Milestone C for MTRCS			1Q				
Evaulate water chiller system		4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604713A - Combat Feeding, Clothing, and Equipment**	**667**

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
667 LAND WARRIOR	76114	0	0	0	0	0	0	0	208246

A. Mission Description and Budget Item Justification: Beginning in Fiscal Year 2006 (FY06) this funding will be under PE 0603817A, Project S57. This project supported the Land Warrior (LW) concept, a first generation, modular, integrated fighting system focused on the needs of the individual infantry Soldier and Soldiers in support of the close fight. To comply with Congressional intent and to leverage from the success of current developed Land Warrior (LW) components, the Army refocused the LW program to spiral out Dismounted Battle Command System (DBCS) capabilities (e.g. Commander's Digital Assistant (CDA), Enhanced Position Location and Reporting System (EPLRS) MicroLight Radio) to Soldiers in the field for near-term capability. Because of demonstrated improved reliability, LW integrated ensemble systems, to include applicable long-lead items, are being produced for a Stryker Battalion for evaluation purposes in FY06.

The LW program and FFW Advanced Technology Demonstration (ATD) have made progress in consolidating in accordance with the FY05 Appropriations Language and a report has been submitted to Congress. The Ground Soldier System (GSS) will leverage the technological advancements transitioned from the Science and Technology (S&T) community including Future Force Warrior (FFW) to develop the Ground Soldier capability.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05: Funding supported the Army Strategic Software Improvement Program; purchased Ground Based Global Positioning System (GPS) Receiver Application Module Selective Availability Anti-Spoofing Module (SAASM) and other Government Furnished Equipment (GFE) items to support DBCS capabilities.	1273	0	0
FY05: Continued development engineering for one company's worth of prototype devices for DBCS capabilities. Continued development work on the LW integrated ensemble systems for evaluation by a Stryker Battalion.	60312	0	0
FY05: In fourth quarter, started developmental test activities for the Dismounted Battle Command System (DBCS) capabilities and for the LW integrated ensemble systems.	1121	0	0
FY05: Continued Program management and systems engineering support for overall program efforts. Continued minimal operations support of PM Land Warrior - Fort Monmouth, and maintained appropriate activity at PM Land Warrior - Fort Bragg. Continued program reviews for In Process Review (IPR) to support the preparation for Milestone C, and report out on required ACAT I documentation requirements. Continued to support NATO Land Group 3 and other partnered countries to ensure compatibility with potential multinational military operations.	13408	0	0
Total	76114	0	0

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0604827, S57 Land Warrior	0	50218	27080	29934	29927	41877	46842	CONT	CONT
OPA 3, M80500, Land Warrior	10635	35700	21198	40966	70884	28680	3087	CONT	CONT

OPA 4, MS3610, Land Warrior Initial Spares	710	492	1574	1622	1613	629	632	0	7272
RDTE, 0603001, DJ50, Future Warrior Technology Insertion	49121	56034	37714	40356	39998	35609	37376	CONT	CONT

C. Acquisition Strategy Beginning in Fiscal Year 2006 (FY06) this funding will be under PE 0603817A, Project S57. To comply with Congressional intent and to leverage from the success of current developed Land Warrior (LW) components, the Army refocused the LW program to spiral out Dismounted Battle Command System (DBCS) capabilities (e.g. Commander's Digital Assistant (CDA), Enhanced Position Location and Reporting System (EPLRS) MicroLight Radio) to Soldiers in the field for near-term capability. Because of demonstrated improved reliability, LW integrated ensemble systems, to include applicable long-lead items, will be produced for a Stryker Battalion for evaluation purposes in FY06. After this evaluation, the Army will compare DBCS and LW integrated ensemble capability to determine the best capability within resources to field to the Soldier.

The LW program and FFW Advanced Technology Demonstration (ATD) have made progress in consolidating in accordance with the FY05 Appropriations Language and a report has been submitted to Congress. The Ground Soldier System (GSS) will leverage the technological advancements transitioned from the Science and Technology (S&T) community including Future Force Warrior (FFW) to develop the Ground Soldier capability.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604713A - Combat Feeding, Clothing, and Equipment**	**668**

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
668 SOLDIER ENHANCE PGM	15168	0	0	0	0	0	0	0	34789

A. Mission Description and Budget Item Justification: This project supports accelerated integration, modernization, and enhancement efforts of lighter, more lethal weapons, and improved Soldier items including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigational aids. Soldiers are managed in three categories: dismounted Soldiers, combat crews (air and ground), and other Soldiers. Projects are generally completed in three years or less.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05: Continued in house engineering support services, conduct technical evaluation and program reviews.	2446	0	0
FY05: Continued evaluation/procure prototypes and/or test for several efforts such as Close Combat Mission Capability Kit, XM102 Reloadable Stun Grenade, Semi-automatic sniper system, Electronic Stun Baton, Blast Protective Footware, POL Handler Glove, Compact Metal Detector, Enhanced Fuel Bar, Modular Glove System, Close Quarters Battle Kit and Rapid Wall Breaching Kit.	3220	0	0
FY05: Initiated evaluation for such items as: Water Purification Pen, Integrated Laser White Pointer (ILWLP), Small Tactical Optical Ranging Module (STORM) micro-Laser Range Finder (MLRF) sytem.	2689	0	0
FY05: Initiated market surveys and/or evaluations on new items to commence development and demonstration. New items started will continue evaluation/procure prototypes.	6813	0	0
Total	15168	0	0

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, MA6800, Soldier Enhancement	7241	4810	9165	10529	3410	7347	5451	CONT	CONT
OPA2, BA5300, Soldier Enhancement	6588	8153	14590	13909	9587	9516	7670	CONT	CONT
WTCV, GC0076, Small Arms (SEP)	23769	5181	2782	5459	1269	5229	4249	CONT	CONT
WTCV, GZ1290, Squad Automatic Wpn (Mods)	19685	3095	5314	9421	4181	5141	3190	CONT	CONT
WTCV, GZ2800, M16 Rifle Mods	20476	1970	1024	3925	1026	3599	3602	CONT	CONT
WTCV, GB3007, M4 Carbine Mods	87914	44817	17064	13905	6332	13733	9799	0	193564
WTCV, G01500, Sniper Rifle	13452	9656	8431	195	0	0	0	0	31734
WTCV, GC0925, Mods	8315	5146	1720	2809	501	3098	2139	CONT	CONT
PAA, F47500, 7.62mm AP	6508	4833	5154	8424	8736	5900	0	0	39555
PAA, F47600, 5.56mm AP	4567	6819	7230	11703	12071	8175	0	0	50565
PAA, F00900, 40mm Canister	0	0	0	0	0	0	0	0	0

OMA, 121017, Central Funding & Fielding	141770	136115	161051	159302	115700	0	0	CONT	CONT

C. Acquisition Strategy The Soldier Enhancement Program (SEP) focuses on developmental initiatives and integration efforts that lend themselves to accelerated acquisition and fielding in the near term (within three years). New SEP candidates are reviewed and approved annually. SEP items are procured from multiple appropriations, i.e., OMA, OPA, WTCV, and PAA.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604713A - Combat Feeding, Clothing, and Equipment**	**680**

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
680 MOUNTED WARRIOR	9022	0	0	0	0	0	0	0	9022

A. Mission Description and Budget Item Justification: Mounted Warrior Soldier System (MWSS) provides combat crewmembers and vehicle commanders in the Current and Future force with increased mission effectiveness on the network centric battlefield in the areas of lethality, command and control, communications, survivability, mobility, and sustainability. MWSS will provide the dismounted and mounted combat crewmembers increased capabilities to conduct offensive and defensive operations by providing uninterrupted viewing of their immediate surroundings while remaining connected to on-board platform C4I capabilities, thereby providing crews with continuous situational awareness and communications with platform and dismounted Soldiers. MWSS Helmet Mounted Display extends fire control information to vehicle crewmembers while they are standing up in or viewing out of the hatch allowing them to maintain immediate situational awareness of the their direct battle space, while simultaneously controlling inter-netted fires, vehicle, or dismounted Soldiers. MWSS will provide remote digital connectivity to the Force XXI Battle Command Brigade and Below (FBCB2) information system via the vehicle's C4I capabilities.

Beginning in FY06 this funding will be under PE 0603827A, Project S56.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05: Initiated fabrication and delivery of 165 field hardened operational Microvision Nomad Helmet Mounted Displays (HMD) to the Stryker Brigade Combat Team (SBCT) 2 for associated testing and evaluation. Funds also provide program and logistics support to SBCT 2 for support of the Nomad HMDs.	2685	0	0
FY05: Continued Program management and engineering development of the Mounted Warrior Soldier System (MWSS) in support of Doctrine, Organization, Training, Materiel, Leadership, and Education, Personnel and Facilities (DOTMLPF) assessment for the Stryker Battalion. Funds also provide for a User Evaluation of the communications headset and HMD with SBCT 1.	6337	0	0
Total	9022	0	0

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0604827A, S56, Mounted Warrior	0	7600	0	0	0	0	0	CONT	CONT
OPA3, M80600, Mounted Warrior	0	1600	0	0	0	0	0	CONT	CONT

C. Acquisition Strategy The Army has moved funds from PE 0604713A-680 effective FY06. The MWSS program provides the spiral fielding of mature technologies and advanced capabilities to meet the needs of the Combat Vehicle Crewman (CVC). The first spiral will equip a Stryker battalion with mature/existing technologies to be used to

develop tactics, techniques and procedures (TTPs), which will be used to define the requirements for future spirals. Part of the funding in FY05 was as a result of being a Congressional interest item.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604713A - Combat Feeding, Clothing, and Equipment**	**C40**

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
C40	SOLDIER SUPPORT EQUIPMENT - ED	549	0	0	0	0	0	0	0	14312

A. Mission Description and Budget Item Justification: Not applicable for this item.

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604713A - Combat Feeding, Clothing, and Equipment**	**L40**

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
L40	CLOTHING & EQUIPMENT	5114	0	0	0	0	0	0	0	12465

A. Mission Description and Budget Item Justification: Not applicable for this item.

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604715A - Non-System Training Devices - Eng Dev**

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	42784	60219	121553	72634	42144	21876	18123	Continuing	Continuing
241	NSTD COMBINED ARMS	40668	58310	119538	70553	40069	19765	16015	Continuing	Continuing
573	STRICOM/NAWCTSD SUPPORT	2116	1417	1510	1565	1563	1600	1602	Continuing	Continuing
587	ARMY DEVELOP CTIA/TENA CAPABILITY	0	492	505	516	512	511	506	Continuing	Continuing

A. Mission Description and Budget Item Justification: Program Element funds development of Non-System Training Devices to support force-on-force training at the Combat Training Centers (CTC), general military training, and training on more than one item/system, as compared with system devices which are developed in support of a specific item/weapon system. Training devices and training simulations contribute to the modernization of the forces by enabling and strengthening combat effectiveness through realistic training solutions for the Warfighter. Training devices maximize the transfer of knowledge, skills, and experience from the training situation to a combat situation. Force-on-force training at the National Training Center (NTC), Ft. Irwin, CA; Joint Readiness Training Center (JRTC), Ft. Polk, LA, and Joint Multinational Readiness Center (JMRC), formerly the Combat Maneuver Training Center (CMTC), Hohenfels, Germany; and battle staff training in Battle Command Training Program (BCTP) provide increased combat readiness through realistic collective training in low, mid, and high intensity scenarios. Project 241, Non-System Training Devices-Combined Arms, develops simulation training devices for Army-wide use, including the CTCs. Project 573 funds key organizational support to Army/DoD Transformation via innovative simulation and training device efforts. Program Executive Office (PEO) Simulation, Training and Instrumentation (STRI's) unique geographic colocation with other services facilitates joint training solutions in a common environment. FY07 funding supports a more active presence in this effort. Project 587 funds development of Common Training Instrumentation Architecture (CTIA) services that are level 2 compliant with the DoD Test and Training Enabling Architecture (TENA). CTIA supports the integration of Live Training Transformation (LT2) systems with systems of the Joint National Training Capability (JNTC).

In FY07, the Non-System Training Devices, 241 project line will develop prototype training devices to support Combined Arms (Infantry, Armor, Aviation, Air Defense, Artillery, Engineer, Chemical, and Support troops) training and multi-system training within the Army. There is an increased effort to replace the instrumentation system at the National Training Center (NTC), Ft. Irwin, CA and at the Joint Readiness Training Center (JRTC), Ft. Polk, LA with a system that meets the Army's existing and future, advanced collective training objectives. This is a complete modernization of these two systems, leveraging advanced technology using a modular concept. One Tactical Engagement Simulation System (OneTESS) development continues to provide realistic force-on-force training for weapon systems that are not direct fire and maximizes embedded training capability where possible. In FY07, PEO STRI/NAWCTSD SUPT, 573 project line will provide for minimum PEO STRI core operations supporting development of training devices and simulations by PEO STRI Project Managers (PM TRADE, PM ITTS, PM CATT, PM Future Force (S) and PM Constructive Simulation).

In FY07, 587 project line will modify CTIA services code to integrate Training and Test Enabling Architechture (TENA) Middleware providing LT2 product interoperability with TENA applications and the JNTC.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604715A - Non-System Training Devices - Eng Dev

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	49615	61090	124134
Current BES/President's Budget (FY 2007)	42784	60219	121553
Total Adjustments	-6831	-871	-2581
Congressional Program Reductions		-264	
Congressional Rescissions		-607	
Congressional Increases			
Reprogrammings	-6831		
SBIR/STTR Transfer			
Adjustments to Budget Years			-2581

Change Summary Explanation: FY05: Funds (-$6.954) reprogrammed to support higher Army priorities.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604715A - Non-System Training Devices - Eng Dev**	**241**

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
241 NSTD COMBINED ARMS	40668	58310	119538	70553	40069	19765	16015	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project supports development of prototype training devices to support Combined Arms (Infantry, Armor, Aviation, Air Defense, Artillery, Engineer, Chemical, and Support troops) training and multi-system training within the Army, to include the Reserve Components.

Corps Battle Simulation (CBS) is the Army's current command and staff training simulation at the corps/division level. CBS is the cornerstone model of the Joint Training Confederation (JTC) and the essential Brigade to Corps piece of the first two versions of the Army Constructive Training Federation (ACTF). Tactical Simulation (TACSIM) is the Army's current primary tactical intelligence module for constructive simulation and the intelligence piece of the ACTF until the Warfighters' Simulation replaces TACSIM. TACSIM also supports the JTC. The One Tactical Engagement Simulation System (One TESS) provides for an advanced, joint, collective, combined arms, live training system using tactical weapon systems supported by a family of Training Aids, Devices, Simulations and Simulators (TADSS) that support up to brigade-level exercises, including all Battlefield Operating Systems, at Homestation, Maneuver Combat Training Centers (MCTC), and deployed sites. OH-58D TESS will provide a live force-on-force training capabilty for OH-58D. The TESS will leverage existing technology used on the Longbow TESS. OH-58D TESS will use GEO-Pairing and laser engagement, and will provide a OneTESS like capability. The Combat Training Center Objective Instrumentation System (CTC OIS), comprised of the prior National Training Center (NTC) and Joint Readiness Training Center (JRTC) OIS programs, provides a completely digital based system, and also provides the observer/controller, Training Analyst and Feedback analyst the ability to monitor unit approach, engagement, and departure maneuver activities and identify and isolate pertinent voice, data and video segments in a near real time manner for objective After Action Review (AAR) feedback to the unit based on approved Tactics, Techniques and Procedures(TTP) and Mission Training Plan (MTPs) for a Brigade-level training event. The NTC Military Operations in Urban Terrain (MOUT) Instrumentation program provides the Urban Operations sites the necessary instrumentation to support training data collection, data analysis and objective AAR based on approved TTPs. The Aerial Weapon Scoring System (AWSS) is an air-to-ground scoring system designed specifically to support U.S. Army attack helicopter training. AWSS provides near real time scoring results of live fire exercises conducted from attack helicopters firing caliber .50, 7.62, 20 & 30 millimeter projectiles and 2.75 inch rockets. AWSS also scores simulated Hellfire missile engagements for helicopters using the Hellfire Training Missile. The Common Training Instrumentation Architecture (CTIA) provides the common architecture framework for developing the Live Training Transformation (LT2) Product Line of live training systems supporting Army-wide Force-On-Force (FoF) and Force-On-Target (FoT) training requirements. CTIA is a spiral development, evolutionary acquisition program that continues to provide developmental support for the LT2 Product line in compliance with the DoD Test and Training Enabling Architecture (TENA). The New Generation Army Targetry System (NGATS) program is a spiral developmental evolutionary acquisition program that continues to provide the development and planning to address shortcomings in non-NGATS targetry as well as emerging weapon system targetry requirements and technology insertion.

In FY07, this project funds development of limited enhancements and security accreditation to Corps Battle Simulation and TACSIM to ensure training relevance until the system is replaced with the objective system, continued development of NGATS, significant development efforts on OneTESS, and further implementation of Live Training Transformation through development of the Common Training Instrumentation Architecture (CTIA); enabling Joint training with the Joint Forces Command through modernization programs including the Objective Instrumentation Systems (OISs) for the Maneuver CTCs, Homestations, Military Operations in Urban Terrain (MOUT), and Digital Multi-Purpose Range Complexes (DMPRCs). These systems provide integrated Live, Virtual, and Constructive training environments and tools in support of the Contemporary Operating Environment.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604715A - Non-System Training Devices - Eng Dev**	**241**

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Continues development, installation, integration and testing of Technology Capability Groupings (TCG) for support of Early Fielding at both the NTC and JRTC. The NTC Maneuver MOUT will intiate design efforts in FY 06 and continue with integration and testing in FY 07. Continue spiral development of CTIA to produce software version 1.3 that will provide the common architecture capabilities that are essential for development and fielding of the CTC, MOUT, and DMPRC training instrumentation programs.	13478	33358	65753
FY06: OH-58D TESS will provide a prototype TESS set, pursue air worthiness review, CTC integration, and proof of principle.	0	310	0
FY05-FY07: Continues to develop limited CBS enhancements and security accreditation and provide support to JLCCTC functionality and integration.	5912	6667	7057
FY05-FY07: Continues NGATS program development and planning, to include design and development of a common Single Target Controller module, baselining and maintaining the NGATS Interface Control Document (ICD), and development of realistic thermal signature targets.	2968	2470	0
FY05-FY07: Continues development of One Tactical Engagement Simulation System (One TESS). Refine systems architecture, develop FCS/Joint, Live/Virtual and Constructive solutions and integrate operational testing and embed into current combat systems under development.	15795	12104	44438
FY06-FY07: Develops limited Tactical Simulation (TACSIM) enhancements to support JLCCTC and provide TACSIM security accreditation.	0	2606	2290
FY05: Developed Live Virtual Constructive Integration Architecture (LVC-IA) and concept development to provide Joint Seamless L-V-C Army Interoperability.	1565	0	0
FY05: Initiated development of short range scoring systems which can score 2.75 inch training rockets from 800-2500 meters from the existing Aerial Weapon Scoring System (AWSS).	950	0	0
FY06: Develops intra-Tactical Operations Center (TOC) ABCS Collection capability for the Digital AAR Tool (DAART) at the MCTC's.	0	795	0
Total	40668	58310	119538

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, Appropriation NA0100 Training Devices, Non-System	295044	204559	243147	194149	222284	188287	185792	CONT	CONT
OPA3, Appropriation MA6601 CTC Support	85252	60026	38497	61357	27130	23682	1193	CONT	CONT

C. Acquisition Strategy Competitive development efforts based on performance specifications.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604715A - Non-System Training Devices - Eng Dev

PROJECT
241

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
CBS Development	C/FFP	JPL, Cal Tech, Pasadena, CA	38299	5215	1-3Q	5623	1-3Q	5982	1-3Q	Continue	Continue	Continue
TACSIM Enhancement Development	C/CPFF	Northrop Grumman, Orlando, FL	1033	0		2280	1-3Q	1645	1-3Q	Continue	Continue	Continue
NGATS	T & M	AMCOM, Redstone Arsenal, AL	5732	2087	1Q	1785	1-2Q	0		Continue	0	0
CTC OIS: NTC	CPAF	Lockheed Martin Simulation Training and Support, Orlando, FL	63498	7395	1-3Q	14868	1-2Q	24985	1-2Q	Continue	Continue	Continue
CTC OIS: JRTC	CPAF	Lockheed Martin Simulation Training and Support, Orlando, FL	0	0		5332	1-2Q	30532	1-2Q	Continue	Continue	Continue
NTC-MOUT	TBS	TBS	0	0		2400	2Q	1680	2Q	Continue	Continue	Continue
CTIA	C/FFP	Lockheed Martin Inc., Orlando, FL	31452	3461	1-3Q	6876	1-2Q	4034	1-2Q	Continue	Continue	Continue
One TESS	Various	Multiple	7481	14395	1-3Q	10000	1-2Q	40904	1-2Q	Continue	Continue	Continue
LVCIA	various	various	2067	1565		0		0		0	3632	2067
AWSS	FFP	MDS, Fullerton,CA	5682	950	2Q	0		0		6632	0	6700
CBS Security	C/FFP	TITAN, Leavenworth, KS	0	230	1-3Q	240	1-3Q	245	1-3Q	Continue	Continue	Continue
TACSIM DEVELOPMENT	various	multiple	0	0		85	1-4Q	185	1-3Q	Continue	Continue	Continue
MCTC DAART	C/FFP	TBD	0	0		795	1-2Q	0		0	795	795
OH-58D TESS	TBD	TBD	0	0		310	1-3Q	0		0	310	310
Subtotal:			155244	35298		50594		110192		Continue	Continue	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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604715A - Non-System Training Devices - Eng Dev

PROJECT
241

CBS Engineering & Technical Support	Multiple	Multiple	943	177	1-4Q	111	1-4Q	113	1-4Q	Continue	Continue	Continue
TACSIM Engineering, Technical and Administrative Support	Multiple	Multiple	169	0		0		0	1-4Q	0	0	0
CTC OIS: NTC	Various	Multiple	10023	1322	1-4Q	1571	1-4Q	2167	1-4Q	Continue	Continue	Continue
CTC OIS: JRTC	Various	Multiple	0	0		711	1-4Q	785	1-4Q	Continue	Continue	Continue
NTC-MOUT	Various	Multiple	0	0		100	1-4Q	70	1-4Q	Continue	Continue	Continue
NGATS	T&M	AMCOM, Redstone Arsenal, AL	2472	881	1Q	685	1Q	0	1Q	0	0	0
CTIA	Various	Various	4875	1300	1-4Q	1500	1-4Q	1500	1-4Q	Continue	Continue	Continue
OneTESS	Multiple	Various	3243	300	1-4Q	355	1-4Q	522	1-4Q	Continue	Continue	Continue
CMTC OCCS, RDMS and Sincgars Infrastructure	Multiple	Various	625	0		0		0		0	625	625
Subtotal:			22350	3980		5033		5157		Continue	Continue	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
CBS Test Support	Various	Multiple	139	0		93	1-4Q	95	1-4Q	Continue	Continue	Continue
TACSIM Accreditation Testing	Various	Multiple	81	0		32	1-4Q	52	1-4Q	Continue	Continue	Continue
OneTESS Development and Test	MIPR	Multiple	0	800	1-4Q	761	1Q	1400	1-4Q	Continue	Continue	Continue
Subtotal:			220	800		886		1547		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
CBS Program Management	Various	PEO STRI, Orlando, FL 32826	1433	290	1-4Q	600	1-4Q	622	1-4Q	Continue	Continue	Continue
TACSIM Program Management	Various	Multiple	159	0		209	1-4Q	408	1-4Q	Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604715A - Non-System Training Devices - Eng Dev

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OneTESS Program Management	Various	PEO STRI, Orlando, FL 32826	1719	300	1-4Q	988	1-4Q	1612	1-4Q	Continue	Continue	Continue
Subtotal:			3311	590		1797		2642		Continue	Continue	Continue
Project Total Cost:			**181125**	**40668**		**58310**		**119538**		**Continue**	**Continue**	**Continue**

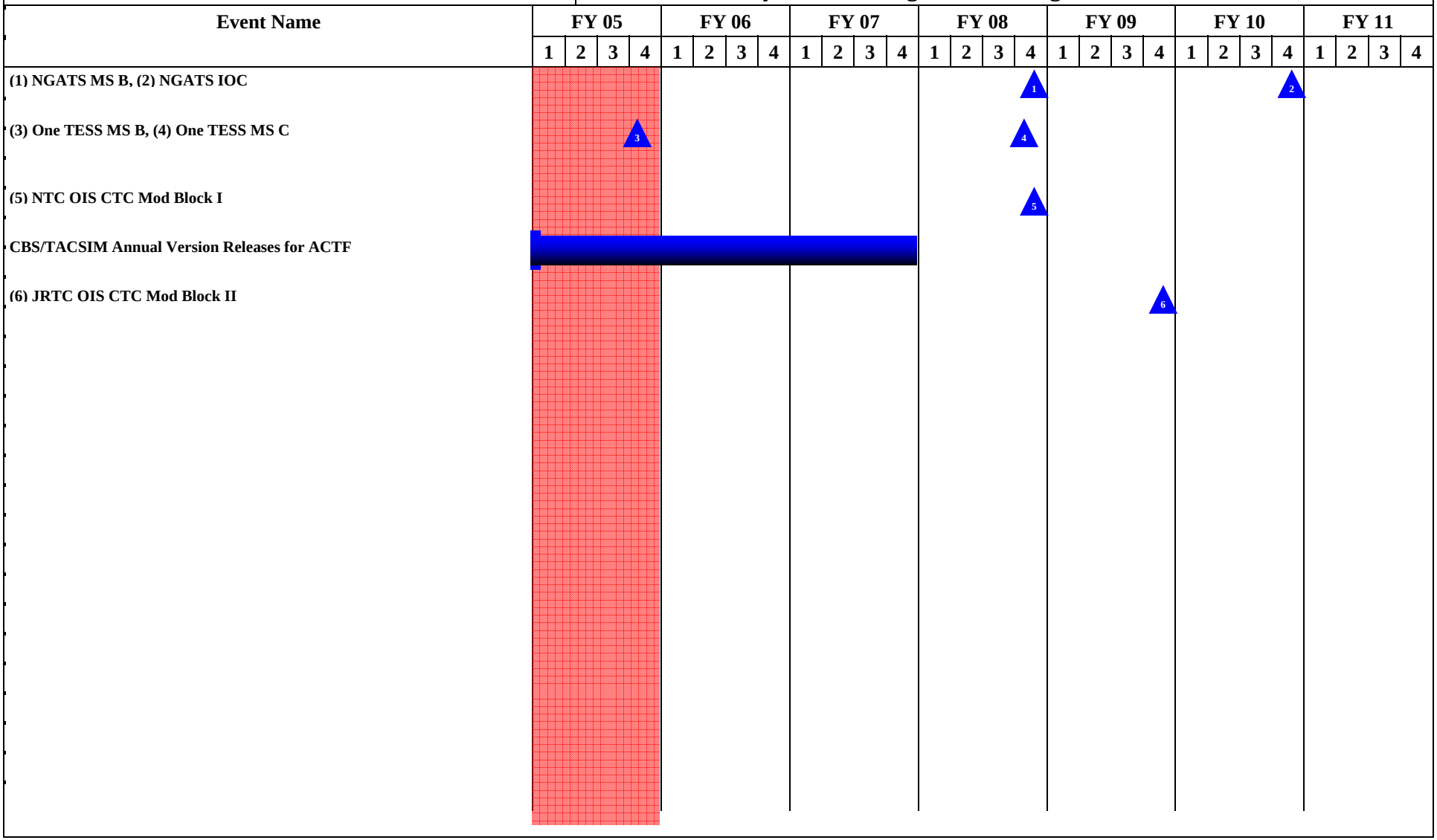
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604715A - Non-System Training Devices - Eng Dev

PROJECT
241



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604715A - Non-System Training Devices - Eng Dev

PROJECT
241

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
CBS/TACSIM Annual Version Releases for ACTF	1-3Q	1-3Q	1-3Q				
CTC OIS: NTC Installation/Integration & Fielding	2Q						
CTC OIS: NTC CTC MOD Block I				4Q			
CTC OIS: JRTC Installation/Integration & Fielding			1Q				
CTC OIS: JRTC CTC MOD Block II					4Q		
OneTESS Core Capability MSB/MSC/IOC	4Q			4Q		3Q	
OneTESS Medical Capability Begin System Integration/Production and Deployment					4Q		4Q
OneTESS Aviation Capability Begin System Integration/Production and Deployment						4Q	
OneTESS Engineers Capability Begin System Integration/Production and Deployment							4Q
NGATS MS B				4Q			
NGATS IOC						4Q	
CTIA Development Contract Award	1-2Q	1-2Q	1-2Q	1-2Q	1-2Q	1-2Q	1-2Q
TACSIM Enhancement Development Contract Award		2Q	1Q				
AWSS Contract Award	2Q						

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604715A - Non-System Training Devices - Eng Dev**	**573**

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
573	STRICOM/NAWCTSD SUPPORT	2116	1417	1510	1565	1563	1600	1602	Continuing	Continuing

A. Mission Description and Budget Item Justification: In support of Non-System Training Devices (NSTD), this project funds the US Army Program Executive Officer Simulation, Training and Instrumentation (PEO STRI) core operations supporting development of training devices and simulations by PEO STRI project managers (PM TRADE, PM ITTS, PM CATT, PM Constructive Simulation and PM (Future Force) Simulation. FY07 project funds labor in support of PEO operations.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Continues to support PEO STRI labor for project managers in PM TRADE, PM ITTS, PM CATT, PM Constructive Simulation and PM (Future Force)Simulation.	2116	1417	1510
Total	2116	1417	1510

C. Acquisition Strategy Not Applicable.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

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

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

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

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

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

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

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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

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

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

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

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

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

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

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

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

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

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

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

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

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

C. Acquisition Strategy The acquisition strategy relies heavily on non-development items (NDI) and evolutionary software development to rapidly meet the demands of air defense battle management/command, control, communications, computers, and intelligence (BM/C4I) requirements, and to keep pace with automated information technologies. The concept of evolutionary software development is being followed and will be accomplished in Blocks I, II, III and IV. Blocks I and II have been completed. FAAD C2 Block III is currently being developed for both the Army's Active and Reserve components.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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

PROJECT
126

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

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

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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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

PROJECT
126

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									
Remarks: Not Applicable												
Project Total Cost:			**361190**	**59491**		**28487**		**10465**		**0**	**243203**	**0**

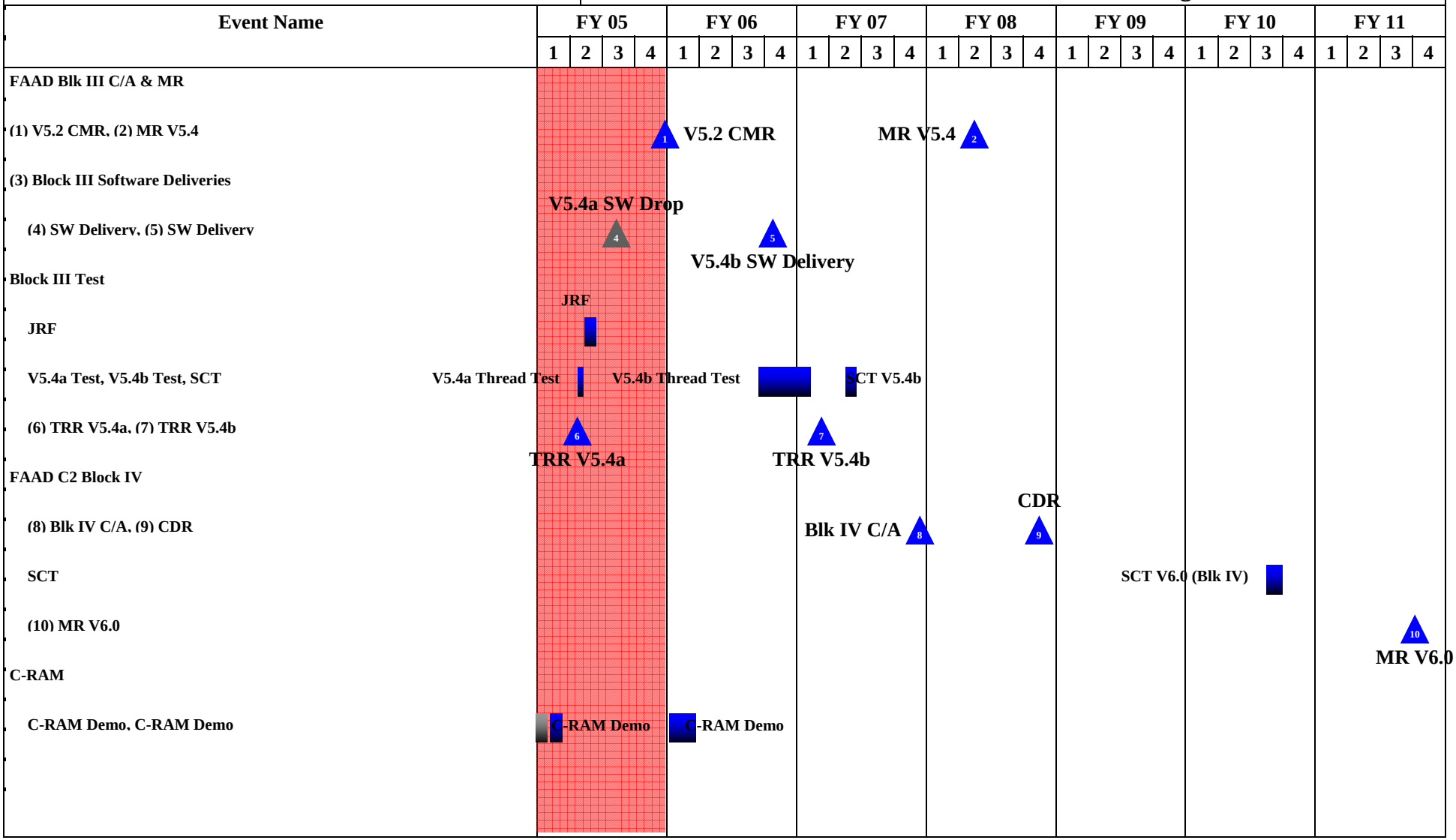
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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

PROJECT
126



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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

PROJECT
126

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

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

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

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

A. Mission Description and Budget Item Justification: The Air and Missile Defense Planning and Control System (AMDPCS) is an Army Objective Force System that provides integration of Air and Missile Defense (AMD) operations at all echelons. AMDPCS systems are deployed with Air Defense Artillery (ADA) brigades, Army Air and Missile Defense Commands (AAMDCs), and Air Defense and Airspace Management (ADAM) Cells at the Brigade Combat Teams (BCT's), Fires Brigades and Divisions. AMDPCS systems also provide air defense capabilities to Homeland Defense systems.

The development of ADAM Cells is essential in fulfilling the Army's Modularity requirement. ADAM Cells provide the Commander at BCTs, Brigades and Divisions with air defense situational awareness and airspace management capabilities. They also provide the interoperability link with Joint, multinational and coalition forces. AMDPCS components are vital in the transformation of ADA units and the activation of the Maneuver Air & Missile Defense (MAMD) Composite Battalions. AMDPCS has three major components:

(1) The Air and Missile Defense Workstation (AMDWS) is an automated defense and staff planning tool that displays the common tactical and operational air picture. AMDWS provides the Battle Command (BC) capabilities embedded within the Warfighter Mission area. AMDWS is also the Net-centric interface to BC for all components of the AMD force. AMDWS provides an interoperability link to multinational air defense forces IAW Annex C to a Joint US/NATO Air Defense Agreement;

(2) The Air Defense System Integrator (ADSI) is a communications data link processor and display system that provides near-real time joint airspace situational awareness and fire direction command and control for Air and Missile Defense forces;

(3) The Army Air Defense shelter configurations use automated data processing equipment, tactical communications, Common Hardware Systems, standard vehicles and tactical power to provide AMD unit commanders and staffs with the capabilities to plan missions, direct forces, and control the airspace.

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

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

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

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

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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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

PROJECT
146

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

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

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

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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

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

Remarks: Not Applicable

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

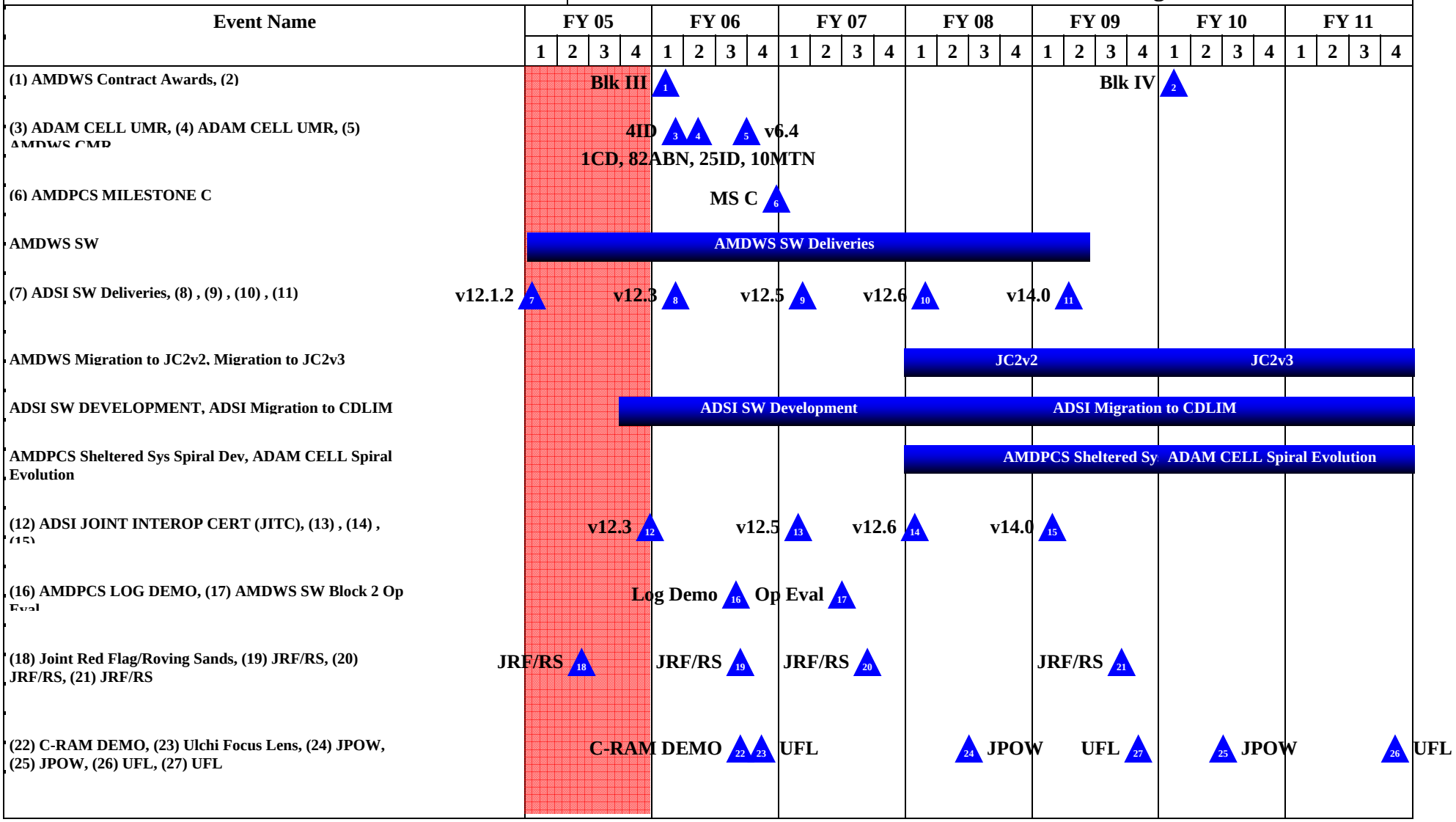
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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

PROJECT
146



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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

PROJECT
146

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

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT

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		41052	39993	40006	31892	27148	23447	24236	Continuing	Continuing
361	INTELLIGENCE SIMULATION SYSTEMS	1154	5824	7160	6114	5603	4134	4721	Continuing	Continuing
362	Jnt Land Component Constructive Trng Capability	39898	34169	32846	25778	21545	19313	19515	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element funds the development of constructive and wargame simulations used to realistically train commanders and their battle staffs on today's complex battlefield conditions. Project D361 funds the development of the Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) that provides Warfighting Commanders at all echelons the ability to train with Intelligence, Surveillance, and Reconnaissance (ISR) products based on realistic ISR assets, people (including the maneuver commander, G-2, G-3, collection manager, analyst/operator) and processes. IEWTPT provides embedded training capability for Future Combat Systems (FCS) ISR systems. IEWTPT will interface/stimulate ISR systems including Tactical Unmanned Aerial Vehicle (TUAV), Joint Surveillance Target Attack Radar System-Common Ground Station (JSTARS-CGS), Aerial Common Sensor (ACS), Tactical Exploitation System/Distributed Tactical Exploitation System (TES/DTES), Guardrail, Counter Intelligence/Human Intelligence Management Systems (CHIMS), Prophet and Distributed Common Ground Station-Army (DCGS-A). IEWTPT is the only Army Simulation System supporting ISR training from the Warfighter to the Military ISR Analyst/System Operator. Project 362, Joint Land Component Constructive Training Capability (JLCCTC), develops the Army's premier wargame simulation for training leaders and Battle Staffs at Brigade, Division, Corps, and echelons above Corps. JLCCTC will provide functionality not currently available (digital, stability, support and information operations), link to unit organizational Command, Control, Communications, Computers and Integration (C4I) equipment, improve exercise generation and after-action reporting. WARSIM will interoperate with One Semi Automated Forces(OneSAF) and other simulations as an integral part of an Army simulation toolkit, so that a warfighter training exercise can represent in simulation all Army echelons and in a Joint environment. JLCCTC pulls together current constructive simulation systems and future constructive simulations and uses a comprehensive strategy to ensure interoperability among all of those systems. This strategy will allow JLCCTC to meet current and future user needs. JLCCTC leverages the best pieces of current systems to meet current training needs and evolves to meet the training needs of the future.

FY07 funding continues product improvements with annual spiral releases of the IEWTPT and continues development of Joint Land Component Constructive Training Capability.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	41153	40572	38818
Current BES/President's Budget (FY 2007)	41052	39993	40006
Total Adjustments	-101	-579	1188
Congressional Program Reductions		-176	
Congressional Rescissions		-403	
Congressional Increases			
Reprogrammings	-101		
SBIR/STTR Transfer			
Adjustments to Budget Years			1188

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT**	**361**

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
361 INTELLIGENCE SIMULATION SYSTEMS	1154	5824	7160	6114	5603	4134	4721	Continuing	Continuing

A. Mission Description and Budget Item Justification: Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) provides Warfighting Commanders at all echelons the ability to train with Intelligence, Surveillance, and Reconnaissance (ISR) products based on realistic ISR assets, people (including the maneuver commander, G-2, G-3, collection manager, analyst/operator) and processes. IEWTPT provides training capability for Future Combat Systems (FCS) ISR systems. IEWTPT interoperates with the Army's constructive simulation training systems and actual operator level field equipment identified as Target Signature Arrays. IEWTPT will interface/stimulate ISR systems including Tactical Unmanned Aerial Vehicle (TUAV), Joint Surveillance Target Attack Radar System-Common Ground Station (JSTARS-CGS), Aerial Common Sensor (ACS), Tactical Exploitation System/Distributed Tactical Exploitation System (TES/DTES), Guardrail, Counter Intelligence/Human Intelligence Management Systems (CHIMS), Prophet and Distributed Common Ground Station-Army (DCGS-A). IEWTPT is the only Army Simulation System supporting ISR training from the Warfighter to the Military ISR Analyst/System Operator.
The FY07 funding continues product improvements with annual spiral releases in the 4th Quarter of each year of the IEWTPT.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Continues IEWTPT development, systems engineering support, documentation, security accreditation, and improvements with interoperability testing with system Target Signature Arrays (TSA) and constructive simulations.	966	5385	6308
FY05-FY07: Continues IEWTPT Program Management support	188	439	419
FY06-FY07: Continues IEWTPT Test planning and execution.	0	0	433
Total	1154	5824	7160

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, Appropriation NA0100, Training Devices, Nonsystem	295044	204559	243147	194149	222284	188287	185792	CONT	CONT

C. Acquisition Strategy Competitive development based on performance specifications.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT

PROJECT
361

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
IEWTPT System Dev & Demo	CPIF	Gen Dynamics C4 Systems, Orlando, FL	13790	636	1-3Q	4978	1-3Q	5907	1-3Q	Continue	Continue	Continue
IEWTPT System Dev & Demo	multiple	various	0	330	1-4Q	407	1-4Q	401	1-4Q	Continue	Continue	Continue
Subtotal:			13790	966		5385		6308		Continue	Continue	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
IEWTPT Engineering & Technical Support	Multiple	Various	1943	0		0		0		0	1943	1943
Subtotal:			1943	0		0		0		0	1943	1943

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
IEWTPT TEMP Support	Various	Multiple	319	0		0		0		0	319	319
IEWTPT Operational Test Event Support	Various	Multiple	359	0		0		0		0	359	359
Test Engineer Support	various	Multiple	324	0		0		433	1-3Q	Continue	Continue	Continue
Subtotal:			1002	0		0		433		Continue	Continue	Continue

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

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
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PROJECT
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	Type				Date		Date		Date			Contract
IEWTPT Program Management	Various	Multiple	860	188	1-4Q	439	1-4Q	419	1-4Q	Continue	Continue	Continue
Subtotal:			860	188		439		419		Continue	Continue	Continue
Project Total Cost:			**17595**	**1154**		**5824**		**7160**		**Continue**	**Continue**	**Continue**

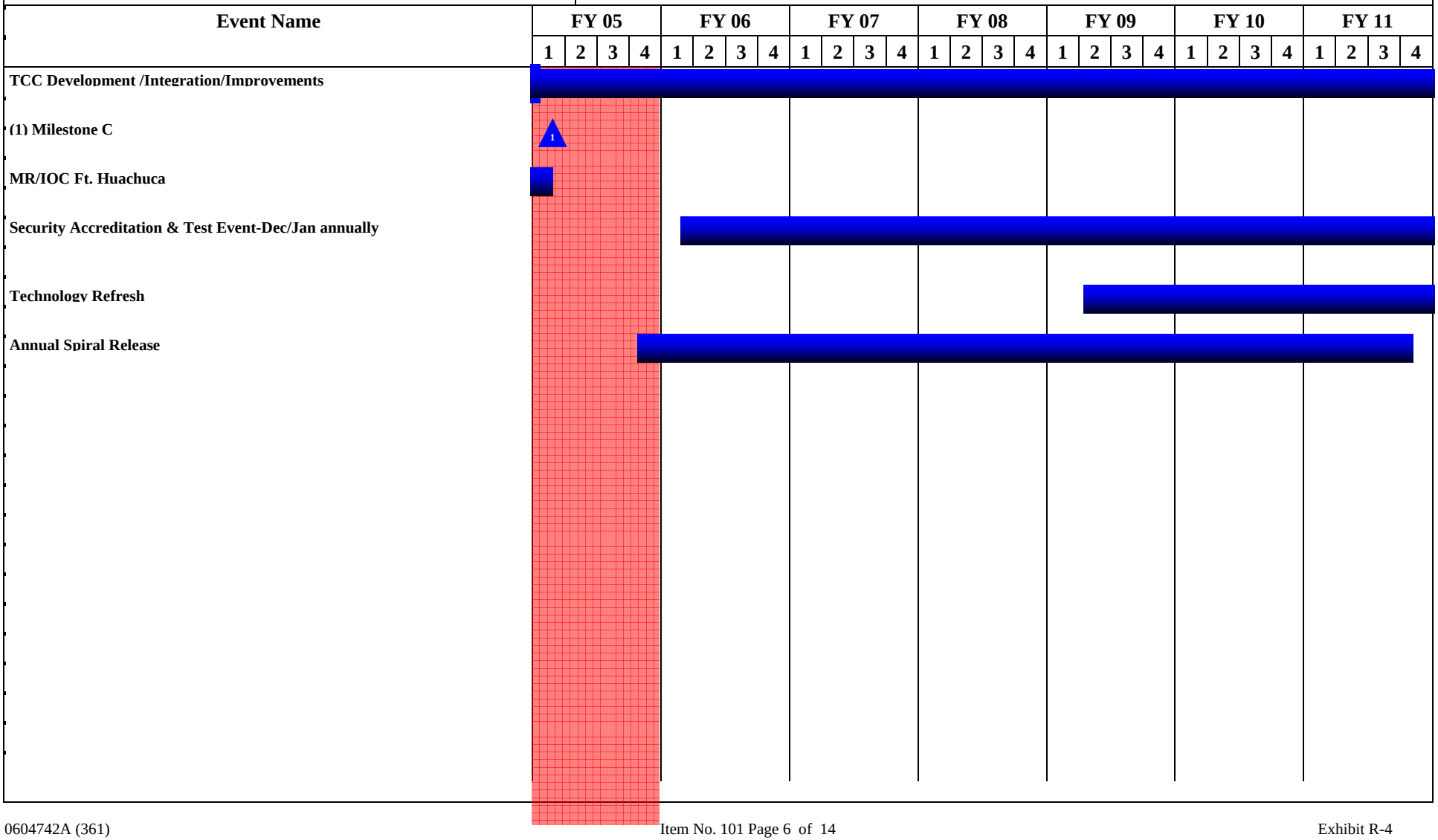
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT

PROJECT
361



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT

PROJECT
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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
IEWTPT CONTRACT AWARD	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q
IEWTPT Milestone C	1Q						
IEWTPT Annual spiral releases	4Q	4Q	4Q	4Q	4Q	4Q	4Q
IEWTPT Material Release	1Q						

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT**	**362**

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
362	Jnt Land Component Constructive Trng Capability	39898	34169	32846	25778	21545	19313	19515	Continuing	Continuing

A. Mission Description and Budget Item Justification: This Project funds the development of the Joint Land Component Constructive Training Capability (JLCCTC), the Army's premier wargaming simulations for training leaders and Battle Staffs from Battalion through echelons above Corps. The JLCCTC initially includes a set of interoperable current systems and integrates WARSIM and OneSAF in an evolutionary manner. JLCCTC will provide functionality not currently available, (digital operations, stability operations and support operations and information Ops) link to organic Battle Commands equipment, improve exercise generation and after-action reporting.

The FY 07 funding continues the development of the Army training system, integration and system evaluation. The JLCCTC leverages the best pieces of current system to meet current training needs and evolves to meet the training needs of the future force.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Verify and Validate JLCCTC software models	3200	2773	2578
FY05-FY-07: Continue integration of WARSIM and JLCCTC components for interoperability.	23898	20304	19670
FY05-FY07: Develop and integrate user interface enhancements for Army training applications.	8000	6932	6574
FY05-FY07: Develop and evaluate system performance and conduct system test events.	4800	4160	4024
Total	39898	34169	32846

C. Acquisition Strategy Competitive development based on performance specifications.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT

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
WARSIM Development of Army Training System	C/CPAF	Lockheed Martin Info Systems, Orlando, FL	18462	23712	1-3Q	19620	1-3Q	16997	1-3Q	Continue	Continue	Continue
Integration of JCCTC	Multiple	Various	1281	7099	1Q	7049	1Q	7005	1Q	Continue	Continue	Continue
Subtotal:			19743	30811		26669		24002		Continue	Continue	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
Engineering & Tech Spt	Multiple	Various	5164	445	1-4Q	420	1-4Q	473	1-4Q	Continue	Continue	Continue
Subtotal:			5164	445		420		473		Continue	Continue	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
Verification, Validation and Accreditation	Multiple	Various	3409	2724	1-3Q	1951	1-3Q	3040	1-3Q	Continue	Continue	Continue
WARSIM System Evaluation and Test	Multiple	Various	7229	2207	1-3Q	1828	1-3Q	1968	1-3Q	Continue	Continue	Continue
Subtotal:			10638	4931		3779		5008		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

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

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Program Management	Multiple	Various	9493	3711	1-2Q	3301	1-2Q	3363	1-2Q	Continue	Continue	Continue
Cost Analysis Support	T&M	Northrup Grumman-TASC, Orlando FL	414	0		0		0		0	414	493
Subtotal:			9907	3711		3301		3363		Continue	Continue	Continue
Project Total Cost:			**45452**	**39898**		**34169**		**32846**		**Continue**	**Continue**	**Continue**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT

PROJECT
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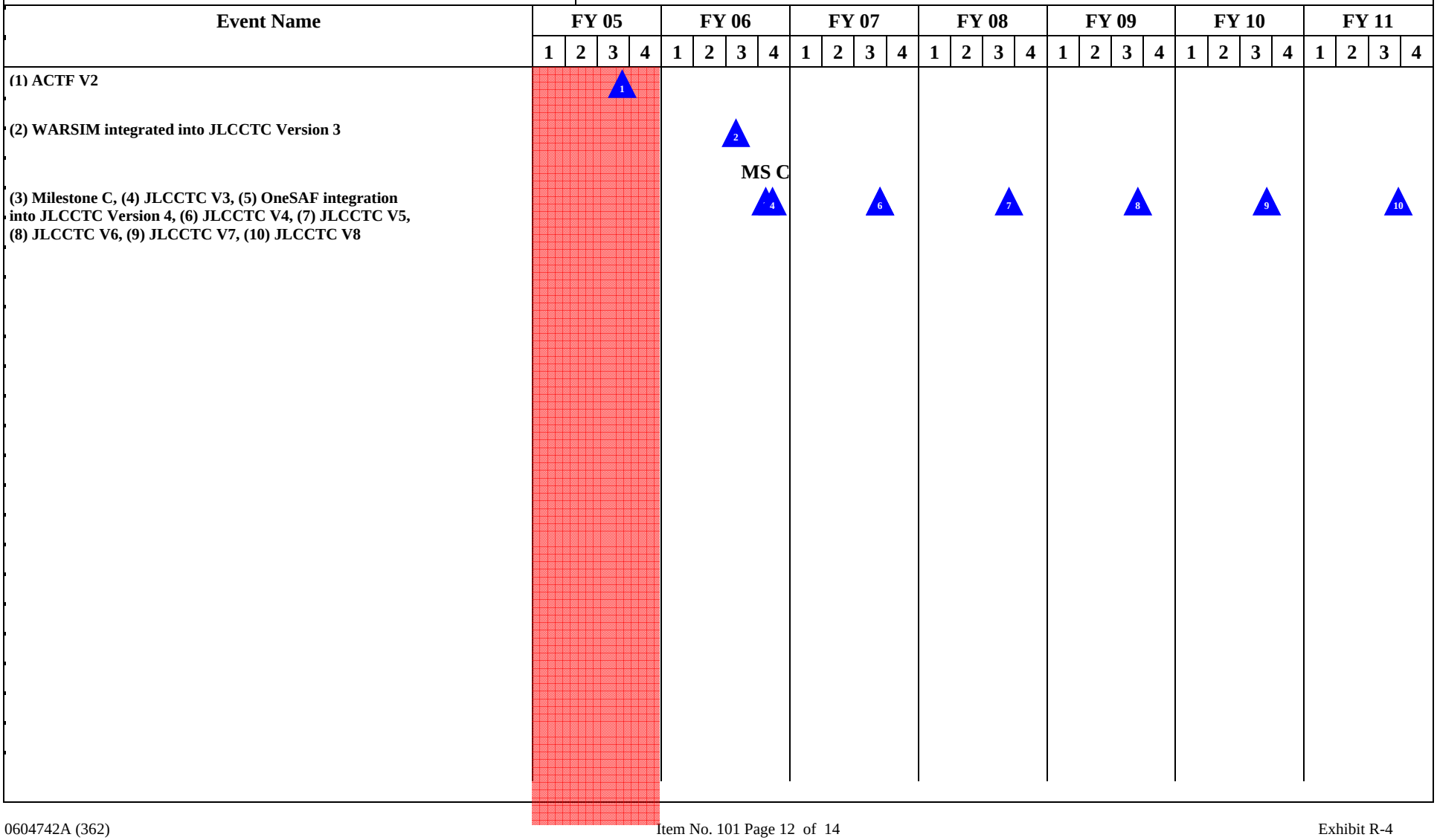

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604742A - CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT

PROJECT
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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Award WARSIM System Development Contract	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q	1-3Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604746A - Automatic Test Equipment Development**

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	9074	2221	8136	4986	11792	12022	12169	Continuing	Continuing
L59	DIAGNOST/EXPERT SYS DE	7988	53	5451	1472	8184	8355	8426	Continuing	Continuing
L65	Test Equipment Development	1086	2168	2685	3514	3608	3667	3743	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program element (PE) provides for development and testing of general-purpose test equipment; advanced technology test and measurement techniques, standards, and systems; and state-of-the-art diagnostics and prognostics technology, software, and systems to support the increasingly complex electronic components of the Army's new and upgraded weapon systems. It focuses on implementation of commercial test and diagnostic technologies across multiple weapon platforms to minimize the cost of troubleshooting and maintenance of Army equipment in the field.

This PE funds development and evolution of general-purpose automatic test and diagnostic equipment and the enhancements required to overcome deficiencies and voids in organic test and diagnostic capabilities and to ensure the operational readiness, accuracy, effectiveness, and safety of Army combat and combat support systems. Modular, reconfigurable automatic and semi-automatic systems are developed under this program to satisfy weapon system test and diagnostics requirements. The Next Generation Automatic Test System (NGATS), also known as the Base Shop Test Facility (BSTF) (V)6, currently under development will provide state-of-the-art test and diagnostic capabilities to support current and future weapon systems. The NGATS will replace several aging automatic test systems which are becoming prohibitively expensive to operate and maintain. This program also provides for continued development and improvement of measurement equipment with emphasis on incorporation of digital electronics and tailoring of configurations to improve deployability, mobility, and survivability of the support equipment and to reduce the logistics burdens associated with maintaining Army combat systems in wartime and contingency operations. Artificial intelligence and anticipatory maintenance applications are being developed to support the integration of self-diagnostic capabilities in Army weapons and support systems. The goal of these efforts is to reduce logistics burdens and improve readiness by minimizing the need for external testers and improving the troubleshooting abilities of soldiers in the field.

The Army's participation in the Agile Rapid Global Combat Support (ARGCS) Advanced Concept Technology Demonstration (ACTD) is being funded under this PE. The ARGCS ACTD is developing a common automatic test systems architecture that will enhance portability of all Services' test program sets and reduce Defense expenditures for test equipment and personnel.

FY07 funding in this program continues to support development in accordance with DoD and Army policy of the Army Standard Next Generation Automatic Test System (NGATS), which will improve deployability and mobility of test and diagnostic equipment and replace automated equipment currently supporting the Abrams and Bradley. It will also develop or significantly modify test equipment to satisfy modular force and homeland security support requirements that cannot be accommodated with test equipment currently available in the commercial marketplace.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604746A - Automatic Test Equipment Development

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	8748	54	7912
Current BES/President's Budget (FY 2007)	9074	2221	8136
Total Adjustments	326	2167	224
Congressional Program Reductions		-10	
Congressional Rescissions		-23	
Congressional Increases		2200	
Reprogrammings	326		
SBIR/STTR Transfer			
Adjustments to Budget Years			224

FY06: Congressional add to support continuation of the Next Generation Automatic Test System (NGATS) development effort.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604746A - Automatic Test Equipment Development**	**L59**

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
L59	DIAGNOST/EXPERT SYS DE	7988	53	5451	1472	8184	8355	8426	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project funds development of and system enhancements for the Next Generation Automatic Test System (NGATS). The NGATS, also known as the Base Shop Test Facility (BSTF) (V)6, is a general-purpose automatic test system that will provide test and diagnostic capabilities required to support current and future weapons and combat support systems and will facilitate retirement of aging and obsolete test equipment that is imposing increasing logistics and operations and support cost burdens. This project provides for continuing efforts to upgrade and improve general-purpose automatic test equipment to satisfy test and diagnostic requirements of the Army's new and upgraded weapon systems; development and adaptation of automatic test equipment required to overcome existing deficiencies and voids in organic test and diagnostic capabilities; development and testing of common procedures utilizing existing test program sets and software applications; and market surveys of commercially available test equipment, methods, and procedures to determine applicability to Army requirements. The test and diagnostic systems and procedures developed under this project are essential for ensuring the operational readiness, accuracy, and effectiveness of the Army's warfighting systems. This project also funds the Army's participation in the Agile Rapid Global Combat Support (ARGCS) Advanced Concept Technology Demonstration (ACTD) which is developing a common automatic test systems architecture that will enhance portability of all Services' test program sets and reduce Defense expenditures for test equipment and personnel.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Develops and tests a rapidly deployable automatic test system.	5399	53	4951
FY05-FY07: Provides technical input and evaluates proposals/specifications for ARGCS ACTD.	500	0	500
FY05: Developed and evaluated new software applications for the IFTE.	2089	0	0
Total	7988	53	5451

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, MB4000, Integrated Family of Test Equipment (IFTE)	74065	21474	47789	75587	93244	81829	75173	CONT	CONT

C. Acquisition Strategy This developmental project consists of cooperative in-house and competitive and sole-source contractual actions. When the necessary expertise and capability are available within the Department of Defense, services required for the individual development projects are ordered from the government source; otherwise commercial contracts are used. Equipment required for developmental projects is obtained by contract from the commercial supplier. Developmental efforts for the Next Generation Automatic Test System (NGATS) are being completed under a sole-source contract awarded to the prime contractor for the Integrated Family of Test Equipment off-

platform testers. NGATS will follow an evolutionary acquisition strategy using spiral development. The NGATS Increment 1 will replace the Direct Support Electrical Systems Test Set (DSESTS). Increments 2 and 3 will replace the BSTF (V) 3 and BSTF (V) 5 systems respectively.

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604746A - Automatic Test Equipment Development

PROJECT
L59

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
Prototype Development	SS/CPFF	Northrop Grumman, Rolling Meadows, IL	9420	2092	2Q	0		1157	2Q	Continue	0	Continue
Hardware Development	Various	Various	45954	1046	1-4Q	0		861	2Q	Continue	Continue	Continue
Software Development - IFTE	Various	Various	2147	2092	2Q	0		861	2Q	Continue	Continue	Continue
Subtotal:			57521	5230		0		2879		Continue	Continue	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
Project Management		Various	41250	2140	1-4Q	53	1-4Q	1398	1-4Q	Continue	0	Continue
Other Direct		Various	888	502	1-4Q	0		446	1-4Q	Continue	Continue	Continue
Subtotal:			42138	2642		53		1844		Continue	Continue	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
Operational Testing	Various	Various	2814	0		0		200	2Q	Continue	Continue	Continue
Developmental Testing	Various	Various	481	116	2Q	0		528	2Q	Continue	Continue	Continue
Subtotal:			3295	116		0		728		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
Subtotal:			0									

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604746A - Automatic Test Equipment Development**	**L59**

Project Total Cost:	**102954**	**7988**		**53**		**5451**		**0**	**0**	**0**

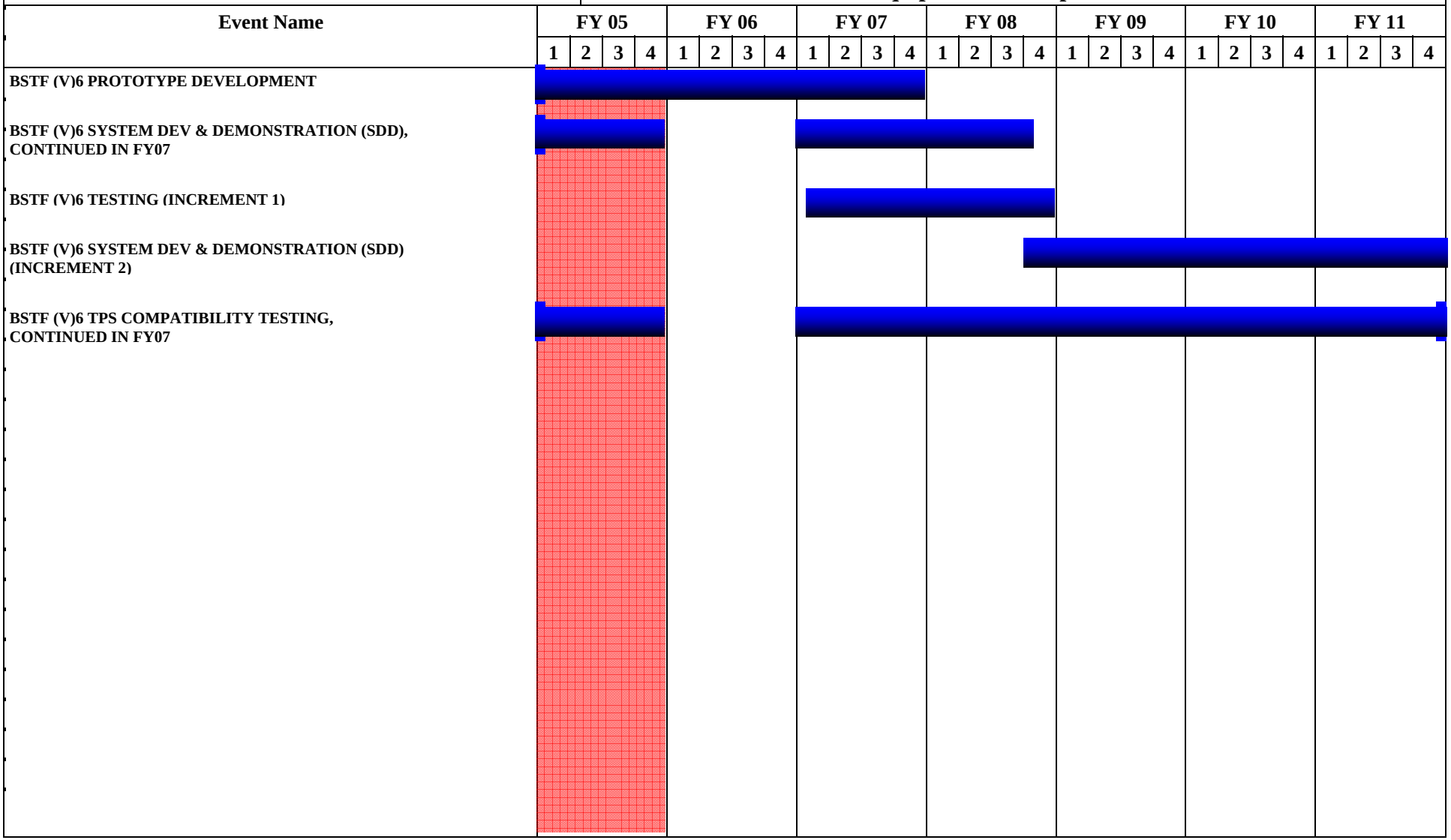
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604746A - Automatic Test Equipment Development

PROJECT
L59



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604746A - Automatic Test Equipment Development

PROJECT
L59

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
BSTF (V)6 PROTOTYPE DEVELOPMENT	1-4Q	1-4Q	1-4Q				
BSTF (V)6 SYSTEM DEV AND DEMO (SDD) (INCREMENT 1)	1-4Q		1-4Q	1-3Q			
BSTF (V)6 TESTING (INCREMENT 1)			1-4Q	1-4Q			
BSTF (V)6 TPS COMPATIBILITY TESTING	1-4Q		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
BSTF (V)6 SYSTEM DEV AND DEMO (SDD) (INCREMENT 2)				4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604746A - Automatic Test Equipment Development**	**L65**

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
L65	Test Equipment Development	1086	2168	2685	3514	3608	3667	3743	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project supports development and demonstration of state-of-the-art general-purpose test, measurement, and diagnostic equipment (TMDE), and it provides for feasibility studies, market research, inventory analyses, bid sample testing, and prototyping to support TMDE acquisitions. Primary efforts under this project include improvement of test and measurement equipment performance envelopes via preplanned product improvements (P3I), development and validation of test procedures, evaluation of commercial and nondevelopmental TMDE with potential to meet weapon system maintenance requirements, and development and evaluation of advanced technology and higher reliability electronic test equipment. Preplanned product improvements are underway to current test and measurement systems to overcome deficiencies and voids in existing organic capabilities and to ensure the operational readiness, accuracy, effectiveness, and safety of Army weapons and combat support systems. These improvements will employ reconfigurable open electronics architecture and computer-based instrumentation wherever feasible and will be focused on reducing test equipment footprints to improve deployability and mobility in the area of operations.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05 & FY07: Develops hardware via preplanned product improvements to enhance TMDE systems' performance capabilities.	236	0	541
FY05 & FY07: Provides test and integration hardware developed for preplanned product improvements.	320	0	733
FY05 - FY07: Develops, evaluates, and integrates test and measurement equipment.	360	2168	986
FY05 & FY07: Continues to develop and evaluate test and calibration procedures.	70	0	195
FY05 & FY07: Performs market research and evaluation of commercial equipment and develops performance specifications for acquisitions.	100	0	230
Total	1086	2168	2685

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, N10000, Calibration Sets Equipment	13250	0	2026	0	0	0	0	0	15276
OPA3, N11000, Test Equipment Modernization	8475	464	11827	19302	22530	22607	19230	CONT	CONT

C. Acquisition Strategy Projects are focused on use of commercial and nondevelopmental item technologies. When programmatic and engineering expertise and capability are available within the Department of Defense, services required for the individual development projects are acquired from the government source; otherwise, commercial services

contracts are used to provide these capabilities. Equipment required for development projects is obtained from the commercial supplier. Candidate commercial equipment and nondevelopmental items are identified and evaluated through market research and government testing and evaluation.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604746A - Automatic Test Equipment Development

PROJECT
L65

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
Systems Engineering	Various	Various	5573	375	1-2Q	1668	2Q	1012	1-2Q	Continue	0	Continue
Procedures Development and Evaluation	Various	Various	1848	70	1-3Q	0		195	1-3Q	Continue	Continue	Continue
Government Engineering		Various	1196	144	1-4Q	0		332	1-4Q	Continue	Continue	Continue
Subtotal:			8617	589		1668		1539		Continue	Continue	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
Technical Support Services	Various	Various	638	100	2Q	500	1-4Q	229	2Q	Continue	0	Continue
Subtotal:			638	100		500		229		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
Testing	Various	Various	802	250	1-2Q	0		579	1-2Q	Continue	Continue	Continue
Subtotal:			802	250		0		579		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
Program Management Personnel		Various	397	147	1-4Q	0		338	1-4Q	Continue	Continue	Continue
Subtotal:			397	147		0		338		Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604746A - Automatic Test Equipment Development**	**L65**

Project Total Cost:	**10454**	**1086**		**2168**		**2685**		**Continue**	**Continue**	**Continue**

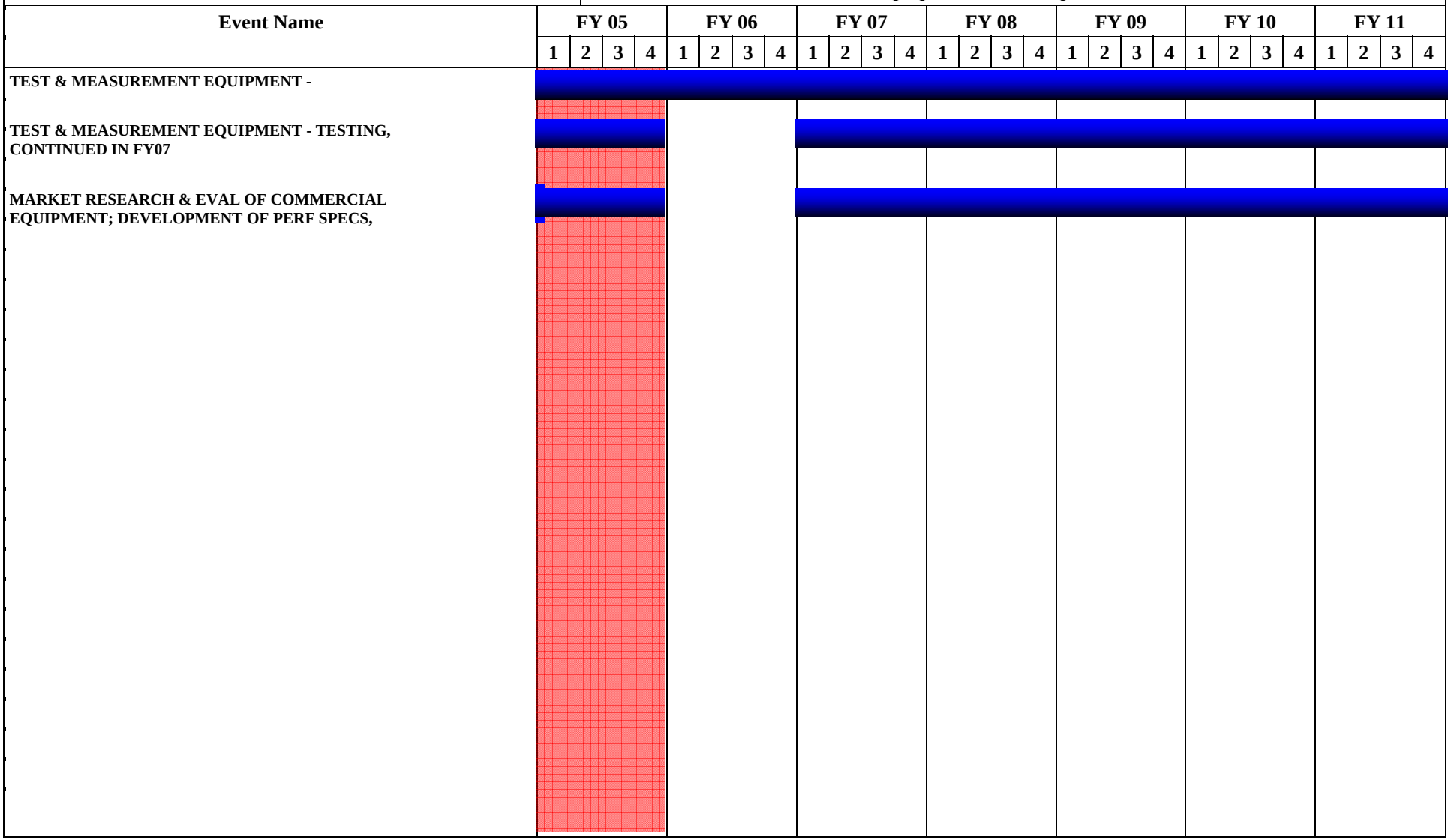
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604746A - Automatic Test Equipment Development

PROJECT
L65



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604746A - Automatic Test Equipment Development

PROJECT
L65

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Test and Measurement Equipment - Development	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Test and Measurement Equipment - Testing	1-4Q		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Market research and evaluation of commercial equipment; development of performance specifications	1-4Q		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

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	26323	29628	19596	19814	20123	14187	14443	Continuing	Continuing
C69	REPRESENTATION OF SPACE CAPABILITIES	77	6900	0	0	0	0	0	0	6977
C73	SYNTHETIC THEATER OF WAR	1474	2159	2003	2417	2346	0	0	0	13486
C74	DEVEL SIMULATION TECH	3132	1842	1706	2943	3965	858	464	Continuing	Continuing
C77	Army Geospatial Data Master Plan	1245	1150	193	0	603	0	504	Continuing	Continuing
C78	One Semi-Automated Forces (OneSAF)	20395	16591	15694	14454	13209	13329	13475	0	143747
C81	Joint Training Integration & Evaluation Center	0	986	0	0	0	0	0	0	986

A. Mission Description and Budget Item Justification: This program element supports the Army's Advanced Simulation Program which enables operational readiness and supports the development of concepts and systems for Stryker and Future Force through the application of new simulation technology and techniques. This development and application of simulation technology will provide the tools to electronically link all subcomponents together in a manner that is transparent to the user. The synthetic environment is used to verify the scenarios, tactics/techniques and procedures, train testers on new hardware/software and conduct trial test runs before costly live field tests. The tools developed are available for reuse by developers and users of simulations throughout the Army. Project C73, Synthetic Theater of War-Army (STOW-A), provides innovative applications of current systems (live, virtual and constructive, Command, Control, Communications, Computers and Integration (C4I) Surveillance and Reconnaissance) to meet the urgent training requirements until availability of the next generation systems. STOW-A provides direct support to the Training, Exercises and Military Operations (TEMO) domain and the Advanced Concepts Requirements (ACR) domain. TEMO support derives from the demonstrated, low cost training capabilities that are provided by the toolkit. ACR support derives from the demonstrated capability of the kit to support battle lab and Army Warfighting Experiments (AWE) exercises and the development of Tactics, Techniques and Procedures (TTP) to support digital operations. Project C74 provides the resources necessary to perform the formally chartered mission of the Army's Simulation to C4ISR Interoperability Overarching Integrated Product Team (SIMCI OIPT). Project C77, Interactive Simulation, focuses on development of advanced simulation technology and tools to provide a reusable synthetic environment. This program will benefit the Army and DOD by providing standards for interoperability and software. The project also develops and enhances reconfigurable simulators which are used as Advanced Concepts Research Tools (ACRT) that will allow the battlelabs to accomplish their mission in support of the ACR, Research, Development and Acquisition (RDA), and TEMO domains. Project C78 develops the One Semi-Automated Forces (OneSAF) program that will combine and improve the functionality and improve behaviors of several current semi-automated forces to provide a single SAF for Army use in simulations.

The FY07, STOW-A, C73 project line will continue the development of the software to link entity-based simulations and simulators to live tactical command and control systems and incorporate live simulations through the instrumented operating systems at the Combat Training Centers (CTCs). The FY07, C74 Project line provides for Simulation-to-C4I interoperability (SIMCI) effort between the models and simulations and tactical C4I Systems. The FY07, C77 project line develops a geospatial process and policy for data management. The FY07, C78 Project funding will continue development of the software to provide OneSAF initial operational capability functionality for Army evaluation and test.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	25477	22057	20945
Current BES/President's Budget (FY 2007)	26323	29628	19596
Total Adjustments	846	7571	-1349
Congressional Program Reductions		-129	
Congressional Rescissions		-300	
Congressional Increases		8000	
Reprogrammings	846		
SBIR/STTR Transfer			
Adjustments to Budget Years			-1345

Change Summary Explanation: FY06 includes Congressional plus ups for Joint Training Integration and Evaluation Center ($1M) and Army Space Modeling and Simulation ($7M).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604760A - Distributive Interactive Simulations (DIS) - Engin**	**C69**

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
C69	REPRESENTATION OF SPACE CAPABILITIES	77	6900	0	0	0	0	0	0	6977

A. Mission Description and Budget Item Justification: Provides Modeling and Simulation (M&S) capabilities to represent an integrated operational space environment for Transformation Experimentation, Future Force design, and Army Service Component Command (ASCC) mission area responsibilities. The Army lacks space representations in its current M&S suite and capabilities for analysis and training are limited. Current tools cannot address space-based Intelligence Surveillance and Reconnaissance (ISR), communications, early warning, blue force tracking, information operations, and weather forecasting. This shortfall in M&S prevents space-based capabilities from being fully integrated into evaluations of Future Force doctrine, concepts, requirements, and training. Additionally the current force is limited in developing concepts and conducting mission assessments.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY06: Planned activities include initiation of the first phases of the Space Focused Area Collaborative Team (FACT) "roadmap/action plan." Planned activities include integrating the space operating system into a synthetic environment, ISR in OneSAF, communication improvements,as well as developing M&S to begin integrating an operational space environment for experimentation.	77	6900	0
Total	77	6900	0

C. Acquisition Strategy A competitive contract award will be executed by the U.S. Army Space and Missile Defense Battle Lab.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C69

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
Space Experimentation	SyColeman	Huntsville, AL	0	77	2Q	0		0		0	77	0
ASCC Space M&S Execution	TBD/Various	Various, AL, FL, CA, KA, NM, Co	0	0		5950	2-3Q	0		Continue	Continue	Continue
Subtotal:			0	77		5950		0		Continue	Continue	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
Subtotal:			0									

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			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
Program Management	Various	Huntsville, AL	0	0	2-3Q	950		0		0	0	0
Subtotal:			0	0		950		0		0	0	0
Project Total Cost:			**0**	**77**		**6900**		**0**		**0**	**77**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C69

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
M&S to represent space environment																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C69

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
M&S to represent the space environment for training the Current Force and evaluating doctrine concep	1-4Q	1-4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604760A - Distributive Interactive Simulations (DIS) - Engin**	**C73**

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
C73	SYNTHETIC THEATER OF WAR	1474	2159	2003	2417	2346	0	0	0	13486

A. Mission Description and Budget Item Justification: This program supports development and integration activities for the Synthetic Theater Of War-Army (STOW-A) Digital Sustainment Training (DST) software baseline that includes integration of fielded simulations and simulators with C4ISR systems. The development and integration to be accomplished will result in the capability to provide a seamless synthetic environment which will support digital training, test and mission rehearsal requirements. Specific efforts will include integration of a ground maneuver simulation into the Fire Support Simulation Tools (FSST) architecture and enhancement of the extant intelligence capability of FSST. Additionally, better representation and fidelity of other battlefield operating systems functionality will be gained. Development focuses on leveraging existing and emerging technology in a manner that produces substantial and continual improvements in combat readiness through the use of full spectrum, high fidelity, distributed simulation capability to support a large scale user-based exercise/experiment for JOINT VENTURE training and analytical needs. The Digital Battlefield Sustainment Trainer (DBST) program is a strategic agility program designed to meet the Operational Needs and other critical initiatives from the field. It will do this through the application of available current and emerging technologies. This project develops innovative applications of current systems (live, virtual, constructive, C4ISR) to meet urgent needs across the domains (e.g., training shortfalls) until the next-generation systems are available. FY07 funding will continue development of software and hardware interfaces to provide the required digital training capability to the field, helping to overcome unique digital training challenges that currently exist in the U.S. Army at the brigade level. DBST is part of the Joint Land Component Constructive Training Capability - Entity Resolution Federation (JLCCTC-ERF).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07 Accomplishments: Software Blocking, integration and testing of ACTF-ERF with ABCS 6.4. Develop a PC based interface platform to Army Battle Command Systems (ABCS) providing joint functionality. Complete System Security Accreditation Authorization(SSAA) for version VIII Army Constructive Training Federation-Entity Resolution Federation (ACTF-ERF) providing the required security solution for all Distributed Interactive Simulation (DIS) models.	336	1532	1257
FY05-FY07: Continues development of integration software to link simulation with tactical command and control systems in support of Constructive Simulation. (Software Blocking)	280	206	616
FY05-FY07: Initiates development of software to support Joint Venture and Joint Contingency Force Simulation - Simulation Integration.	140	421	130
FY05: Continue verification and validation of software integration to include DOD Information Technology Security Certification and Accreditation Process (DITSCAP).	718	0	0
Total	1474	2159	2003

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OMA, 121014	2975	0	2901	3048	3223	0	0	0	15036

C. Acquisition Strategy Development is accomplished through delivery orders to competitively selected contractors based on performance specifications via PEO STRI Ominbus Contract (STOC).

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C73

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
Enhanced Tactical Simulation Interface Unit(ETSIU)/Enhanced Protocol Interface Unit(EPIU) Interface	C/CPFF	AEGIS, Orlando, FL	3173	306	1-2Q	1031	1-2Q	1257	1-2Q	Continue	Continue	Continue
STOW-A/DBST Software Development	Various	Multiple	6925	246	1-2Q	150		0		0	7321	7321
Architecture Development	C/CPIF	Multiple	939	277	1-2Q	351		0		0	1567	1567
Subtotal:			11037	829		1532		1257		Continue	Continue	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
Engr & Technical Support	Various	Multiple	2165	29	1Q	206	1-4Q	616	1-4Q	Continue	Continue	Continue
Subtotal:			2165	29		206		616		Continue	Continue	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
DBST Integration, Evaluation and Test	C/CPFF	Multiple	1769	545	1-3Q	0		0		0	2314	2314
Subtotal:			1769	545		0		0		0	2314	2314

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
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C73

Program Management	Various	Multiple	3450	71	1-4Q	421	1-4Q	130	1-4Q	Continue	Continue	Continue
Subtotal:			3450	71		421		130		Continue	Continue	Continue
Project Total Cost:			**18421**	**1474**		**2159**		**2003**		**Continue**	**Continue**	**Continue**

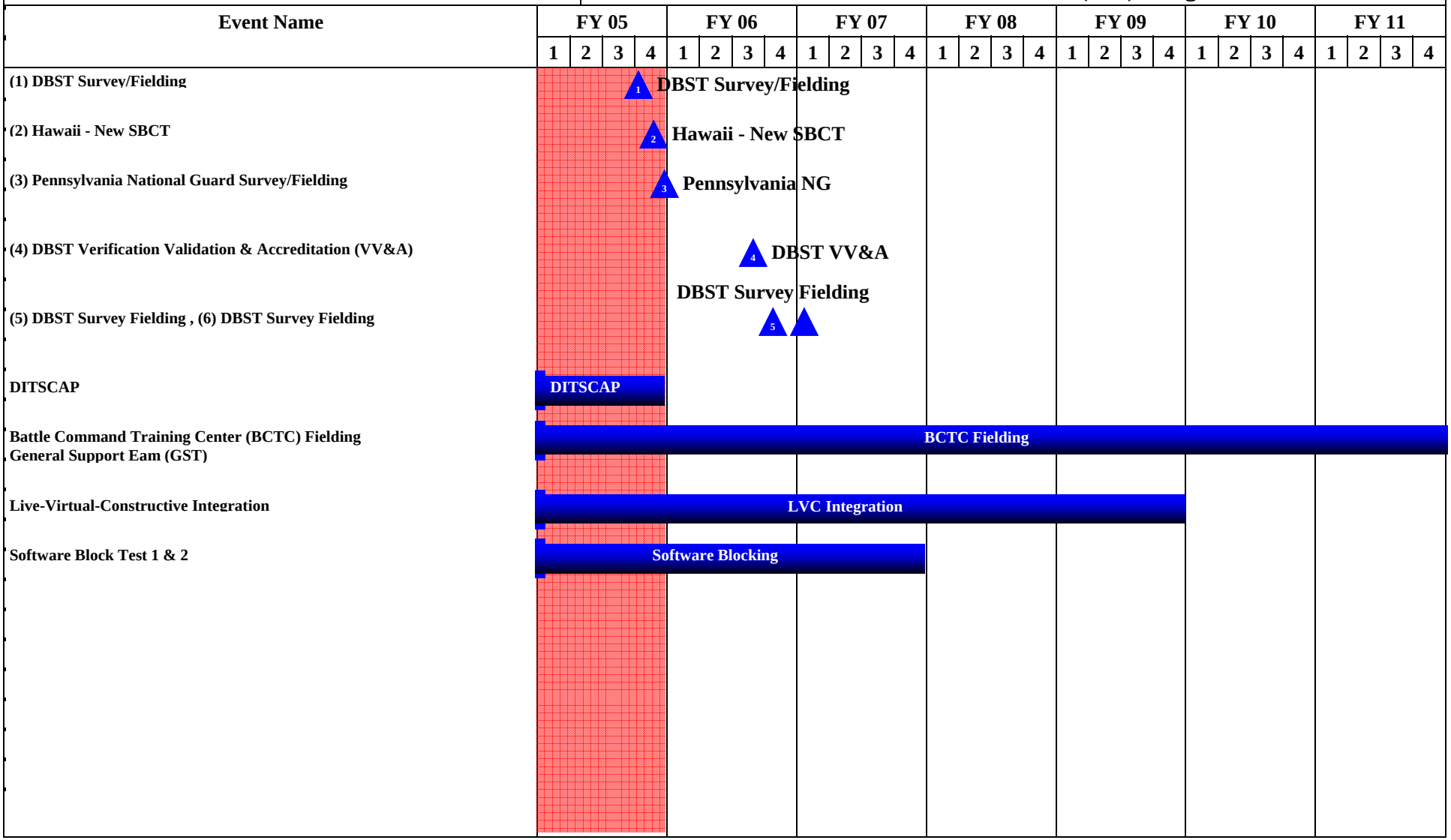
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C73



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C73

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Award Engineering & Technical Support	1-2Q	1-2Q	1-2Q	1-2Q	1-2Q		
Annual SW Version Release	3Q	3Q	3Q	3Q	3Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604760A - Distributive Interactive Simulations (DIS) - Engin**	**C74**

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
C74	DEVEL SIMULATION TECH	3132	1842	1706	2943	3965	858	464	Continuing	Continuing

A. Mission Description and Budget Item Justification: The FY07 funding in this project line supports the HQDA-chartered mission of the Simulation to Command and Control (C2), Communications, Computers, Intelligence (C4I) Interoperability (SIMCI) Overarching Integrated Product Team (IPT). This effort provides recommendations to Senior Army Leadership on strategies, methods, and changes in Army Policy, resulting in improved interoperability among Models and Simulations (M&S), Army Battle Command Systems (ABCS), and Weapon Systems. The PEO STRI-led SIMCI OIPT uses collaborative process among its approximately 30 Army organizations (including HQDA staff, combat developers and material developers) to identify key interoperability shortfalls and material solutions to them. SIMCI investments are comprised primarily of cost sharing opportunities, leveraging partial solutions in programs of record to enhance the interoperability of multiple systems in the joint operational environment. Key programs that will benefit from the cross-domain vision and practices of SIMCI include ABCS, Future Combat System (FCS), Live/Virtual/Constructive Integrate Architecture (LVC-IA), Software Blocking (SWB), Objective Initialization Capability (OIC), Joint Forces Command's Joint National Training Capability (JNTC), Joint Land Component Constructive Training Capability (JLCCTC) and the new Joint Command and Control (JC2) capability.

SIMCI investment will accelerate the implementation, within ABCS and M&S systems, of a common C2 Information Exchange Data Model (C2IEDM) that is used by other Services and Coalition nations, thus enhancing the inherent ability of Army systems to seamlessly interoperate within Joint, Interagency, and Multinational (JIM) operations. The SIMCI-sponsored Army C4I and Simulation Initialization System (ACSIS) capability will be expanded to address key training and operational data initialization gaps, providing timely, flexible, and common data updates to BC and M&S systems, thus reducing data latency and inter-system ambiguity. SIMCI's direct involvement with FCS will increase the visibility of that program's needs and capabilities, providing the various OIPT agencies with opportunity to leverage their systems fundamental capabilities to meet the needs of FCS, and vice versa. SIMCI investments will cement those relationships through co-development of common use products.

The Digital Integration Laboratory (DIL) provides a centrally controlled laboratory to conduct program development, integration and the mandated Intra-Army Interoperability Certification (IAIC) activities in support of PEO STRI products. The DIL has been declared by the Director, Central Test Support Facility (CTSF), an official extension of CTSF for performing IAIC testing. FY07 funding will ensure that DIL software, hardware, and operator capabilities remain synchronized with CTSF capabilities, providing a certified facility for PEO STRI programs, and others', to develop and test their products in accordance with HQDA CIO/G6-approved versions of Army Battle Command System (ABCS) versions being fielded to operational Army units.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Continues management of the SIMCI efforts in support of the SIMCI OIPT's collaborative, Army-wide interoperability enhancement activities, including architecture alignment, data model alignment, common standards and products. Objectives are: Identify and articulate to HQDA Senior Leadership specific standards that require Army-wide implementation (such as C2IEDM in 2005); co-develop data standards, architecture standards, implementation specifications and joint initializations / scenario generation products; co-develop common C2IEDM integration/translation capability for BC/M&S applications; co-develop BC/M&S products to meet the first FCS Spin Out in FY08. Continue transition of SIMCI knowledge and proof-of-principle products to Army and Joint Programs of Record. Manage and sustain the PEO STRI DIL as an extension of the CTSF and the single point access for PEO STRI products to current	3132	1842	1706

versions of ABCS.			
Total	3132	1842	1706

C. Acquisition Strategy SIMCI OIPT resources are allocated to multiple organizations and contracts to procure and execute approved functions and projects to support the SIMCI and components-based architecture alignment efforts.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C74

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
C4I Interoperability - Tng in the System of Systems Architecture (TSOSA)	C/CPAF	MITRE, CECOM, Ft Monmouth, NJ	230	0		0		0		0	230	230
C2 Information Exchange Data Model (C2IEDM) Data Translator	T&M	COLSA Corporation, Huntsville, AL	531	373	1-3Q	93	1-3Q	43	1-3Q	Continue	Continue	Continue
C4I Interoperability - SIMCI Battle Management Language (BML)	C/CPAF	Northrop Grumman Information Technology, McLean, VA	0	118	1-4Q	0		0		0	118	118
Enhanced Army C4I & Simulation Initialization System (ACSIS) for Objective Initialization Capability	T&M	COLSA Corporation, Huntsville, AL	0	0		36	2-3Q	82	2-3Q	Continue	Continue	Continue
Common C4I Adapter Integration/Configuration Mgmt Tool Implementation	In-House	PEO STRI, Orlando, FL	0	0		232	1-4Q	232	1-4Q	Continue	0	Continue
Subtotal:			761	491		361		357		Continue	Continue	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
Facility Support for Digital Integration Lab (DIL)	In-House	PEO STRI (formerly STRICOM), Orlando, FL	60	350	1-3Q	245	1-4Q	245	1-4Q	Continue	Continue	Continue
HQDA/G3 Project Support	T&M	Alion Science & Technology	0	0		97	1-4Q	87	1-3Q	Continue	Continue	Continue
MATRIX/Support Service Contractor support	In-House	PEO STRI, Orlando, FL	0	0		92	1-4Q	86	1-4Q	Continue	Continue	Continue
DIL Software Development Support	T&M	COLSA Corporation, Huntsville, AL	0	0		141	2-3Q	92	2-3Q	Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C74

Technical Exchange/Value Methodology Workshop	T&M	Lambert Consulting Group, Dublin, OH	0	0		33	2-3Q	33	2-3Q	Continue	Continue	Continue
Subtotal:			60	350		608		543		Continue	Continue	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
Software Certification Testing	T&M		0	0		280	1-4Q	186	1-4Q	Continue	0	Continue
Subtotal:			0	0		280		186		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
Program Management	Multiple	Various	5060	2291	1-4Q	593	1-4Q	620	1-4Q	Continue	Continue	Continue
Subtotal:			5060	2291		593		620		Continue	Continue	Continue

Remarks: FY 05 Reprogramming action to higher Army requirements - $1.809.
FY 05 supports higher Army requirements - $2.823.

Project Total Cost:	**5881**	**3132**		**1842**		**1706**		**Continue**	**Continue**	**Continue**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C74

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Deliverable (Reusable Common Components)																												
Deliverable - SIMCI OIPT Process																												
Deliverable - SIMCI Data Representation Tasks																												
Deliverable - SIMCI Standardization Tasks																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C74

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Integration of Training into Army Enterprise and Joint C4I Architectures	1Q				4Q		
C2 Information Exchange Data Model (C2IEDM) Data Translation		1Q	4Q				
C2 Information Exchange Data Model (C2IEDM) Implementation				3Q			
Enhanced Army C4I and Simulation Initialization System (ACSIS) for Obj. Initial. Capability		3Q	4Q				
Common Scenario Generation Tool (CSGT)				4Q			
Representation of Communication Effects (CE) for Experimentation, Training and Operations	1Q					4Q	
Transition of Common Components/Services to Applications	1Q						3Q
Configuration Management Tool Implementation					2Q		
Standardize Battle Management Language					4Q		
Joint Command and Control Integration							4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604760A - Distributive Interactive Simulations (DIS) - Engin**	**C77**

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
C77	Army Geospatial Data Master Plan	1245	1150	193	0	603	0	504	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project supports the development and maintenance of the Army Geospatial Data Integrated Master Plan (AGDIMP) approved by the Chief of Staff, Army in April 2005. This document provides the framework for future decisions and direction to generate, manage, analyze, and distribute geospatial data for battle management operations, training, and mission rehearsal. The AGDIMP also provides the processes and procedures to identify and refine Army geospatial resource requirements. Geospatial Information and Services provide the basis for situational awareness on the battlefield, actionable intelligence, and the common operational picture. Geospatial data provides Soldiers with the framework and background for displaying the location of friendly and enemy forces, and the location of critical features on the battlefield. Geospatial data, used in Army command and control systems, course of action analysis and mission rehearsal tools, simulators, and simulations provides insights on how the physical environment will impact combat operations. The Army's Future Force will include unmanned aerial and ground vehicles that require a greater degree of resolution in both terrain and enhanced feature data to navigate and move on the battlefield. This will minimize exposure of Soldiers to hostile environments and enemy forces. The Army will depend on a common set of geospatial data that is continually upgraded and made available through a network-centric enterprise of information that is accessible to all involved. The purpose of the AGDIMP is twofold. First, this plan describes a concept of operations for a complete, integrated, network-centric enterprise for collecting, managing, distributing, and updating geospatial data in the Army's Future Force. Although this plan encompasses most of the issues of an enterprise solution for geospatial needs and concerns, it does not contain the total level of detail or complexity to be considered complete. It does, however, contain a foundation of issues necessary to develop a concept of operations for a complete, integrated, enterprise, network-centric process for collecting, managing, distributing, and updating geospatial data. Second, this plan identifies activities and funding needed to execute the basic concept of operations described in the AGDIMP. The scope of the AGDIMP includes all activities starting with data acquisition from multiple sources, to include raw sensor feeds from national sensors to soldier/platform level, and culminating with accurate, robust, and timely geospatial (terrain-related) data and data management, integration, and conversion tools that support multiple battle command, training, and mission-rehearsal applications. The AGDIMP does not include the algorithms and functions used by the applications themselves to produce finished battle command or intelligence products. The AGDIMP will become part of a much larger effort to integrate geospatial activities across all Services, while documenting the complex framework for a "net ready" geospatial information and services architecture, an environment in which the Army's current and future forces must operate to achieve information dominance within the total battle space. This larger effort is currently being developed in conjunction with the Joint Forces Command and the other Services, including Special Operations Command.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05: Supported the development of the Dynamic Readdressing and Management for Army (DRAMA) 2010.	1245	0	0
FY06: Develops and integrates, an enterprise, geospatial process that can be used for network-centric operations. The network-centric, integrated geospatial process must include a process to identify requirements for new geospatial data, assemble the components of needed data, archive the data in a distributed network of storage facilities (or warehouses), and ensure the data are available to all authorized users.	0	507	0
FY06: Develops policy, procedures, and standards for geospatial data management, including fusion/integration (e.g., fusion and conflation), transformation, filtering, and dissemination of data across all echelons of command. This includes the timely distribution of appropriate data from the Top Secret network - the Joint Worldwide Intelligence Communications System, as well as the SIPRNET and	0	643	0

NIPRNET.			
FY07: Develops common, analytical, geospatial services among the Battle Command (BC), topographic engineering, and training elements. Establish an Army geospatial data dictionary. Establish an Army geospatial data model. Develop common analytical, geospatial services between BC and M&S. Define the requirements for metadata standards to determine the fitness of use (FoU) of existing and planned services and applications as a function of varying quality geospatial data. Provide the FoU data to the user as part of the analysis product metadata. Establish a distributed, Army Geospatial Enterprise Testbed to support the experimentation; evaluation; and verification, validation, and accreditation (VV&A) of geospatial services and applications., by supporting continued development of the Joint Geospatial Enterprise Service - Science and Technology program (J-GES (S&T)	0	0	193
Total	1245	1150	193

C. Acquisition Strategy The Army's G-2 and G-3/5/7 will establish authority, for research development, test, and evaluation (RDT&E) including Operation and maintenance policies and requirements for Army geospatial data enhancements and/or augmentation and associated geospatial data warehouse(s), facilities, nodes, and staffing. Resources will be allocated to multiple organizations and contracts to obtain and execute approval functions and projects to support the AGDIMP.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C77

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
Dynamic Readdressing and Management for Army (DRAMA) 2010	C/CPAF	Various	0	1245	2Q	0		0		0	1245	1245
Army Geospatial Data Integrated Master Plan (AGDIMP)	C/CPAF	Various	0	0		843	2Q	0		0	843	843
Subtotal:			0	1245		843		0		0	2088	2088

Remarks: Dynamic Readdressing and Management Army (DRAMA) 2010 is a Congressional Add project in FY 2005.

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			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
Army Geospatial Data Integrated Master Plan (AGDIMP)	C/CPAF	Various	0	0		307	2Q	193	2Q	Continue	Continue	Continue
Subtotal:			0	0		307		193		Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604760A - Distributive Interactive Simulations (DIS) - Engin**	**C77**

Project Total Cost:	**0**	**1245**		**1150**		**193**		**Continue**	**Continue**	**Continue**

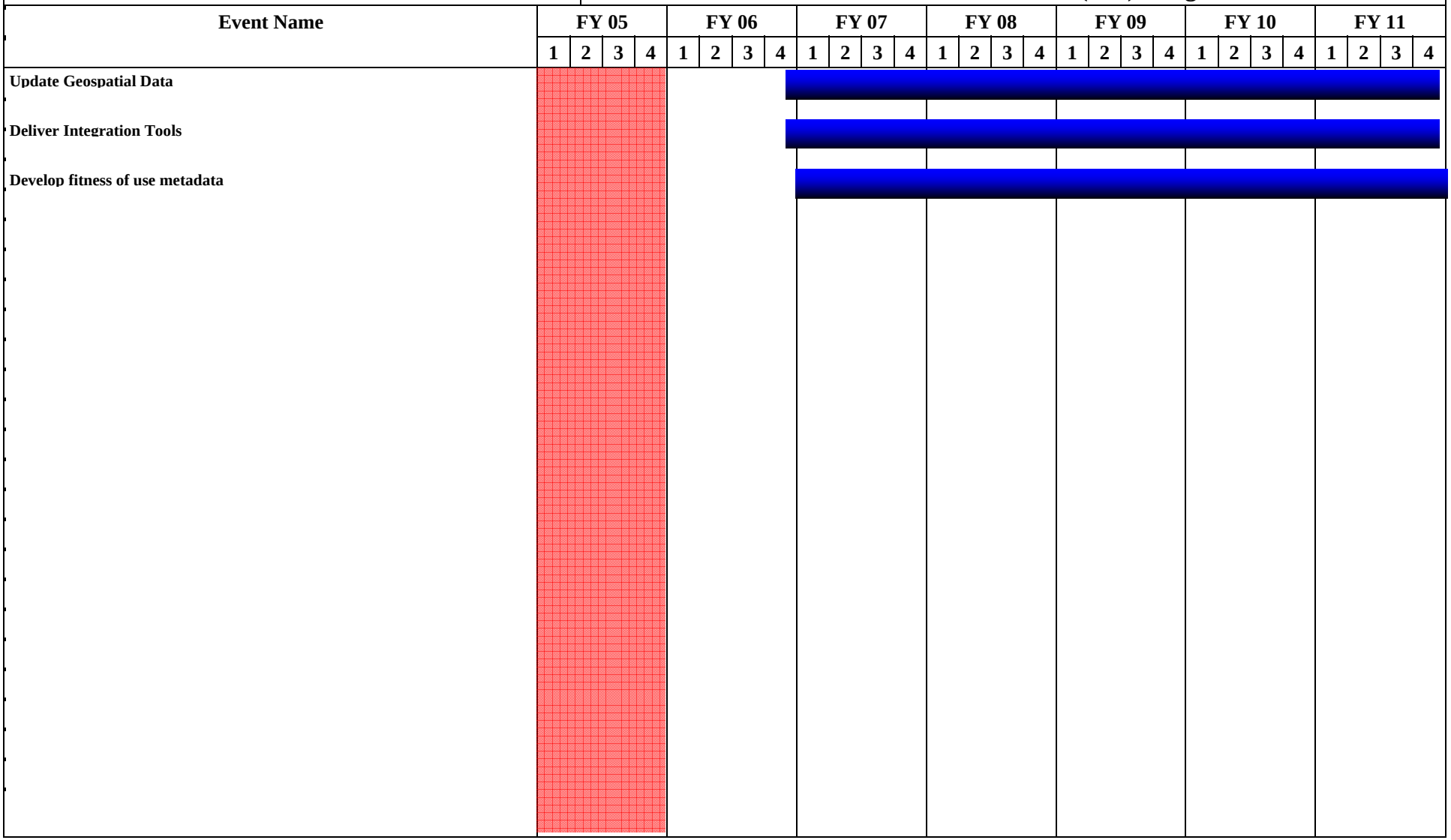
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C77



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C77

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Plan for a Joint, Integrated, Network Centric End-toEnd Geospatial System		2-4Q			1-4Q		1-4Q
Collect and Update Geospatial Data		2-4Q			1-4Q		1-4Q
Catalog, Assess, Develop, and Disseminate Current Geospatial Data Integration Tools		2-4Q			1-4Q		1-4Q
Verify, Manage, and Distribute Geospatial Data		2-4Q			1-4Q		1-4Q
Develop and exploit fitness of use metadata			1Q		1-4Q		1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604760A - Distributive Interactive Simulations (DIS) - Engin**	**C78**

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
C78	One Semi-Automated Forces (OneSAF)	20395	16591	15694	14454	13209	13329	13475	0	143747

A. Mission Description and Budget Item Justification: This project develops and delivers software systems to realistically represent activities of units and forces in simulation. This representation is used to support the concept evaluation, experimentation, materiel acquisition and training communities. Initiatives include the systems engineering and design for development and evolution of the architecture and software tools for a universal Army computer generated forces system, One Semi-Automated Forces (OneSAF). OneSAF is a next generation higher fidelity Brigade and below SAF that will represent a full range of operations, systems and control processes in support of stand alone and embedded training and research, development and acquisition simulation applications. OneSAF will be fully interoperable with the Army's emerging virtual, live, and division and above constructive simulations and will provide next generation simulation products. OneSAF will replace a variety of simulations currently used within the Army to support analytic and training simulation activities. This project is a component of the Army Constructive Training Federation (ACTF).

The FY07 program will continue the development of the software required to provide OneSAF final operational capability for Army evaluation and test.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Continues development of functionality to provide architectural services, components, synthetic environment and infrastructure capable of supporting initial model development.	5302	5527	3923
FY05-FY06: Continues to develop life cycle applications and infrastructure enhancements for OneSAF Full Operational Capability Version 1.0.	962	500	0
FY05-FY07: Continues to develop functionality to represent behaviors, physical models, and communication models for OneSAF.	10945	6564	6786
FY05-FY07: Continues verification & Validation of newly developed and integrated software.	1256	2000	2485
FY05: Completed Commander's Rock Drill	1930	0	0
FY06-FY07: Initiates New Equipment Training Team	0	2000	2500
Total	20395	16591	15694

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OMA, 121014	2007	5616	5450	6146	5892	5718	5860	CONT	CONT

Comment: OMA funding provides for OneSAF life cycle software maintenance of existing software.

C. Acquisition Strategy Development based on performance specifications via multiple Task Orders on competitively selected contracts.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C78

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
Architecture Dev & System Integration	CPFF	Science Applications International Corp, Orlando, FL	29086	8409	1-2Q	3370	1-2Q	3383	1-2Q	Continue	Continue	Continue
Integrated Environment Dev	CPFF	Advanced Systems Technology, Inc., Orlando FL	4911	1176	1-2Q	1365	1-2Q	1500	1-2Q	Continue	Continue	Continue
Synthetic Environment Dev	CPFF	Science Applications International Corp, Orlando, FL	4017	1218	1-2Q	830	1-2Q	525	1-2Q	Continue	Continue	Continue
Knowledge Acquisition/Knowledge Engineering	CPFF	Aegis Technologies Group, Huntsville, AL	3819	1015	1-2Q	328	1-2Q	500	1-2Q	Continue	Continue	Continue
OneSAF System Development	CPFF	Various	5385	1634	1-2Q	1463	1-2Q	416	1-2Q	Continue	Continue	Continue
Model Development	CPFF	Acusoft/Various	11365	2147	1-2Q	1510	1-2Q	2000	1-2Q	Continue	Continue	Continue
NETT	CPFF	To be determined	0	0		2000	2-3Q	2500	1-2Q	Continue	Continue	Continue
Commander's Rock Drill			0	1930		0		0		1930	1930	1930
Subtotal:			58583	17529		10866		10824		Continue	Continue	Continue

Remarks: Each contract award is a Delivery Order on a competitively selected contract.

Each Delivery Order will be recompeted in FY06 to award for post-Full Operational Capability (FOC) activities.

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
System Analysis	Various	Multiple	2777	250	1-2Q	600	1-2Q	600	1-2Q	Continue	Continue	Continue
Domain Analysis	Various	Multiple	2587	250	1-2Q	600	1-2Q	600	1-2Q	Continue	Continue	Continue
Architecture Engr & Tech Spt	C/CPFF	MITRE FFRDC	1676	200	1-2Q	260	1-2Q	270	1-2Q	Continue	Continue	Continue
Subtotal:			7040	700		1460		1470		Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C78

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
OneSAF integration, evaluation and test	C/CPAF	Ft Rucker, AL/Multiple	1050	604	1-3Q	1300	1-3Q	1000	1-3Q	Continue	Continue	Continue
OneSAF Verification, Validation & Accreditation	Various	Ft. Rucker, AL/Multiple	1418	557	1-3Q	1500	1-3Q	1000	1-3Q	Continue	Continue	Continue
Subtotal:			2468	1161		2800		2000		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
Program management	Various	Multiple	4875	1005	1-4Q	1465	1-4Q	1400	1-4Q	Continue	Continue	Continue
Subtotal:			4875	1005		1465		1400		Continue	Continue	Continue
Project Total Cost:			**72966**	**20395**		**16591**		**15694**		**Continue**	**Continue**	**Continue**

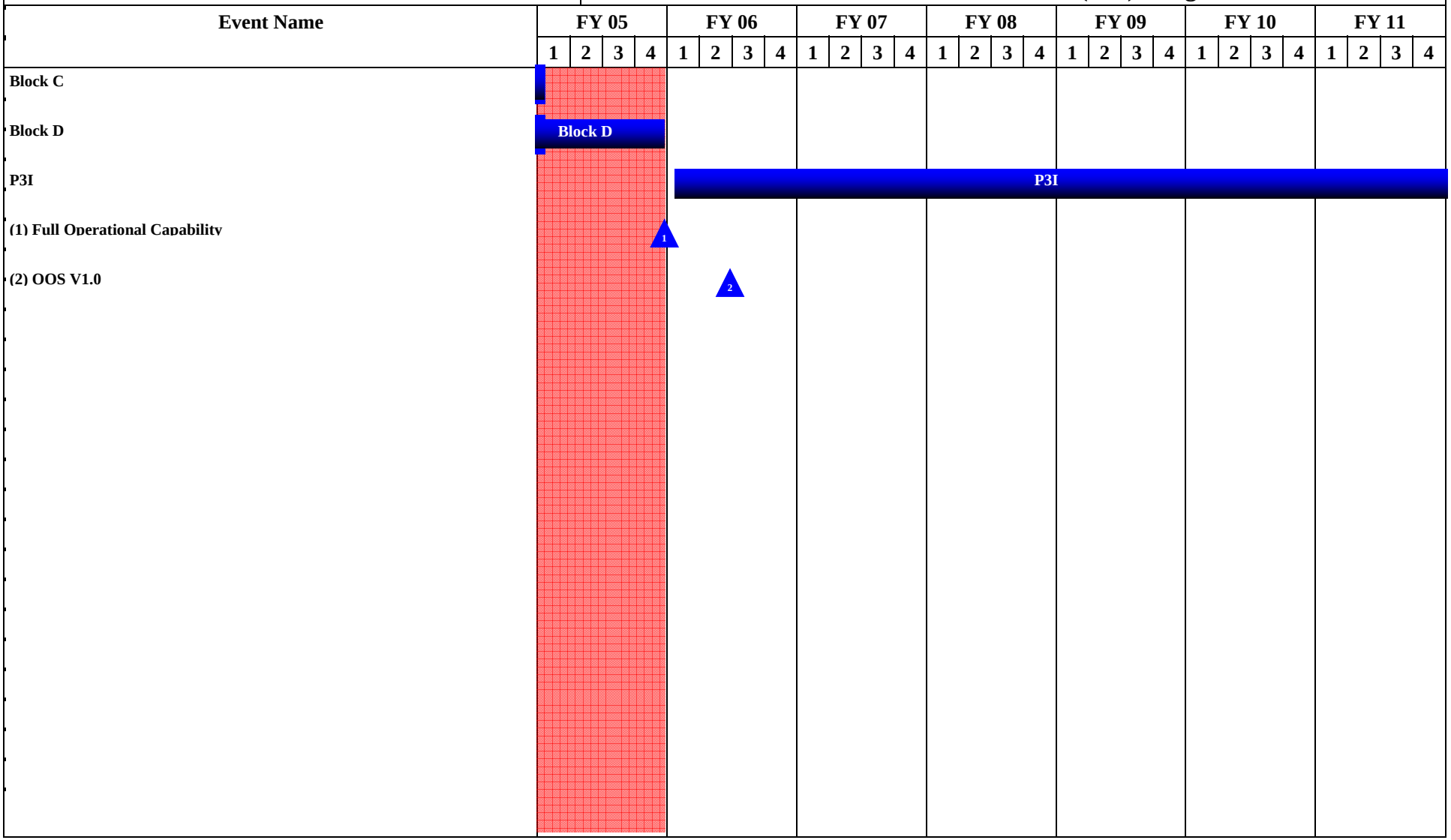
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C78



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C78

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Award OneSAF Development Task Orders for individual components to meet block requirement	1Q	1Q	1Q	1Q	1Q	1Q	1Q
Block C	1Q						
Block D	4Q						
OneSAF FOC (Version 1.0)		1Q					
OOS V1.0		2-3Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604760A - Distributive Interactive Simulations (DIS) - Engin**	**C81**

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
C81	Joint Training Integration & Evaluation Center	0	986	0	0	0	0	0	0	986

A. Mission Description and Budget Item Justification: The Joint Training Integration and Evaluation Center (JTIEC) supports and actively participates with the Joint Forces Command (JFCOM), Joint Warfighting Center (JWFC), Joint National Training Capability (JNTC), and Joint Management Office (JMO) in a combined effort to advance Joint Training. The mission of the JTIEC is aligned with the Joint Advanced Training Technology Lab (JATTL) and the Joint Development Integration Facility (JDIF) missions. The JTIEC was established to promote collaboration in the research, development, integration, interoperability, demonstration, evaluation, and verification & validation training technologies and products. The JTIEC serves as an integration and evaluation environment for training systems and tools. It will serve as a common resource for evaluation of training technologies and products to address military and civilian training, education, and performance requirements. Working with the JFCOM JWFC JNTC JMO, the Center supports and collaborates on the research, development, demonstration, evaluation and interoperability of training tools, live-virtual-constructive simulations, federations, architectures, databases and performance measurement systems on projects of relevance to participating organizations, individual services and in support of Joint research & development, training exercises, mission rehearsal and experimentation. The JTIEC provides verification, validation, accreditation and certification capabilities and will be an integrated virtual battlespace environment that provides connection to the JNTC as a persistent host site for Joint training exercises and experimentation. In this capacity, the Center will include capabilities such as joint training performance & effectiveness evaluations, site planning and setup, configuration control, and communications planning and setup. The JTIEC will connect to the JATTL and provide a technology integration environment and infrastructure for service research and development efforts while providing a connection to a joint environment and exercises. Infrastructure upgrades will enable each service to conduct research and development efforts and provide a connection to the joint environment and exercises as part of the Joint Training and Experimentation Network (JTEN).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Provides verification, validation, accreditation and certification capabilities and an integrated virtual battlespace environment that provides connection to the JNTC for Joint training exercises and experimentation.	0	986	0
Total	0	986	0

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604760A - Distributive Interactive Simulations (DIS) - Engin

PROJECT
C81

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
Integrated Product Environment	Corps of Engineers Contract	Orlando, FL	0	0		550	2-3Q	0		0	0	0
Subtotal:			0	0		550		0		0	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
Product Coordination	SETA/TBD	Orlando, FL	0	0		100	2-3Q	0		0	100	0
Subtotal:			0	0		100		0		0	100	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
Integration Evaluation/Test	Various/TBD	Orlando, FL	0	0		186	2-3Q	0		0	186	0
Subtotal:			0	0		186		0		0	186	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
Program Management	PEO STRI	Orlando, FL	0	0		150	2Q	0		0	150	0
Subtotal:			0	0		150		0		0	150	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604760A - Distributive Interactive Simulations (DIS) - Engin**	**C81**

Project Total Cost:	**0**	**0**		**986**		**0**		**0**	**436**	**0**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604766A - Tactical Exploitation System/DCGS (TIARA)**	**957**

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
957	TACTICAL EXPLOITATION SYSTEM (TES)/DCGS-A (TIARA)	21496	0	0	0	0	0	0	0	102064

A. Mission Description and Budget Item Justification: This project supports the engineering development/enhancement of the Tactical Exploitation System (TES), Division TES (DTES), and the related Distributed Common Ground System - Army (DCGS-A) capability. TES brings a common inter-service, multi-discipline ISR capability together for the first time, enabling theater commanders to better use assigned ISR assets in support of operations. TES interfaces with numerous satellite and aircraft tactical sensors and processors to exploit their data, imagery, and information. TES provides commanders with maximum flexibility to satisfy intelligence needs under a wide range of operational scenarios. TES operators can perform multiple imagery intelligence (IMINT), signals intelligence (SIGINT), cross-intelligence, or dissemination functions from any workstation. TES provides extensive communication capabilities, including UHF, S, X, C and Ku radio frequency band communications. TES interfaces with and serves as a preprocessor for the All Source Analysis (ASAS), Common Ground Station (CGS), and the Digital Topographical Support System (DTSS). TES incorporates the standards and protocols dictated by the Common Imagery Ground/Surface System (CIG/SS) program. TES brings all of the existing and emerging capabilities of the Advanced Electronic Processing Dissemination System (AEPDS), Modernized Imagery Exploitation System (MIES) and Enhanced Tactical Radar Correlator (ETRAC) into an integrated common baseline that is downsized, modular and scaleable to meet a wide range of contingency requirements. DCGS-A will incorporate the capabilities of TES, Guardrail/Information Node (GR/IFN), and Common Ground Station (CGS). TES, as an integral part of DCGS-A will continue to incorporate emerging theater and national intelligence, surveillance, and reconnaissance (ISR) capabilities. Specific details are provided in the Tactical Intelligence and Related Activities (TIARA) Congressional Budget Justification Book. ASPO program management support costs for these efforts are funded under PE 0603766 Project 907 in FY02 and out. In FY 05, funding ends for TES technical evolution and operational currency.

Increase in FY05 is intended to devise a TES Forward (MINUS) derivation of the TES baseline for two gaining commands. These two systems are required to replace defielded TENCAP Equipment (AEPDS) which is scheduled to occur NLT 1st QTR FY05. An additional $1M of RDTE was provided to do engineering and development work for the TES Lite prototype which will be the technical foundation for procuring 21 TES-Lites with SSN BZ7317 Procurement Funds (FY05).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
TES Forward (MINUS) for Korea. (EUSA)	10500	0	0
TES Forward (MINUS) for I-Corps.	10500	0	0
TES Lite development, integration and evaluation. Starts engineering effort that produces baseline on which SSN BZ7317 Procurement for FY05-06 fielding occurs.	496	0	0
Total	21496	0	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604766A - Tactical Exploitation System/DCGS (TIARA)**	**957**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	21505	0	0
Current BES/President's Budget (FY 2007)	21496	0	0
Total Adjustments	-9	0	0
Congressional program reductions			
Congressional rescissions			
Congressional increases			
Reprogrammings	-9		
SBIR/STTR Transfer			
Adjustments to Budget Years			

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
BZ7317 Tactical Surveillance System (TIARA)	25881	0	0	0	0	0	0	0	25881
BD3000 MACOM Automation Systems	3000	0	0	0	0	0	0	0	3000

Comment:

D. Acquisition Strategy As pioneers in streamlined acquisition, ASPO's success in delivering TENCAP systems (as those described above) to warfighters is directly attributed to an environment emphasizing space funding, low density acquisition, minimal use of MILSPECS, and managed competition. ASPO minimizes risk while maximizing efficiency and accelerated system production cycles (less time for first Unit of Issue (FUI) and subsequent productions) by tailoring existing technology, leveraging the best commercial practices, and using commercial and government-off the shelf software. Government and contractor personnel and facilities accomplish dedicated cradle to grave Integrated Logistics Support (ILS) for all systems through a coordinated effort.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**

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	16304	43344	39901	45486	32587	21913	25432	Continuing	Continuing
571	CLOSE CBT TACT TRAINER	5347	6158	3198	2875	2917	0	0	0	29073
577	SOLDIER - COMBINED ARMS TACTICAL TRAINER	0	2957	2539	2599	577	609	497	Continuing	Continuing
582	SYNTHETIC ENVIR CORE	7796	20897	22498	26825	27559	19769	23415	Continuing	Continuing
585	AVIATION COMBINED ARMS TACTICAL TRAINER	3161	13332	11666	13187	1534	1535	1520	0	45935

A. Mission Description and Budget Item Justification: The Combined Arms Tactical Trainer (CATT) is a family of combined arms simulation systems designed to support the Army's simulation-based Combined Arms Training Strategy. The initial CATT system is the Close Combat Tactical Trainer (CCTT), which provides the underlying baseline (architecture, terrain databases, After Action Review [AAR], Semi-Automated Forces [SAF], and models/algorithms) for future CATT expansions, pre-planned product improvements and system enhancements. Reconfigurable Vehicle Simulator (RVS) variants will support the level of readiness required by the user at CCTT fixed sites in support of convoy operations. Synthetic Environment (SE) Core provides for the expansion of the Synthetic Environment baseline to include enhanced interoperability and the products and infrastructure to support current and future combat operations and Mission Rehearsal for operations currently required by the Global War on Terror (GWOT). The first synthetic environment to be expanded is the Aviation Combined Arms Tactical Trainer (AVCATT) for both Active and Reserve components. CATT enables units, from crew to the battalion task force level, to conduct a wide variety of combat tasks on a realistic, interactive synthetic battlefield. CATT's combination of manned simulators and staff officer workstations enables units to train as a combined arms team in a cost effective manner. CATT reinforces the successes and corrects the shortcomings of the Simulator Network (SIMNET) and Aviation Network (AIRNET) Demonstration Programs executed by the Defense Advanced Research Projects Agency (DARPA). Soldier CATT is a dismount-centric collective virtual training system designed to train dismounted soldiers, leaders and units (platoon through battalion). Soldier-CATT provides light infantry, Stryker Brigade Combat Team (SBCT), Ranger, SOF and Land Warrior equipped Brigade Combat Team (BCT) commanders a highly tolerable, deployable, collective combined arms training and mission rehearsal system with an AAR capability. It provides the soldier/leader a virtual link into the Live, Virtual, and Constructive training environment and provides the core architecture that will enable dismounted infantry for Future Combat System (FCS) equipped Unit of Action units. By practicing skills in CATT, units are able to make more effective use of scarce resources and costly live fire and maneuver exercises as well as train tasks deemed too hazardous to conduct in the field. Fielded in both fixed site and mobile/transportable versions, CATT enables both Active and Reserve component units to prepare for real world contingency missions. By being able to process a wide array of terrain databases and modify the behavior of the computer generated opposing forces, CATT offers a virtually unlimited array of training options to support the Army's many regional contingency missions. The combination of tough field and live fire training and realistic simulation training in CATT is the catalyst to prepare soldiers and their leaders for the uncertainties they will face in an unpredictable world of current and future combat operations, especially in support of GWOT operations.

FY2007 funding for CCTT will provide the U.S. Army with additional variant for Reconfigurable Vehicle Simulator (RVS) in support of convoy operations. FY07 funds for Soldier CATT will provide the U.S. Army with a proof of concept with key components (Virtual Warrior, Master Control/After Action Review Console and Semi-Automated Forces Interface) for a Virtual Collective Combined Arms Virtual Training System supporting dismounted/mounted leader and Soldier training tasks at the squad level. FY07 funds for SE Core will provide the U.S. Army with continued development of a Standardized and Dynamic Terrain Database generation process, Objective OneSAF Integration and Common Virtual Components (CVCs). FY07 funding will develop Engineering Change Proposals (ECPs) for refinements to the AVCATT system to include: Classified

Operations, Objective OneSAF and Mission Rehearsal/Enhanced Image Generator (IG) capabilities. Funding will also support interoperability with other combined arms simulators, life cycle baseline enhancements to the AVCATT infrastructure and technical obsolescence, and will improve readiness by providing more realistic collective training in support of current and future combat operations, GWOT and the flexibility to support Army modularity.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	18316	37471	40134
Current BES/President's Budget (FY 2007)	16304	43344	39901
Total Adjustments	-2012	5873	-233
Congressional Program Reductions		-190	
Congressional Rescissions		-437	
Congressional Increases		6500	
Reprogrammings	-2012		
SBIR/STTR Transfer			
Adjustments to Budget Years			-233

Change Summary Explanation: Funding - FY05: funds realigned (-$2.012 Million) to higher priority requirements. Funding - FY06: Congressional plus up of $3.0 Million for Gunner-Crew Station Trainer Capability and $3.5 Million in support of AVCATT.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**	**571**

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
571 CLOSE CBT TACT TRAINER	5347	6158	3198	2875	2917	0	0	0	29073

A. Mission Description and Budget Item Justification: This program provides for System Development and Demonstration (SDD), Pre-Planned Product Improvements (P3I), and Reconfigurable Vehicle Simulator (RVS) variants for the Close Combat Tactical Trainer (CCTT), which will enhance readiness for both Active and Reserve component forces to support execution of current and future combat operations including the Global War on Terror (GWOT). The program develops a networked system of interactive computer driven simulators, emulators and semi-automated forces that replicate combat vehicles and weapon systems, combat support systems, combat service support systems, and command and control systems to create a fully integrated real-time collective task training environment. This trainer will allow soldiers to practice, repetitively, tactics, techniques and procedures that, if performed on real equipment, would be too hazardous, time-consuming and expensive. These trainers enhance realism and allow soldiers and units to learn tactical combat lessons on maneuver, command and control, convoy operations, and improved teamwork for increased survivability. The pre-planned product improvements enhance CCTT capabilities as a tactical trainer and maintain concurrency with the structural changes the current battle force is experiencing. These improvements will provide the interoperability with Aviation Combined Arms Tactical Trainer, Army Battle Command System (ABCS)[including Force XXI Battle Command Brigade and Below (FBCB2) and Army Tactical Command and Control System (ATCCS)], and other simulation systems needed to execute training for current and future combat operations and for GWOT.

FY2007 funding for CCTT will provide the U.S. Army with additional variant for Reconfigurable Vehicle Simulator (RVS) in support of convoy operations.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY06-FY07: Develops RVS variants	0	5941	2977
FY05-FY07: Supports government program management, engineering, technical contract, and continue operational evaluation support.	781	217	221
FY05: Completed refinements to digitial capabilities, enhanced After Action Review (AAR), enhanced Dismounted Infantry Manned Modules, and nonsystem weapons concurrency upgrades. Began development efforts for RVS and completed the Mobile Theater AAR capability.	4566	0	0
Total	5347	6158	3198

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, Appropriation NA0170 SIMNET/CCTT	58305	82926	16920	33251	34507	34395	6682	CONT	CONT

C. Acquisition Strategy FY05 award was CPFF competitively awarded to LM STS for development of CCTT Reconfigurable Vehicle Simulator (RVS).

FY06 funding is incremental funding for continued performance and incorporation of additional capabilities to CCTT RVS.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
571

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
CCTT SDD and Pre Planned Product Improvements (P3I)	Various	Various	245042	0		0		0		0	245042	245042
P3I and Development of RVS variants	C/CPFF	Lockheed Martin Corporation, Orlando, FL	0	4566	3Q	5941	1Q	2977	1Q	5292	18776	18776
Subtotal:			245042	4566		5941		2977		5292	263818	263818

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 and Technical Support	MIPRs/T&M	Various activities	32062	0		0		0		0	32062	0
Subtotal:			32062	0		0		0		0	32062	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									

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
Project Office Support	MIPR	PEO STRI/NAVAIR, Orlando, FL	14912	781	1-4Q	217	1-4Q	221	1-4Q	500	16631	0
Subtotal:			14912	781		217		221		500	16631	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**	**571**

Project Total Cost:	**292016**	**5347**		**6158**		**3198**		**5792**	**312511**	**263818**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
571

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
P3I and Development of RVS Variants																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
571

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Mobile Theater AAR Delivery	2Q						
Joint Close Air Support Improvements Delivery	2Q						
Reconfigurable Vehicle Simulator Variant Awards	3Q	1Q	1Q	1Q	1Q		
Reconfigurable Vehicle Simulator Variant Deliveries		2Q	1Q	1Q	1Q	1Q	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**	**577**

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
577	SOLDIER - COMBINED ARMS TACTICAL TRAINER	0	2957	2539	2599	577	609	497	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project supports Soldier Combined Arms Tactical Trainer (CATT) which is a collective combined arms virtual training system supporting dismounted/mounted leader and soldier training tasks. It will enable more frequent, repetitive, standards-based training to build and sustain readiness at home station. Soldier CATT combines immersive soldier and leader simulators called "Virtual Warrior" (VW) with PC-based Reconfigurable Vehicle Simulators, Dismounted Soldier Multifunctional Workstations, and high fidelity convoy trainers to support training of leaders and Soldiers from squad/crew to company with extensions to individual Soldier and battalion echelons. Soldier CATT will enable training on the full-spectrum of operations required by current and future combat operations including the Global War on Terror (GWOT) in urban and complex terrain environments.

FY07 funds for Soldier CATT will provide the U.S. Army with a proof of concept with key components (Virtual Warrior, Multifunction Workstation, Master Control/After Action Review Console and Semi-Automated Forces Interface) for a Virtual Collective Combined Arms Virtual Training System supporting dismounted Soldier leader training tasks at the squad level to support GWOT.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY06: Congressional plus up funding supports a Gunner-Crew Chief Station Trainer Capability.	0	2957	0
FY07: Begins development of VW component and squad test suite (proof of concept) with Dismounted Infantry (DI) and Civilian Models, OneSAF Synthetic Natural Environment (SNE), and Semi Automated Forces/Combat Instruction Sets (SAF/CIS).	0	0	2122
FY07: Program office support.	0	0	417
Total	0	2957	2539

C. Acquisition Strategy Planned for competitive cost type contract.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
577

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
Gunner-Crew Chief Station Trainer Capability	C/CPAF/FPIF/ FFP	L3 Communications Corporation, Arlington, Texas	0	0		2957	2Q	0		0	2957	2957
Soldier CATT Developement	C/CPFF	TBS	0	0		0		2122	2Q	Continue	Continue	Continue
Subtotal:			0	0		2957		2122		Continue	Continue	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
Program Support	C-FFP-TM	Morgan Research Corporation, Orlando, FL	0	0		0		192	2Q	Continue	Continue	Continue
Subtotal:			0	0		0		192		Continue	Continue	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
Subtotal:			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
Program Office Support		PEO STRI/NAVAIR, Orlando, FL	0	0		0		225	1-4Q	Continue	Continue	Continue
Subtotal:			0	0		0		225		Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**	**577**

Project Total Cost:	**0**	**0**		**2957**		**2539**		**Continue**	**Continue**	**Continue**

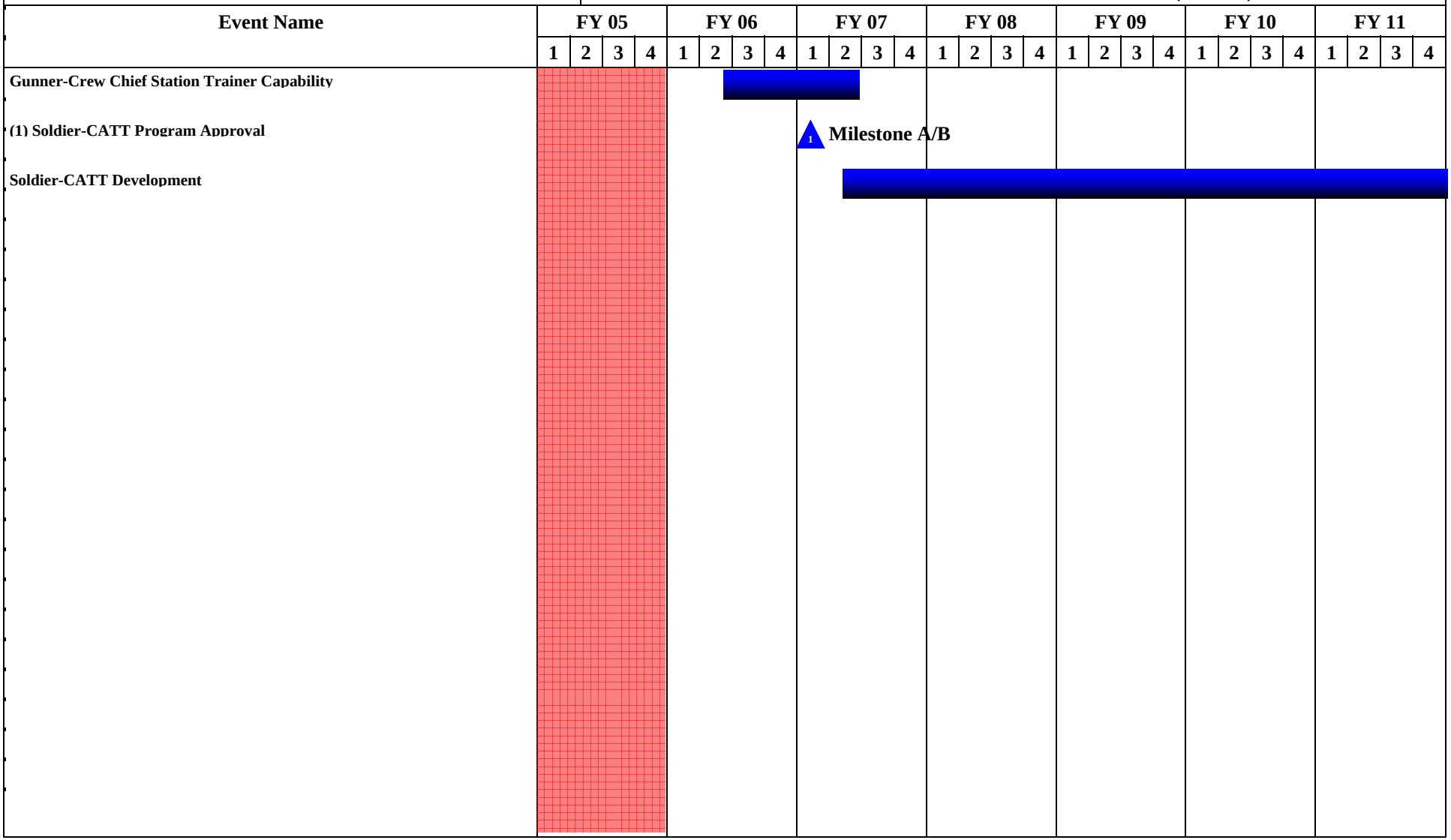
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
577



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
577

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Gunner-Crew Chief Station Trainer Capability Award		2Q					
S-CATT Development and Squad Level Capability (Proof of Concept) Award			2Q				
S-CATT Development and Squad Level Capability (Proof of Concept) Delivery				2Q			
Test at Multiple Squad Level				3Q			
Develop a Platoon Level Capability with System Upgrades/Enhancements (Award)				1Q			
Platoon Level Capability Delivery					2Q		
P3I Software/Hardware Insertion Award					1Q	1Q	1Q
P3I Software/Hardware Insertion Delivery					4Q	4Q	4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**	**582**

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
582	SYNTHETIC ENVIR CORE	7796	20897	22498	26825	27559	19769	23415	Continuing	Continuing

A. Mission Description and Budget Item Justification: This project supports the Synthetic Environment Core (SE Core) and is the Army's Common Virtual Environment (CVE) to link virtual training simulations into an integrated and interoperable training system with fair fight capability that is sufficient for current and future combat operation Mission Rehearsal and Global War on Terror (GWOT) training. This CVE will link to the live and constructive environments for an integrated Live/Virtual/Constructive LVC capability to support Army Transformation and Combined Arms Training Strategy. SE Core is a key element in the Army's Training Transformation Plan to link the Future Combat Systems' (FCS) embedded multi-mode LVC training capability with Current and Stryker Forces and Joint Interagency Intergovernmental Multinational (JIIM) simulations.

Under SE Core, current and future virtual training devices will enable the Army to execute combined arms and joint training, mission planning and rehearsals at home station, en route and deployed locations critical to training for GWOT operations. SE Core consists of a series of interoperable software components that will be integrated into virtual simulations, enabling the Army's CVE and facilitating interoperability in a LVC Training Environment (TE). The components are Objective OneSAF (OOS) integration, standard rapid Terrain DataBase (TDB) generation process, master TDB open format, standard visual models, dynamic terrain, atmospheric effects, Chemical, Biological, Radiological, Nuclear and High Explosive (CBRNE) effects, common After Action Review (AAR), a long haul networking capability, Command, Control, Communications, Computers, Intelligence Surveillance and Reconnaissance (C4ISR) interfaces, training support packages and exercise management tools. The standard TDB generation process uses automated tools, processes and standard source data to create a Master Database (MDB). The MDB provides open format data that can be translated into correlated runtime databases to support the LVC TE and for mission planning/ rehearsal/execution in an operational environment. Once developed, SE Core's Common Virtual Components (CVCs) will reduce redundancy, increase realism and facilitate an integrated LVC TE.

FY2007 funds for SE Core will provide the U.S. Army with a Standardized and Dynamic Terrain Database generation process, Objective OneSAF integration and CVCs.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Provides program management, engineering, technical, contract, and test support for development of SE Core.	1832	2070	2157
FY05-FY07: Provides architecture and integration (integration of OOS into AVCATT and CCTT, development of a Virtual Simulation Architecture (VSA), Atmospheric effects for a Common Virtual Environment, Net Ready Capabilities, Exercise Management Tools, Long Haul Networking Component, Training Support Packages to support Combined Arms Training in AVCATT and CCTT). Integrated capabilities support GWOT training requirements.	3953	9313	13540
FY05-FY07: Provides Master Database (MDB)& Facilities (Standardized Terrain Database, MDB, Urban Operations Insets and Visual Models for a Common Virtual Environment).	2011	9514	6801
Total	7796	20897	22498

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
582

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, Appropriation NA0173 Aviation Combined Arms Tactical Trainer	51949	70342	80555	73086	29021	16172	16536	CONT	CONT
OPA3, Appropriation NA0170 Close Combat Tactical Trainer (CCTT)	58305	82926	16920	33251	34507	34395	6682	CONT	CONT

C. Acquisition Strategy A competitive CPFF type contract for development of SE Core Architecture & Integration was awarded in FY05 and is underway.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
582

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
Architecture and Integration	C/CPFF	Science Applications International Corporation, San Diego, CA	0	3953	3Q	9313	1Q	13540	1Q	Continue	Continue	Continue
Master Database (MDB) Study	C/CPFF	Various	0	2011	3Q	0		0		0	2011	2011
Master Database (MDB) & Facilities	C/CPFF	TBS	0	0		9514	2Q	6801	1Q	Continue	Continue	Continue
Subtotal:			0	5964		18827		20341		Continue	Continue	Continue

Remarks: Raytheon Systems Co. has sold this part of their company to L-3Com.

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 & Technical Support	C/FFP/T&M	Morgan Research Corporation, Orlando, FL	0	172	2Q	367	1Q	383	1Q	Continue	Continue	Continue
Subtotal:			0	172		367		383		Continue	Continue	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
Subtotal:			0									

Remarks: Not Applicable

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
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
582

Project Office Support	MIPR	PEO STRI/NAVAIR Orlando	0	1660	1-4Q	1703	1-4Q	1774	1-4Q	Continue	Continue	Continue
Subtotal:			0	1660		1703		1774		Continue	Continue	Continue
Project Total Cost:			**0**	**7796**		**20897**		**22498**		**Continue**	**Continue**	**Continue**

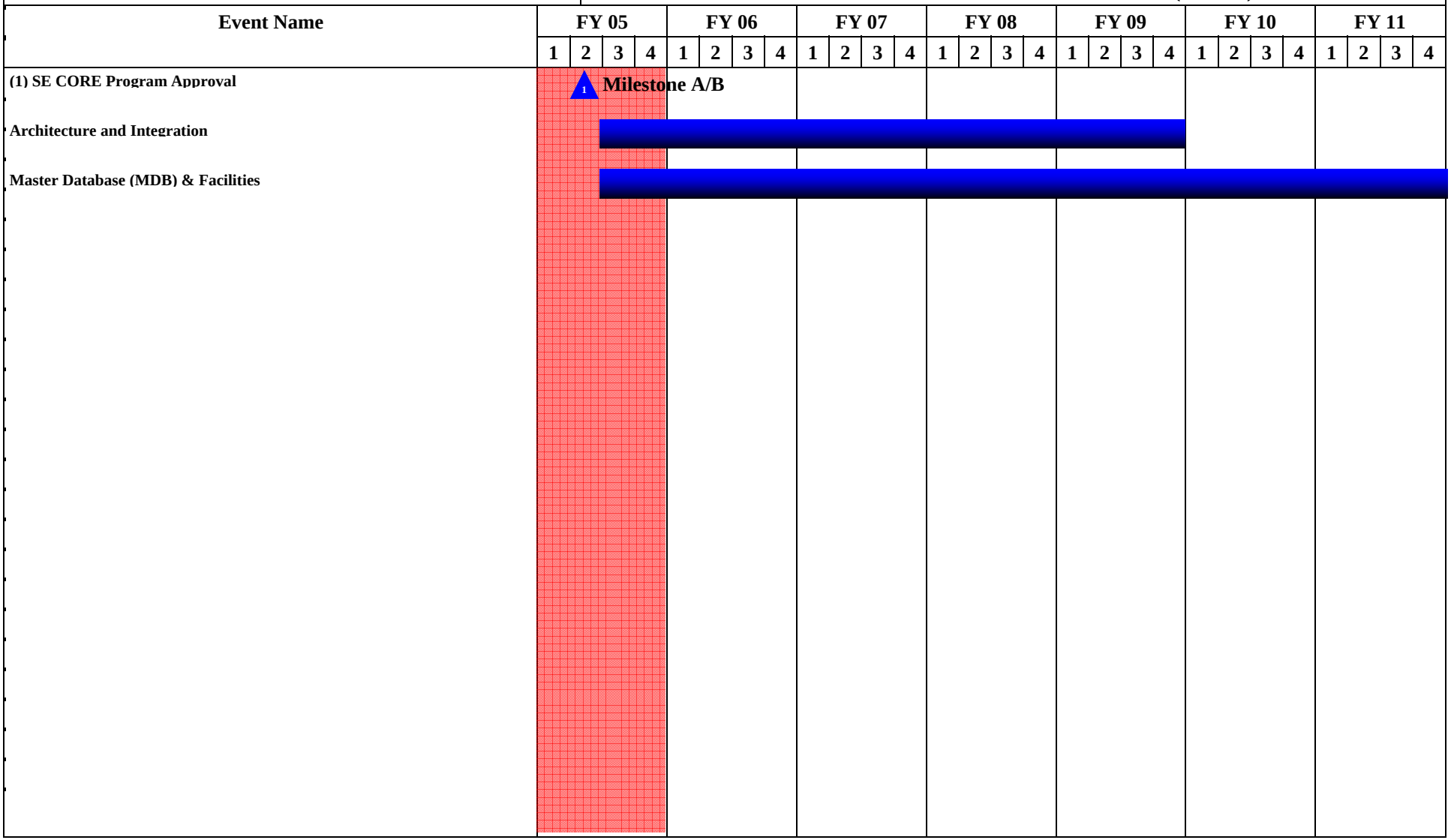
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
582



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
582

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Architecture and Integration Award	3Q	1Q	1Q	1Q	1Q		
Architecture and Integration Spiral Deliveries		3-4Q	4Q	4Q	4Q		
MDB & Facilities Study Award	3Q						
MDB & Facilities Study Delivery		2Q					
MDB & Facilities Award		2Q	1Q	1Q	1Q	1Q	1Q
MDB & Facilities Spiral Deliveries			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
5 - System Development and Demonstration	**0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)**	**585**

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
585	AVIATION COMBINED ARMS TACTICAL TRAINER	3161	13332	11666	13187	1534	1535	1520	0	45935

A. Mission Description and Budget Item Justification: This project supports the Aviation Combined Arms Tactical Trainer (AVCATT) which is an Army aviation training system for both the Active and Reserve Component to provide mission rehearsal and training in support of the Global War on Terrorism (GWOT). AVCATT completed Initial Operational Test & Evaluation (IOT&E) on 1 August 2003 and received Full Rate Production Decision on 19 December 2003. A single suite of equipment consists of two (2) mobile trailers housing six (6) reconfigurable networked simulators that support the AH-64A/D, UH-60A/L, CH-47D, and OH-58D. In the future the Armed Reconnaissance Helicopter platform and an enhanced software engineering environment (SEE) will be added. Supporting roleplayer, semi-automated forces (SAF), and after action review (AAR) workstations are also provided as part of each suite. AVCATT is a fully mobile system, capable of utilizing shore and generator power and is transportable worldwide. AVCATT fully supports Army modularity. The AVCATT system will permit various aviation units to conduct collective task training on a real-time, computerized battlefield in a combined arms scenario by leveraging Synthetic Environment (SE) Core capabilities. Other required elements that are present on the modern, high intensity battlefield, such as the combat support and combat service support elements are an integral part of the simulation database. AVCATT is designed to provide realistic, high intensity collective and combined arms training to aviation units as well as the full spectrum of operations in support current and future combat operations including GWOT. AVCATT supports the Aviation Transformation Plan and the Aviation Combined Arms Training Strategy. AVCATT also Supports Aviation Functional Area Assessment (FAA), providing collective, combined arms training. This system is designated a complementary program for the Future Combat System (FCS).

FY2007 funding will develop Engineering Change Proposals (ECPs) for refinements to the system to include but not limited to: Classified Operations, Objective OneSAF and Mission Rehearsal/Enhanced Image Generator (IG) capabilities. Funding will also support interoperability with other combined arms simulators, life cycle baseline enhancements to the AVCATT infrastructure and technical obsolescence.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Provides ECPs for refinements to the system to include: Classified Operations, Objective OneSAF and Mission Rehearsal capabilities. Funding will also support interoperability with other combined arms simulators through implementation of Synthetic Environment (SE) Core common products, life cycle baseline enhancements to the AVCATT infrastructure and technical obsolescence. FY06 Congressional funding supports an AVCATT software engineering environment (SEE) enhancement.	3008	13176	11504
FY05-FY07: Provides government program management, engineering, technical, contract, and test support for AVCATT refinements.	153	156	162
Total	3161	13332	11666

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, Appropriation NA0173 Aviation Combined Arms Tactical Trainer	51949	70342	80555	73086	29021	16172	16536	CONT	CONT

C. Acquisition Strategy System Development and Demonstration (SDD) competitive contract against performance specification.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
585

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
AVCATT	C/CPAF/FPIF/ FFP	L3 Communications Corporation, Arlington, Texas	0	3008	2Q	13176	2Q	11504	1Q	Continue	Continue	Continue
Subtotal:			0	3008		13176		11504		Continue	Continue	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
Subtotal:			0									

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			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
Project Office Support		PEO STRI, Orlando, Florida	0	153	1-4Q	156	1-4Q	162	1-4Q	Continue	Continue	Continue
Subtotal:			0	153		156		162		Continue	Continue	Continue
Project Total Cost:			**0**	**3161**		**13332**		**11666**		**Continue**	**Continue**	**Continue**

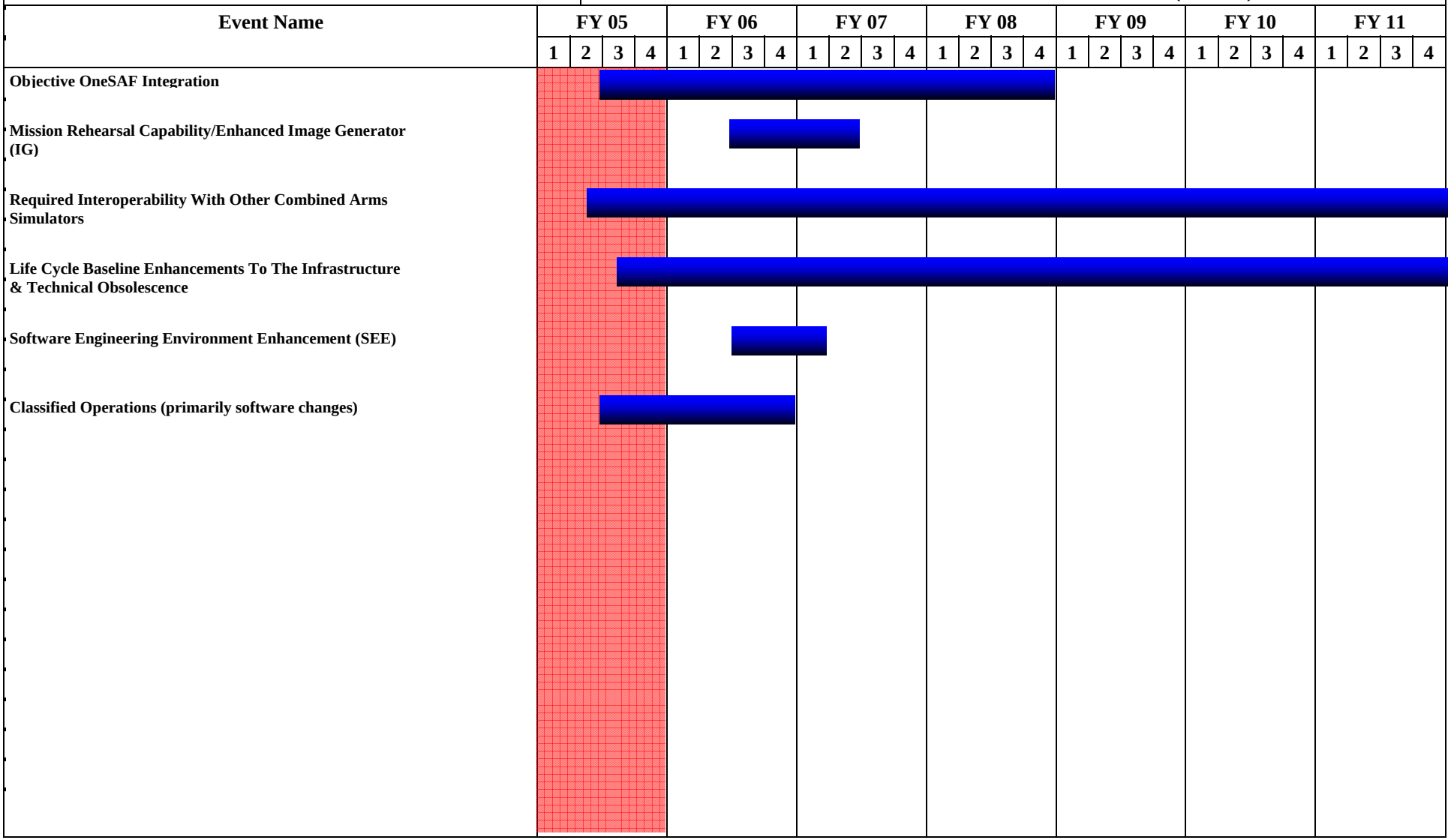
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
585



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604780A - COMBINED ARMS TACTICAL TRAINER (CATT)

PROJECT
585

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Objective OneSAF Integration (Award)	2Q	2Q	1Q	1Q			
Mission Rehearsal Capability/Enhanced Image Generator (IG) (Award)		2Q	1Q				
Required Interoperability with other combined arms simulators (Award)	2Q	3Q	1Q	1Q	1Q	1Q	1Q
Life cycle baseline enhancements to the AVCATT infrastructure and technical obsolescence (Award)	2-3Q	2Q	1Q	1Q	1Q	1Q	1Q
Software Engineering Environment Enhancement (SEE) (Award)		2Q					
Classified Operations (primarily software changes) (Award)	2Q	3Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604783A - JOINT NETWORK MANAGEMENT SYSTEM**	**363**

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
363	JOINT NETWORK MANAGEMENT SYSTEM	10244	5019	5187	2892	829	0	0	0	40855

A. Mission Description and Budget Item Justification: This program element supports the Joint Network Management System (JNMS) RDTE development effort. The JNMS is a Combatant Commander and Commander, Joint Task Forces (CJTF), joint communications planning and management tool. JNMS is an automated software system. It will provide communication planners with a common set of tools to conduct high level planning (war planning), detailed planning and engineering, monitoring, control and reconfiguration, spectrum planning and management, and security of communications and data systems used to support a Joint Task Force (JTF). These systems include circuit switches, data switches, message switches, single channel networks, transmission systems and satellite systems. It will promote force level situational awareness; provide enhanced flexibility to support the commander's intent; improve management of scarce spectrum resources; and provide increased security of these critical systems and networks. This development effort entails development of the JNMS architecture, software development and integration of Government-Off-the-Shelf and Commercial-Off-the Shelf software, functional and operational testing, and development of Integrated Logistics Support data and documentation. Multiple software baselines are to be developed with the first increment to provide base capability to the user, with subsequent baselines each providing additional functionality and capability.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Software Development (System Design, Software Integration, and Functional Qualification Testing) for Baseline 1.2/1.3	2214	0	0
Software Development (System Design, Software Integration, and Functional Qualification Testing) for Baseline Build 1.4/1.5	6737	5019	450
Plan and Conduct Developmental Test for Baseline 1.3	1293	0	0
Software Development (System Design, Software Integration, and Functional Qualification Testing) for Baseline 2.0	0	0	4737
Total	10244	5019	5187

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604783A - JOINT NETWORK MANAGEMENT SYSTEM**	**363**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	10279	5092	5182
Current BES/President's Budget (FY 2007)	10244	5019	5187
Total Adjustments	-35	-73	5
Congressional Program Reductions		22	
Congressional Rescissions	-35	51	
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			5

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
B95700 JOINT NETWORK MGT SYSTEM	12335	11738	8279	11083	11357	10157	0	0	64949

Comment:

D. Acquisition Strategy TRADOC approved Revision 2 to the JNMS Operational Requirements Document (ORD)on 16 May 00. Milestone A/B approval led to two contract awards to SAIC on 14 May 2001. The first contract, a cost-plus-fixed-fee (CPFF) and firm fixed price (FFP) contract, is for software integration/development, non-recurring engineering efforts, and optional hardware and software procurement for limited and full rate production quantities. This development contract provides the vehicle for the phased development of the JNMS operational baselines, combined build Key Performance Parameter (KPP) Threshold Baselines and subsequent Baselines. The second contract, a time-and-materials contract, covers tasks such as fielding, training, technical assistance, and an option for Post Deployment/Post Production Software Support (PD/PPSS). The SAIC contracts were awarded based on a competitive, best value source selection process. The Initial Operational Test and Evaluation (IOT&E) was conducted in 2QFY04. The Milestone C decision review with the Milestone Decision Authority (MDA), the Program Executive Officer, Command, Control, and Communications - Tactical (PEO C3T) was held in 3QFY04 resulting in Low Rate Initial Production (LRIP) approval. After successful development testing and a satisfactory Government Assessment, a subsequent Milestone decision review was held 2QFY05 with the MDA approving an increase in the LRIP to 35%. In the 4QFY05, a Limited User Test (LUT) was successfully conducted which supported the approval of the Full Rate Production Decision (FRPD) on 8 Dec 05 signaling entry into full production and fielding. Fieldings began 2QFY06.

The SAIC contract option for the development of software Build 2 was awarded 3QFY05 and has now been scheduled into several incremental releases (1.4/1.5/2.0) due to a re-prioritization of the software development based on recent Joint Staff J6 guidance. The J6 desired smaller software increments to expedite releases to enable the field to utilize the

additional capabilities sooner. Functional enhancements were added to builds 1.4 and 1.5 in order to meet the J6 guidance.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604783A - JOINT NETWORK MANAGEMENT SYSTEM

PROJECT
363

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
JNMS Software Development	CPFF	SAIC - San Diego, CA	22369	6105	1-3Q	2773	2-3Q	3092	2-3Q	Continue	Continue	0
Hardware/Software Suites	FFP	SAIC - San Diego, CA	1972	0		0		0		0	1972	0
Subtotal:			24341	6105		2773		3092		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	Various	Misc	148	77	2Q	81	2Q	85	2Q	Continue	Continue	0
Software Development Support	Various	Misc	682	896	2Q	453	2Q	432	2Q	Continue	Continue	0
Contractor Engineering	MIPR	Various	1563	150	1-2Q	158	1-2Q	165	1-2Q	Continue	Continue	0
Government Engineering	MIPR	Various	3768	312	2Q	273	2Q	292	2Q	Continue	Continue	0
Subtotal:			6161	1435		965		974		Continue	Continue	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
Developmental Test Support	T&M	SAIC - San Diego, CA	1279	350	2Q	100	2Q	100	2Q	Continue	Continue	0
Operational Test Support	T&M	Misc	3868	1500		0		0		Continue	Continue	0
Initial Operational Test & Evaluation (IOTE)	T&M	SAIC, San Diego CA & Piscataway,NJ	478	0		0		0		478	478	0
Other Test Support (Cert, GA, etc)	Various	Misc	0	0		350	1-2Q	350	1-2Q	Continue	Continue	0
Subtotal:			5625	1850		450		450		Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604783A - JOINT NETWORK MANAGEMENT SYSTEM

PROJECT
363

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
PM Support	Various	Ft Monmouth, NJ	1523	578	1-4Q	545	1-4Q	528	1-4Q	Continue	Continue	0
JNMS MITRE Support	PWD	Eatontown, NJ	336	276	2Q	286	2Q	143	2Q	Continue	Continue	0
Subtotal:			1859	854		831		671		Continue	Continue	0
Project Total Cost:			**37986**	**10244**		**5019**		**5187**		**Continue**	**Continue**	**0**

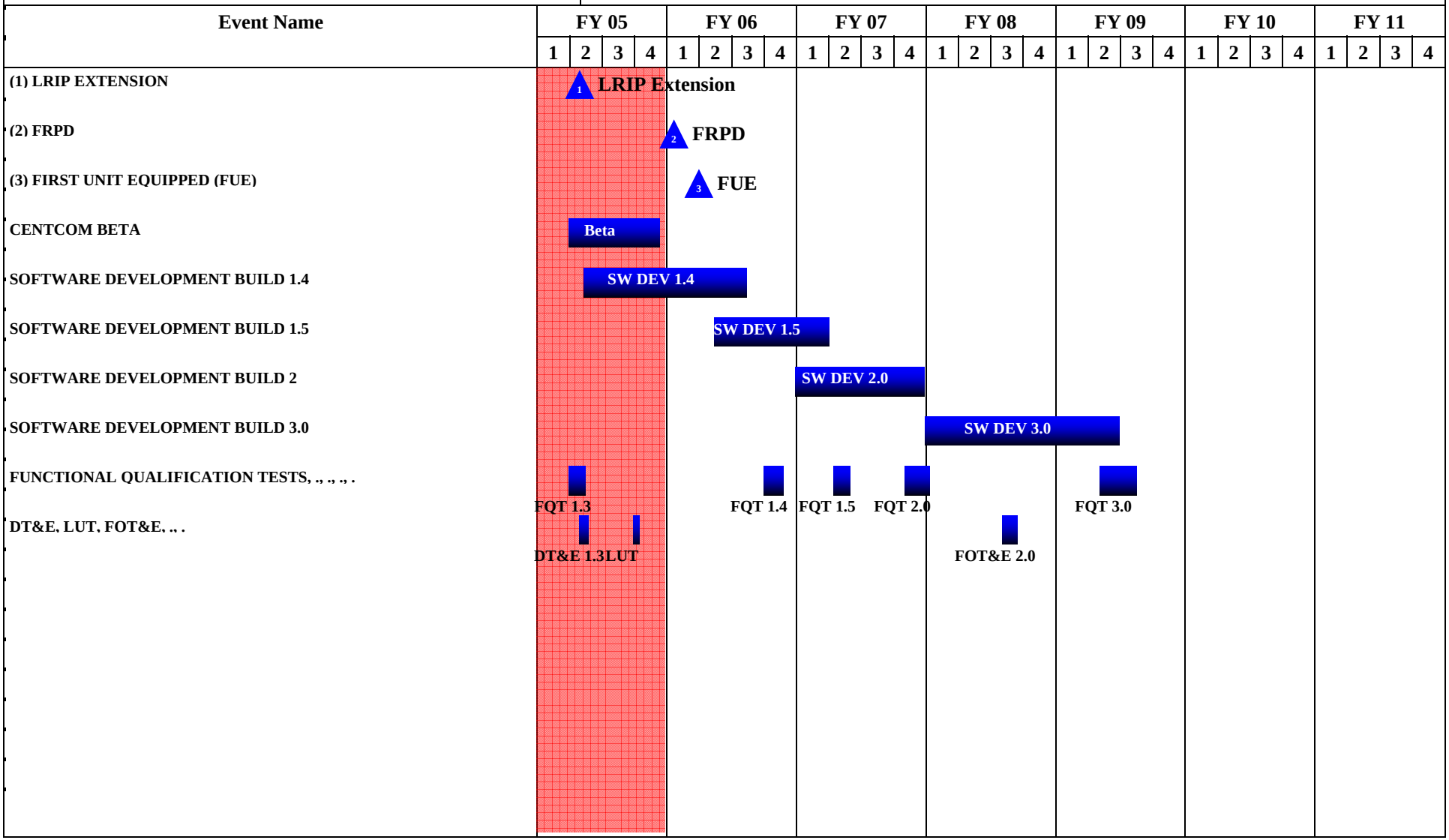
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604783A - JOINT NETWORK MANAGEMENT SYSTEM

PROJECT
363



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604783A - JOINT NETWORK MANAGEMENT SYSTEM

PROJECT
363

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Build Rel 1.3	1Q						
SW Dev Build 1.4	2-4Q	1-3Q					
SW Dev Build 1.5		2-4Q	1Q				
SW Dev Build 2.0			1-4Q				
FQT 1.3	2Q						
DT 1.3	2Q						
OT 1.3 (LUT)	4Q						
SW Dev Build 3.0				1-4Q	1-2Q		
Full Rate Production Decision (FRPD)		1Q					
Material Release 1.3		2-3Q					
FUE		2Q					
FQT Build 1.4		4Q					
Build 1.4 Release			1Q				
FQT Build 1.5			2Q				
Build 1.5 Release			3Q				
FQT Build 2.0			4Q	1Q			
FOT&E 2.0				3Q			
Build 2.0 Release				4Q			
FQT Build 3.0					2-3Q		
Build 3.0 Release					4Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

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	150030	104029	130581	114850	85215	38863	34891	Continuing	Continuing
134	OBJ IND CBT WPN ENG DE	19554	0	0	0	0	0	0	0	19554
613	MORTAR SYSTEMS	23295	3071	130	75	11558	973	50	0	83508
705	Adv Precision Kill Weapon System (APKWS) - SD&ED	15289	10625	44742	66670	49824	19014	19666	0	292420
AS1	SMALL ARMS IMPROVEMENT	8709	0	0	0	0	0	0	0	27373
AS5	Artillery Munitions Engineering Development	15045	18730	0	0	0	6209	6198	0	57156
AS6	COMMON REMOTELY OPERATED WEAPONS STATION (CROWS)	5054	0	0	0	0	0	0	0	8802
AS8	XM395 PRECISION GUIDED MORTAR MUNITION (PGMM)	0	27856	48482	26604	18663	11123	8977	Continuing	Continuing
S23	SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)	63084	35587	26961	10132	0	0	0	0	173542
S36	COURSE CORRECTING FUZE (CCF)	0	8160	10266	11369	5170	1544	0	0	36509

A. Mission Description and Budget Item Justification: This program element funds multiple efforts for engineering development of weapons and munitions systems.

Starting in FY06, funds have been realigned from Project 134 (Objective Individual Combat Weapon (OICW)), Project AS1 (Small Arms Improvements), and Project AS6 (Common Remotely Operated Weapons Station (CROWS)) to PE 0604601 Infantry Support Weapons, Projects S62, S63, and S64 respectively, to streamline the management, development, and testing of infantry support weapons and associated equipment.

Project 134 (OICW) funds the spiral development of the XM-29 Integrated Air Burst Weapons System, and is comprised of two increments. OICW Increment I is the 5.56mm Modular Assault Weapon family and Increment II is the XM-25 Air Burst Weapon System.

Project 613 Mortar Systems funds complete the RDTE effort for the Mortar Fire Control System (MFCS), a revolutionary improvement in mortar capability seamlessly linking mortar fires in the future digital battlefield.

Project 705, the Advanced Precision Kill Weapon System (APKWS), is a highly accurate weapon that will complement the HELLFIRE missile in precision strikes against soft point targets and provide improved accuracy over the current 2.75-inch munition used on the AH-64 Apache, the OH-58 Kiowa Warrior, and armed reconnaissance helicopters (AHRs).

Project AS1 (Small Arms Improvements) funds the development of technology to enhance lethality, target acquisition, fire control, training effectiveness, and reliability for

current small arm weapons and ammunition systems. Funds for this project include several FY05 New Starts: Platform Integration of Crew Served Weapons; High Cap Feed Systems for the M240H Machine Gun (Aviation Variant); 5.56mm Light Weight Ammo; E50 Enhanced Cal. 50 Machine Gun Kit; and improved optics for Rifles and Carbines.

Project AS5 Artillery Munitions Engineering Development (AS5) funds the Advanced Cannon Artillery Ammunition Program (ACA2P) Pre Production Engineering, a product improvement program for 105mm and 155mm families of extended range artillery munitions using common airframes for various payloads. FY05 funds ACA2P and Hybrid Propellant for the Future Combat System (FCS). ACA2P munitions have ballistic similitude intended to meet FCS and Force Entry range and ballistic requirements. Hybrid Propellant is a unique propellant under development for future application in small, medium and large caliber munitions. Hybrid propellant releases energy more efficiently than conventional propellants and provides FCS munitions with the highest possible muzzle velocity for extended ranges/lethality, the prospect of lighter barrels with less recoil, extended wear characteristics and the ability to use heavier projectiles at standard muzzle velocities for greater lethality.

Project AS6 (CROWS) funds pre-production prototype remote mounting systems for heavy, medium, and light machine guns mounted on top of a variety of vehicles. These remote mounting systems reduce the Soldier's exposure to enemy fire by giving the Soldier the ability to acquire, track, and fire at targets from behind armor during day and night conditions. Funds for CROWS efforts include an FY05 New Start called CROWS Lightning, a smaller, lighter version of the current system.

In FY07, Project AS8 funds Increment 1 Precision Guided Mortar Munition (PGMM). PGMM is a precision strike round with advanced sensors, guidance systems and enhanced lethal mechanism technology. It will be capable of a first round defeat of high-value, hard-point targets such as bunkers, command and control centers and stationary lightly armored vehicles.

Project S23, the Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM) is the initial kinetic energy component of Integrated Air & Missile Defense (IAMD), an Air and Missile Defense (AMD) Future Force system. SLAMRAAM's force protection mission is to engage the low-altitude aerial threats out to 18km.

Project S36 Course Correcting Fuze (CCF) funds the design, development, assembly and test CCF. CCF is a low-cost, fuze-sized module that is intended to replace a NATO standard fuze on legacy and future artillery projectiles. CCF will effectively reduce target delivery error of conventional artillery munitions and reduce the number of projectiles per fire mission.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	154356	87034	99760
Current BES/President's Budget (FY 2007)	150030	104029	130581
Total Adjustments	-4326	16995	30821
Congressional Program Reductions		-456	
Congressional Rescissions		-1049	
Congressional Increases		18500	
Reprogrammings	-4326		
SBIR/STTR Transfer			
Adjustments to Budget Years			30821

Change Summary Explanation: Funding:
FY 2006: Congressional increases for Hybrid Propellant - +$1.2M (Project AS5), ACAAP - +#12.8M (Project AS5), Reactive Materials Technology - +#3.5M (Project AS5), and Short Range Practice Cartridge (SRPC) - +$1.0M (Project 613).

FY 2007: Funds increased (+$36.0M) for APKWS - Project 705. Funds increased (+0.7M) for PGMM - Project AS8. Funds increased (+$0.2M) for PGK. Funds decreased (-$3.9M) for LDMS - Project 613. Funds decreased (-$2.2M) for SLAMRAAM - Project S23.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604802A - Weapons and Munitions - Eng Dev**	**705**

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
705	Adv Precision Kill Weapon System (APKWS) - SD&ED	15289	10625	44742	66670	49824	19014	19666	0	292420

A. Mission Description and Budget Item Justification: The Advanced Precision Kill Weapon System (APKWS) is a family of precision-guided rockets that combines a newly designed guidance section with existing 2.75-inch munition components and launch equipment. The APKWS is a highly accurate weapon that will complement the HELLFIRE missile in a precision strike against soft point targets. The APKWS will provide improved accuracy over the current 2.75-inch munition used on the AH-64 Apache, OH-58 Kiowa Warrior, Armed Reconnaissance Helicopter (ARH), and Special Operations aircraft. The FY07 funding supports System Development and Demonstration and qualification of the APKWS design. The APKWS is expected to provide a substantial increase in the number of stowed kills over the unguided Hydra 70 rocket and a reduction in collateral damage to minimize fratricide.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Define and develop system requirements and preliminary design for precision guided rocket including hardware and software.	6461	7545	33084
Develop test plans, test support equipment, and testing,	4336	1845	3846
Perform government engineering support.	4492	1235	2464
Aircraft integration and certification of APKWS.	0	0	5348
Total	15289	10625	44742

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
C70301 APKWS (Advanced Precision Kill Weapon System)	0	0	0	9562	10425	83592	82460	1145300	1331339
0203802, project 786 (APKWS Simulator Upgrade)	0	0	12	5546	5747	6149	4871	CONT	CONT

C. Acquisition Strategy The Milestone Decision Authority curtailed the initial APKWS contract in January 2005 due to contract cost, schedule, and performance issues. The program has since been restructured and the succeeding APKWS II contract is a full and open competition for the System Development and Demonstration (SDD) and Low Rate Initial Production (LRIP). Contract award expected 3Q FY06. The U.S. Army Aviation and Missile Life Cycle Management Command will provide assistance and technical expertise during the demonstration effort.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
705

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
Prime Contract	CPIF	TBD	62880	6461	2Q	6170	3Q	29293	2Q	80597	140177	0
Support Contracts	Various	Various	391	3315	1-4Q	411	1-4Q	6323	1-4Q	45842	56282	0
Development Engineering	Various	Various	1197	193	1-4Q	964	1-4Q	2816	1-4Q	8184	13354	0
Subtotal:			64468	9969		7545		38432		134623	209813	0

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Test Support	Various	Various	1353	4050	1-4Q	1845	1-4Q	3846	1-4Q	11519	0	0
Subtotal:			1353	4050		1845		3846		11519	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
In-House Support	Various	Various	769	1270	1-4Q	1235	1-4Q	2464	1-4Q	9032	0	0
Subtotal:			769	1270		1235		2464		9032	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604802A - Weapons and Munitions - Eng Dev**	**705**

Project Total Cost:	**66590**	**15289**		**10625**		**44742**		**155174**	**209813**	**0**

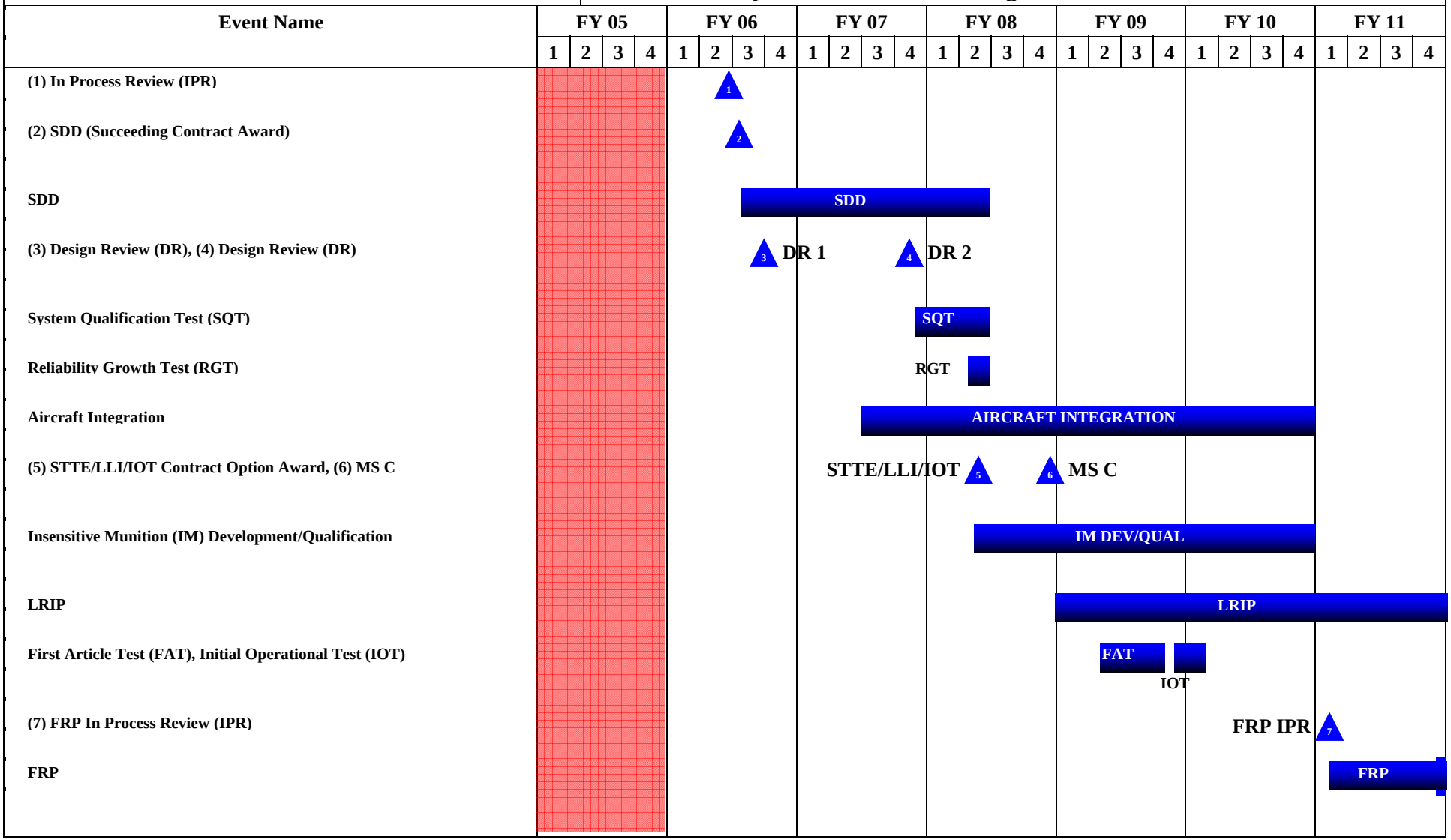
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
705



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
705

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
IPR		2Q					
APKWS Prime System Contract Award		3Q					
APKWS Design Reviews (DRs)		4Q	4Q				
APKWS SQT			4Q	1-2Q			
APKWS RGT				2Q			
APKWS IOT					4Q	1Q	
Milestone C				4Q			
Insensitive Munition (IM) Development Contract Award				2Q			
LRIP					1-4Q	1-4Q	1-4Q
IM Engineering Change Proposal (ECP)						2Q	
STTE/LLI/IOT Contract Award				2Q			
Aircraft Integration Contract Award			2Q				
FRP Design Review/Contract Award							1Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604802A - Weapons and Munitions - Eng Dev**	**AS8**

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
AS8	XM395 PRECISION GUIDED MORTAR MUNITION (PGMM)	0	27856	48482	26604	18663	11123	8977	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program provides funds to perform system and technical development that will enhance the effectiveness, lethality, versatility, mobility, and accuracy of mortar systems. FY 2006-FY 2008 funds provide for the continuation and completion of System Development & Demonstration (SDD) of an Increment 1 PGMM. The PGMM will be a multiple purpose precision strike round with advanced sensors(Semi-Active Laser), guidance systems and enhanced lethal mechanism technology. It will be capable of a first round defeat of multiple types of high-value, hard-point targets such as bunkers, command and control centers and stationary lightly armored vehicles. The capability to hit point targets in built-up areas makes this especially valuable in Military Operations in Urban Terrain (MOUT) and Military Operations Other Than War/Stability and Support Operations (MOOTW/SASO) situations. First round hit capability reduces the overall logistical burden, a critical goal for early entry forces.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
PGMM: SD&D Subsystem Test and System Integration	0	18610	33282
PGMM: System Engineering	0	3294	4442
PGMM: Program Management	0	2739	3338
PGMM: Development Test & Evaluation	0	3213	7420
Total	0	27856	48482

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0604802A 613	23770	0	0	0	0	0	0	0	23770
Procurement, Army Ammunition- E86200 (CTG, Mortar, 120mm, PGMM)	0	0	0	23464	20337	9919	12469	184300	250489

C. Acquisition Strategy PGMM program Acquisition Decision Memorandum (ADM) and Acquisition Program Baseline (APB) were approved on 21 May 2004. The PGMM SDD contract was awarded 1 December 2004. The FY 2006 and FY 2007 funds are provided as a continuation of the SDD contract that was initated with FY 2004 Funds.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
AS8

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
SD&D- Subsystem Test & System Integration	CPIF/AF	Alliant Techsystems, Plymouth, MN	0	0		18610	1-2Q	31482	1-2Q	Continue	0	0
SD&D- Subsystem Test & System Integration	Award Fee	Alliant Techsystems, Plymouth, MN	0	0		0		1800	1-2Q	Continue	0	0
Subtotal:			0	0		18610		33282		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
Systems Engineering	MIPR	ARDEC, Picatinny, NJ	0	0		3294	2-3Q	4442	1-3Q	Continue	0	0
Fuze Setter Development	MIPR	Adelphi, MD	0	0		600	2Q	2000	2Q	Continue	0	0
Ammo Rack Development	MIPR	Warren, MI	0	0		294	2Q	1000	2Q	Continue	0	0
Subtotal:			0	0		4188		7442		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
Guided Flight Tests	MIPR	Yuma Proving Grounds, Yuma. AZ	0	0		550	2-3Q	0		0	0	0
Training Simulator Testing	MIPR	PEO Simulation, Training, and Instrumentation, Orlando, FL	0	0		385	2Q	320	1Q	Continue	Continue	0
Design VerificationTesting	MIPR	Yuma Proving Grounds, Yuma, AZ	0	0		0		3500	1Q	Continue	0	0
USA Infantry Center Support	MIPR	Ft. Benning, GA	0	0		100	2-3Q	120	1Q	Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604802A - Weapons and Munitions - Eng Dev**	**AS8**

Lethality Verification Testing	MIPR	Redstone Technical Test Center, Redstone Arsenal, AL	0	0		855	2Q	0		0	0	0
Misc Test Support	MIPR	Various	0	0		280	2Q	460	1Q	Continue	0	0
Tactics, Techniques and Procedures Demonstration	MIPR	Infantry Center, Ft. Benning, GA	0	0		149	2Q	20	2Q	Continue	0	0
Subtotal:			0	0		2319		4420		Continue	Continue	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
Program Management	In-House	PM Mortars, Picatinny, NJ	0	0		2217	1-4Q	2609	1-4Q	Continue	0	0
Program Management Support	T&M	Various	0	0		522	1Q	729	2Q	Continue	0	0
Subtotal:			0	0		2739		3338		Continue	0	0
Project Total Cost:			**0**	**0**		**27856**		**48482**		**Continue**	**0**	**0**

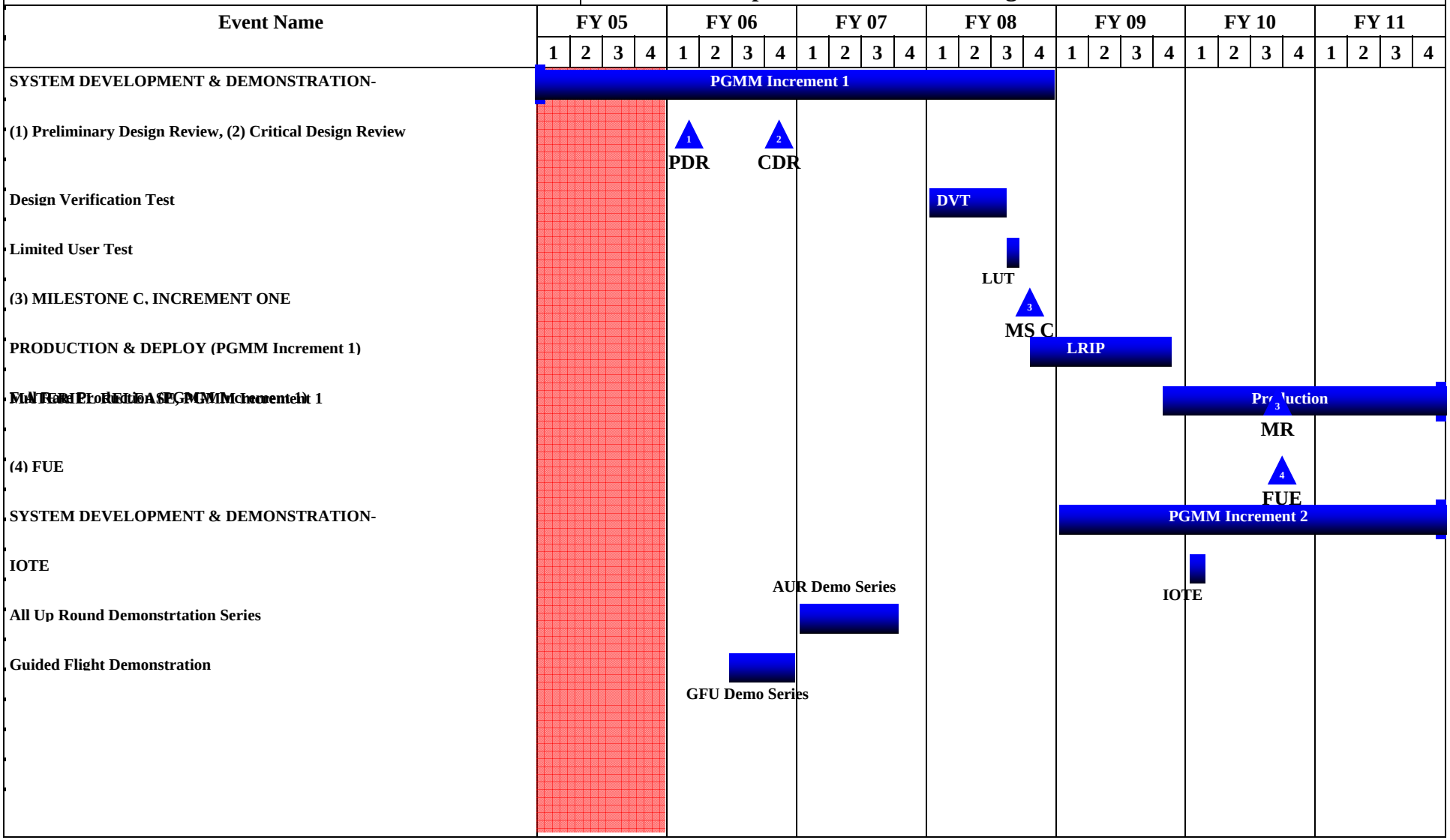
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
AS8



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
AS8

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Continue SD&D, Incr 1 (follow-on from Proj 613)		1Q					
Preliminary Design Review		1Q					
Critical Design Review		3Q					
Guided Flight Demonstration		2-4Q					
All Up Round Demonstration Series			1-4Q				
Design Verification Test				1-3Q			
Limited User Test (LUT)				3Q			
LRIP				4Q			
Milestone C				4Q			
Start SDD, Increment 2					1Q		
IOTE					1-2Q		
FUE						3Q	
IOC						4Q	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604802A - Weapons and Munitions - Eng Dev**	**S23**

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
S23	SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)	63084	35587	26961	10132	0	0	0	0	173542

A. Mission Description and Budget Item Justification: Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM) is a critical component of the Army's future Cruise Missile Defense capability. It will be resident within Integrated Air & Missile Defense (IAMD) Task Forces and Composite Battalions. SLAMRAAM is part of the Missiles and Space (MS) System of Systems concept, consisting of a launcher platform, AIM-120 Advanced Medium Range Air-to-Air Missiles (AMRAAMs), a common Army vehicle, launch rails, launcher electronics, on-board command, control, communications, and computer (C4) components, Sentinel (Enhanced Target Range and Classification) Sensor, other external Sensors, and an Integrated Fire Control Station (IFCS). SLAMRAAM is a lightweight, day or night, adverse weather, non-line-of-sight (NLOS) system for countering cruise missile (CM), fixed wing (FW), unmanned aerial vehicle (UAV), and reconnaissance, surveillance, and target acquisition (RSTA) platforms. SLAMRAAM's mission is to engage the low-altitude aerial threats in excess of 18km. It is highly mobile and able to operate in close combat areas to protect maneuver forces and critical stationary units, as well as provide cruise missile defense protection for operational and strategic-level critical assets.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Product Development	47566	22110	11150
Support Cost	1004	372	522
Test and Evaluation	9672	9950	13370
Management Services	4842	3155	1919
Total	63084	35587	26961

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
643869A, Project 01B MEADS	251298	0	0	0	0	0	0	0	251298
654869A Project M06, PATRIOT/MEADS CAP	0	284695	329583	459684	517049	592013	422005	0	2605029
273801A, Project 036 PATRIOT PIP	32067	15957	10770	11051	11297	12227	12734	0	106103
654865, Project 01C PAC-3	60408	0	0	0	0	0	0	0	60408
MSLS PROC C49100, PATRIOT	496990	483260	489067	472907	478795	0	0	0	2421019
MSLS PROC C50001, PATRIOT/MEADS CAP	0	0	0	89735	65296	429735	674386	0	1259152
172419, JLENS	79279	105888	264491	465214	353856	335490	301143	0	1905361
OPA BZ0525, JLENS Prod	0	0	0	0	0	30471	476728	0	507199
MSLS PROC C81001, SLAMRAAM Prod	2438	19061	22039	59314	82656	82143	60979	0	328630

654820A, SENTINEL	5848	5008	2527	2622	0	0	0	0	16005
OPA WK5057, SENTINEL Prod	10566	8289	15125	20914	33394	33239	25314	0	146841
643327, Project E88 Integrated Fire Control AMD	19984	24480	41746	47995	50096	0	0	0	184301

Comment: This PE is an integral part of the Missile and Space Integrated Air and Missile Defense (IAMD) Program including Integrated Fire Control, JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, JTAGS, SENTINEL, and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

C. Acquisition Strategy System Development and Demonstration (SDD) contract award in 2nd Quarter FY04. SDD will be a 41 month effort, culminated by completion of IOT&E in 4th Qtr FY08. Initial Operational Capability (IOC) available in FY08.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
S23

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
Contractor Hardware/Software Development	CPIF	Raytheon, Tewksbury, MA	19778	47309	1Q	22110	1-3Q	11150	1-3Q	0	100347	100347
Government Prototype Manufacturing (GFE)	MIPR	SFAE-MSLS-CMDS	3368	257	1Q	0		0		0	3625	0
Subtotal:			23146	47566		22110		11150		0	103972	100347

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
Contractor Support Costs	CPIF	Raytheon, Tewksbury, MA	773	1004	1Q	372	1Q	522	1Q	0	2671	2671
Subtotal:			773	1004		372		522		0	2671	2671

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
Contractor System Test & Evaluation	CPIF	Raytheon, Tewksbury, MA	488	2243	1Q	4428	1Q	3139	1Q	2497	12795	12795
Government System Test & Evaluation	MIPR	CMDS (SFAE-MSLS-CMDS) Redstone Arsenal, AL	1257	3879	1Q	3618	1-2Q	7781	1-2Q	3751	0	0
Government Modeling & Simulation	MIPR	CMDS (SFAE-MSLS-CMDS) Redstone Arsenal, AL	3050	3550	1Q	1904	1-2Q	2450	1-2Q	3884	0	0
Subtotal:			4795	9672		9950		13370		10132	12795	12795

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
S23

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
Contractor SE/PM	CPIF	Raytheon, Tewksbury, MA	4732	2681	1Q	2058	1-3Q	437	1Q	0	0	11308
Government SE/PM	MIPR	CMDS (SFAE-MSLS-CMDS) Redstone Arsenal, AL	4332	2161	1Q	1097	1-3Q	1482	1Q	0	0	0
Subtotal:			9064	4842		3155		1919		0	0	11308
Remarks: Government Modeling & Simulation included in Test & Evaluation.												
Project Total Cost:			**37778**	**63084**		**35587**		**26961**		**10132**	**119438**	**127121**

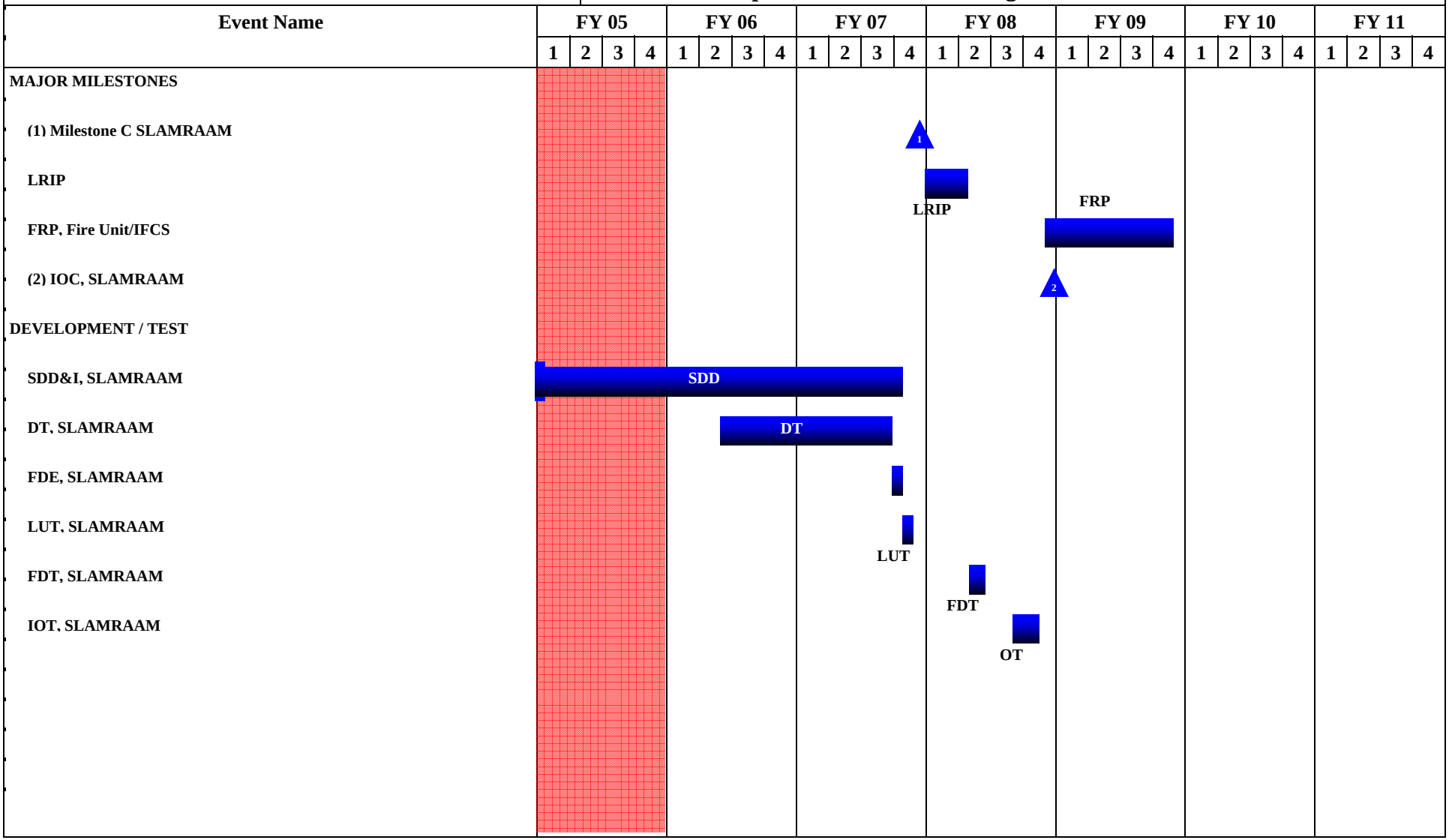
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
S23



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
S23

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Milestone C			4Q				
LRIP				1-2Q			
Full Rate Production				4Q	1-4Q		
IOC				4Q			
SDD&I	1-4Q	1-4Q	1-4Q				
DT		2-4Q	1-3Q				
FDE			3-4Q				
LUT			4Q				
FDT				2Q			
IOT				3-4Q			

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604802A - Weapons and Munitions - Eng Dev**	**S36**

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
S36	COURSE CORRECTING FUZE (CCF)	0	8160	10266	11369	5170	1544	0	0	36509

A. Mission Description and Budget Item Justification: The Course Correcting Fuze is currently being pursued as a solution to meet the Precision Guidance Kit (PGK) Capability Development Document requirement. The PGK is adaptable to existing stockpile and future conventional cannon artillery projectiles. The PGK corrects the ballistic trajectory of the projectile to reduce delivery errors and thus improves projectile accuracy. The PGK will effectively reduce target delivery error of conventional artillery munitions and reduce the number of projectiles required to execute a fire mission. The PGK will benefit 155mm projectiles as well as the family of 105mm projectiles. The increase in effectiveness offered by the PGK gives commanders the operational capability to defeat more targets with the same basic load, while reducing the logistical burden associated with the current mission requirements.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Supporting documentation and Milestone A execution	0	200	0
Supporting documentation and Milestone B execution	0	200	0
Conduct Technology Development and Demonstration	0	7260	0
Conduct Systems Development and Demonstration	0	0	9516
Testing	0	500	750
Total	0	8160	10266

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0604802A Weapons and Munitions - Eng Dev Project AS5	0	0	0	0	0	0	0	0	12284
E99250 Course Correcting Fuze (CCF)	0	0	0	11269	30865	36174	48649	0	126957

C. Acquisition Strategy The Army issued a competitive Technology Demonstration (TD) Request for Proposal (RFP) with options for Systems Development and Demonstration (SD&D) and 3 years of production in December 2005. The Army approved the PGK Milestone (MS) A on 20 Dec 05. A Technology Readiness Level-7 (TRL) demonstration will be conducted in 4QFY06. TRL-7 is a system or subsystem prototype demonstration conducted in a relevant environment. A down select to one contractor will occur after the conclusion of the TD demonstration. A MS B for Increment 1 (MS B1) will be conducted and the SD&D option will be awarded. The Army will be monitoring the Navy's

Guidance Integrated Fuze (GIF) program for progress towards TRL-7. The Army may terminate its TD efforts should the GIF program meet TRL-7 and achieve an affordable design prior to MS B1. GIF progress will be considered at MS B1, MS B2 and MS B3 allowing the Army to either chose the GIF SD&D option or to continue SD&D with the Army contractor.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
S36

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
PGK TD Contract	CPIF	TBS	0	0		5000	2Q	0		0	5000	0
PGK SDD Contract	CPIF/Option	TBS	0	0		0		7000	1Q	Continue	Continue	0
Subtotal:			0	0		5000		7000		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Product Manager's Office	In House	PM CAS, Picatinny NJ	0	0		320	1-4Q	330	1-4Q	Continue	Continue	0
Government IPT Support	MIPR	ARDEC, Picatinny NJ	0	0		2265	1-3Q	2106	1-3Q	Continue	Continue	0
Subtotal:			0	0		2585		2436		Continue	Continue	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
Component Air Gun/Railgun Testing	MIPR	ARDEC, Picatinny, NJ	0	0		150	2-3Q	100	2-3Q	Continue	Continue	0
System Demonstration	MIPR	Yuma Proving Ground, Yuma, AZ	0	0		350	4Q	150	2Q	Continue	Continue	0
Safety Testing	MIPR	Yuma Proving Ground, Yuma, AZ	0	0		0		500	4Q	Continue	Continue	0
Subtotal:			0	0		500		750		Continue	Continue	0

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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
S36

	Type				Date		Date		Date			Contract
PGK Management Support Contract	FFP	Alion, Rome, NY	0	0		75	2Q	80	2Q	Continue	Continue	0
Subtotal:			0	0		75		80		Continue	Continue	0
Project Total Cost:			**0**	**0**		**8160**		**10266**		**Continue**	**Continue**	**0**

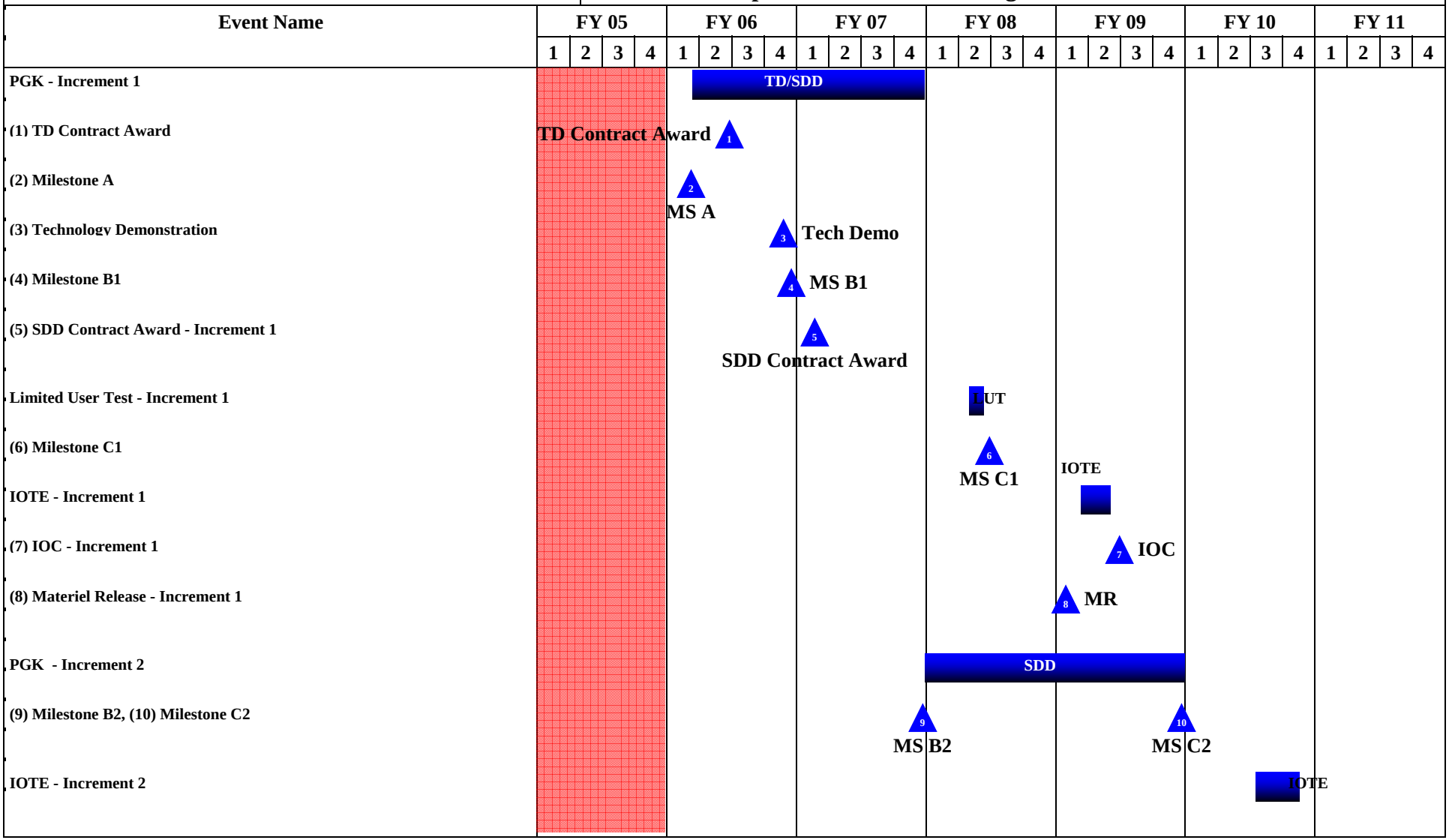
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
S36



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604802A - Weapons and Munitions - Eng Dev

PROJECT
S36

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
TD Contract Award		2Q					
Milestone A		1Q					
Technology Demonstration		4Q					
Milestone B1		4Q					
SDD Contract Award - Increment 1			1Q				
Limited Users Test				2Q			
Milestone C1				2Q			
Initial Operational Capability - Increment 1					3Q		
Initial Operational Test and Evaluation - Increment 1					1-2Q		
Materiel Release - Increment 1					1Q		
Milestone B2			4Q				
Limited User Test - Increment 2					4Q		
Technical Demonstration - Increment 2					3Q		
Milestone C2					4Q		
Initial Operational Test and Evaluation - Increment 2						3-4Q	
Initial Operational Capability - Increment 2							4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

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	86918	14150	40301	36791	44482	47074	65934	0	476187
194	ENGINE DRIVEN GEN ED	5239	7625	14514	6818	4465	1721	1730	0	56422
461	MARINE ORIEN LOG EQ ED	54737	0	0	0	0	0	0	0	143866
H01	COMBAT ENGINEER EQ ED	3583	983	4884	3412	3304	10722	30742	0	67283
H02	TACTICAL BRIDGING - ENGINEERING DEVELOPMENT	2374	983	2903	9404	23359	12237	12616	0	66753
H14	MATERIALS HANDLING EQUIPMENT - ED	469	492	517	517	518	517	517	0	4503
L39	Field Sustainment Support ED	4409	1911	8450	11047	7111	6664	6690	0	55297
L41	WATER AND PETROLEUM DISTRIBUTION - ED	8018	2156	7299	3610	3681	3644	3675	0	41164
L42	CAMOUFLAGE SYSTEM ED	1536	0	0	0	0	1584	1375	0	5719
L43	ENGINEER SUPPORT EQUIPMENT - ED	1106	0	310	517	518	6622	4967	0	17861
L46	Maintenance Support Equipment	5447	0	1424	1466	1526	3363	3622	0	17319

A. Mission Description and Budget Item Justification: This Program Element (PE) provides system development and demonstration for various projects. This PE includes the development of military tactical bridging, material handling equipment, construction equipment, engineer support equipment, soldier support equipment (to include shelter systems, environmental control, field service equipment, camouflage systems and aerial delivery equipment), water purification equipment, petroleum distribution equipment, mobile electric power and water craft.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	90517	13353	35374
Current BES/President's Budget (FY 2007)	86918	14150	40301
Total Adjustments	-3599	797	4927
Congressional Program Reductions		-60	
Congressional Rescissions		-143	
Congressional Increases		1000	
Reprogrammings	-3599		
SBIR/STTR Transfer			
Adjustments to Budget Years			4927

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604804A - Logistics and Engineer Equipment - Eng Dev**	**194**

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
194 ENGINE DRIVEN GEN ED	5239	7625	14514	6818	4465	1721	1730	0	56422

A. Mission Description and Budget Item Justification: This project supports the Mobile Electric Power (MEP) program which is established to develop a Modernized, Standard Family of Mobile Electric Power Sources for All Services throughout the Department of Defense. Building on the device/component evaluations conducted in PE 0603804A project G11, this project supports the system development and demonstration of a series of innovative mobile electric power sources that are essential to the development and eventual fielding of modernized mobile electric power sources from 0.5 kW to 920 kW. These sources will ensure compliance with federally mandated environmental statutes and significantly lower noise and thermal signatures (thereby improving battlefield survivability), improve fuel and electrical efficiency, reduce weight, enhance portability, improve reliability and maintainability, and reduce operational and support costs.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05: Awarded two Phase I contracts for Advanced Medium Mobile Power Sources (AMMPS) and began Phase I testing.	4212	0	0
FY05: Continued Phase I test for AMMPS	1027	0	0
FY06: Ininites a Downselect to 1 contractor/Award Phase II for AMMPS/Develop and assembly of pre-production test models with commensurate engineering and logistics data.	0	7625	0
FY07: Conducts Operational Testing (OT) and Developmental Testing (DT) for AMMPS and continue engineering and logistics data deliverables	0	0	14514
Total	5239	7625	14514

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0603804A - Logistics and Engineer Equipment Adv Dev G11	1448	1820	2053	2192	2391	1148	1158	CONT	CONT
OPA3, MA9800, Generators and Associated Equipment	128929	42648	69468	107999	208991	198497	168542	CONT	CONT

C. Acquisition Strategy Perform Developmental Testing (DT)/Operational Testing (OT) for the AMMPS family; perform phase II contract award through a down select. Developmental test and evaluation of technologies that transition into procurement after Milestone C.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
194

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
AMMPS(5-60kW)	CPFF	Various	9016	3912	2Q	7225	2Q	6840	2Q	Continue	0	0
Follow-on 2kW Improvement Program	CPFF	Various	1800	0		0		0		0	1800	0
Subtotal:			10816	3912		7225		6840		Continue	1800	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
100/200kW	In-house	CECOM, Ft Belvoir, VA	1335	0		0		0		0	1335	0
AMMPS(5-60kW)	In-house	CECOM, Ft Belvoir, VA	1975	200	1Q	200	1Q	500	1Q	Continue	0	0
Follow-on 2kW Improvement Program	In-house	CECOM, Ft Belvoir, VA	65	0		0		0		0	65	0
Subtotal:			3375	200		200		500		Continue	1400	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
AMMPS(5-60kW)	MIPR	Various	927	951	2Q	0		6674	2Q	Continue	0	0
Follow-on 2kW Improvement Program	MIPR	CECOM, Ft Beloir, VA	216	0		0		0		0	216	0
Subtotal:			1143	951		0		6674		Continue	216	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
194

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
100/200kW	In-house	CECOM, Ft Belvoir, VA	1122	0		0		0		0	1122	0
AMMPS(5-60kW)	In-house	CECOM, Ft Belvoir, VA	1557	176	1-4Q	200	1Q	500	1Q	Continue	0	0
Subtotal:			2679	176		200		500		Continue	1122	0
Project Total Cost:			**18013**	**5239**		**7625**		**14514**		**Continue**	**4538**	**0**

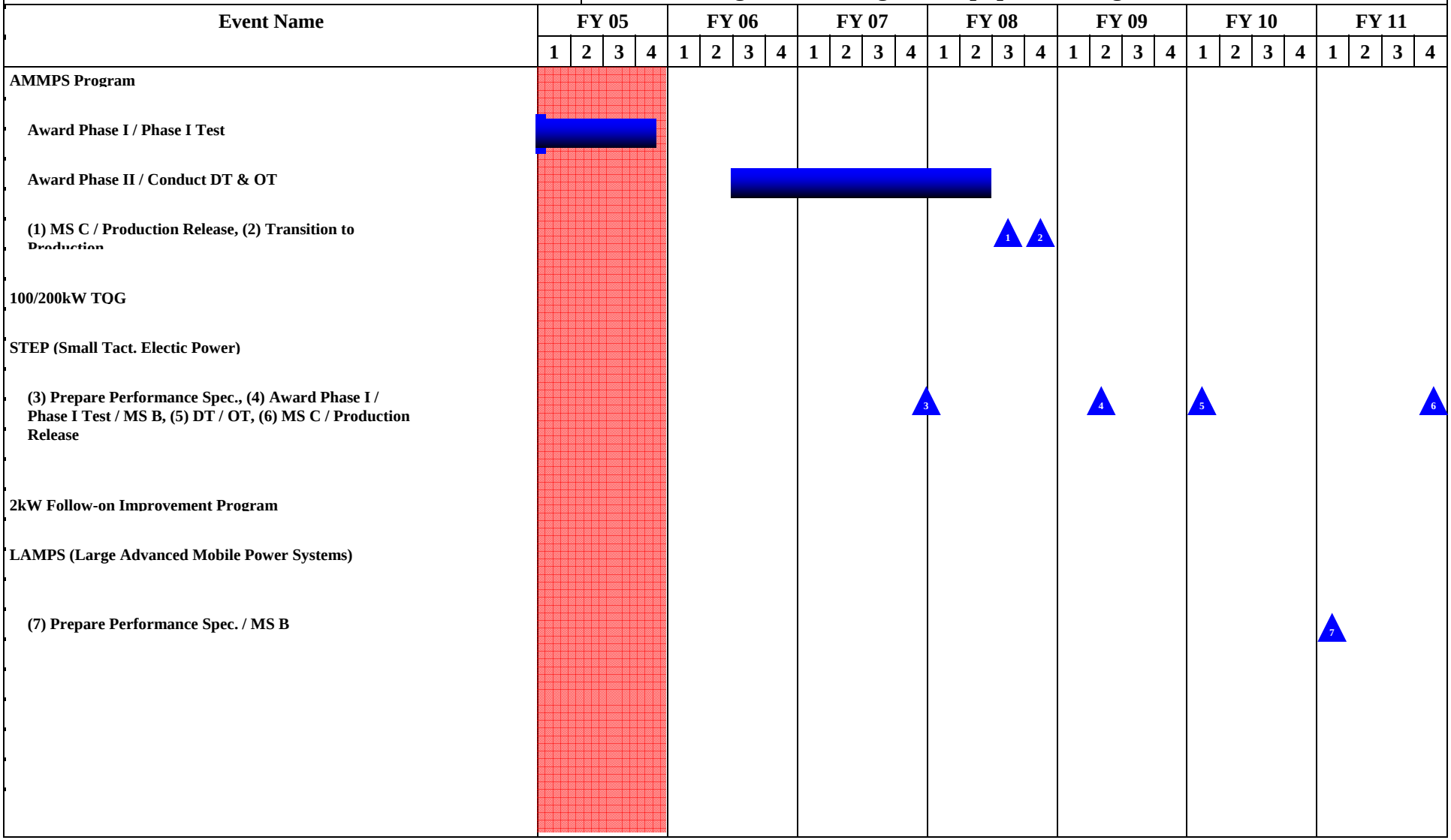
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
194



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
194

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Continue Phase I for AMMPS	2Q						
Downselect to 1 contractor/Award Phase II for AMMPS/develop test model		3Q					
Conduct AMMPS DT & continue enginneering & logistics data deliverables			3Q				
Begin preparation of Performance Specification for Small Tactical Electric Power (STEP)				1Q			
Complete DT/OT & documentation in support of Milestone C for AMMPS				1Q			
Transition AMMPS to Milestone C				3Q			
Transition AMMPS to Production				4Q			
Award STEP Phase I contracts/Milestone B					2Q		
DT/OT for STEP						1Q	
Begin Performance Specification for Large Advanced Mobile Power Sources (LAMPS)							1Q
STEP Milestone C/Production Release							4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604804A - Logistics and Engineer Equipment - Eng Dev**	**H01**

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
H01 COMBAT ENGINEER EQ ED	3583	983	4884	3412	3304	10722	30742	0	67283

A. Mission Description and Budget Item Justification: This project supports the System Development and Demonstration of military Construction Equipment used in support of horizontal and vertical engineer construction tasks; required in order to develop a variety of enabling systems that will support and improve mobility for Engineers in the Brigade Combat Teams (BCT) and Combat Support Brigades (CSB) modularity forces. This project also supports the SDD of enabling systems to meet critical capabilities of joint interdependence through Air and Ground (A/G) Line of Communication (LOC) and Rapid Tactical Earthmoving (RTE) repair and construction which increase the operational reach of modularity forces. The BCT and CSB systems include: High Mobility Engineer Excavators (HMEE, Types I and III); Scrapers, Scoop Loaders, Skid Steer Loaders, Deployable Universal Combat Earthmover (DEUCE), Hydraulic Excavators (HYEX), Dozers and Graders.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05-FY07: Conducts market research and update specs for future engineer transformation.	520	20	545
FY05-FY07: Continues development of engineer and acquisition documents required for Milestone Decisions.	489	20	475
FY05-FY07: Conducts Test and Evaluation of future engineer equipment.	456	135	495
FY05-FY07: Design armor kits for Construction Equipment.	1918	566	900
FY06: Conducts feasibility studies for armor on Construction Equipment.	0	100	180
FY05-FY06: Conducts Armor Test and Evaluation for Construction Equipment Systems	200	142	300
FY07: Initiates SDD of systems enabling A/G LOC Repair and Construction capabilities	0	0	415
FY07: Productivity analysis of commercial tactic, techniques and procedures (TTP) for load and haul.	0	0	1374
FY07: Construction Equipment Lease Study	0	0	200
Total	3583	983	4884

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, R05900, High Mobility Engineer Excavator I	3452	4339	39607	26565	26279	29655	39482	CONT	CONT
OPA3, R05910, High Mobility Engineer Excavator III	6129	6702	8239	8122	7444	15336	5508	0	57480
OPA3, R03801, Grader, Mtzd, Hvy	0	0	2902	12827	9140	20556	25348	CONT	CONT
OPA3, R02800, Scrapers, Earthmoving 14-18 CY	0	0	0	3228	6014	10441	0	0	19683
OPA3, R14200, Scraper, Elevating SP 11 CY Min Sec	0	0	1049	28428	29447	18689	0	0	77613
OPA3, M06400, Loader, Scoop Type, 2 1/2 CU YD	4880	0	0	0	0	0	0	0	4880

OPA3, R03900, Loader, Scoop Type, 4 - 5 CU YD	6337	8107	13023	13707	14419	15032	0	0	70625
OPA3, X01500, Hydraulic Excavator	0	0	2475	1482	4201	5911	6434	0	20503
OPA3, R03300, Roller, Vibratory, Self-Propelled (CCE)	0	0	0	2437	5656	0	0	0	8093
OPA3, M08100, Plant, Asphalt Mixing	0	0	0	0	4965	19481	23610	0	48056
OPA3, M06100, Tractor Full Tracked, Med T-9	0	3656	4799	11065	19597	18790	24700	0	82607

C. Acquisition Strategy Conduct research, development, and investigations on future Construction Equipment (CE) and identify the pathforward for programs to be transitioned for PEO program management. Identify technical advancements that can improve reliablity, availability, and maintainability and reduce the logistical footprints for future CE equipment.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
H01

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
Non-split rim wheel development	FFP	Hutchinson Tire, Hutchinson, KS	400	0		0		0		0	400	400
Complete SDD Contracts for HMEE Type I	FFP	ADI, Australia; JCB, Pooler, GA	4047	0		0		0		0	4047	4047
Market Research, Studies, Update Specs for future engineer	various	multiple activities	813	520	1-4Q	20	1-4Q	545	1-4Q	Continue	0	Continue
Continue development of engineer and acquisition documents	various	multiple activities	618	489	1-4Q	20	1-4Q	475	1-4Q	Continue	984	Continue
Design armor kits for Construction Equipment	various	multiple activities	0	1324	2-4Q	566	1-4Q	615	1-4Q	Continue	2505	Continue
Conduct feasibility studies to armor Construction Equipment Systems	various	multiple activities	0	0		100	2-4Q	180	2-4Q	Continue	0	Continue
Initiate SDD for A/G LOC Repair and Construction	TBD	TBD	0	0		0		415	1-4Q	Continue	0	Continue
Subtotal:			5878	2333		706		2230		Continue	7936	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	TACOM & TARDEC, Warren, MI	10219	361	1-2Q	0		140	1-2Q	Continue	0	Continue
Engineering Operational Integrator Support	MIPR	DA/Pentagon, Washington, DC	156	0		0		0		0	156	156
Construction Equipment Lease Study	MIPR	DA/Pentagon, Washington, DC	200	0		0		200	2Q	0	400	400
Subtotal:			10575	361		0		340		Continue	556	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
H01

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
HMEE Type I (6 prototypes)	MIPR	ATEC, Aberdeen, MD	784	0		0		0		0	784	784
Armor Tests for IHMEE & DEUCE	MIPR	ATEC, Aberdeen, MD	0	200	4Q	142	1-4Q	300	1-4Q	Continue	0	Continue
Future Engineer Equipment (various)	MIPR	ATEC, Aberdeen, MD	1696	456	1-4Q	135	1-4Q	495	1-4Q	Continue	0	Continue
Productivity analysis of TTP	various	multiple	0	0		0		1374	2-4Q	0	0	1500
Subtotal:			2480	656		277		2169		Continue	784	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
Program Mgt	In-house	PM CE/MHE, Warren, MI	529	233	1-2Q	0		145	1-2Q	Continue	0	Continue
Subtotal:			529	233		0		145		Continue	0	Continue
Project Total Cost:			**19462**	**3583**		**983**		**4884**		**Continue**	**9276**	**Continue**

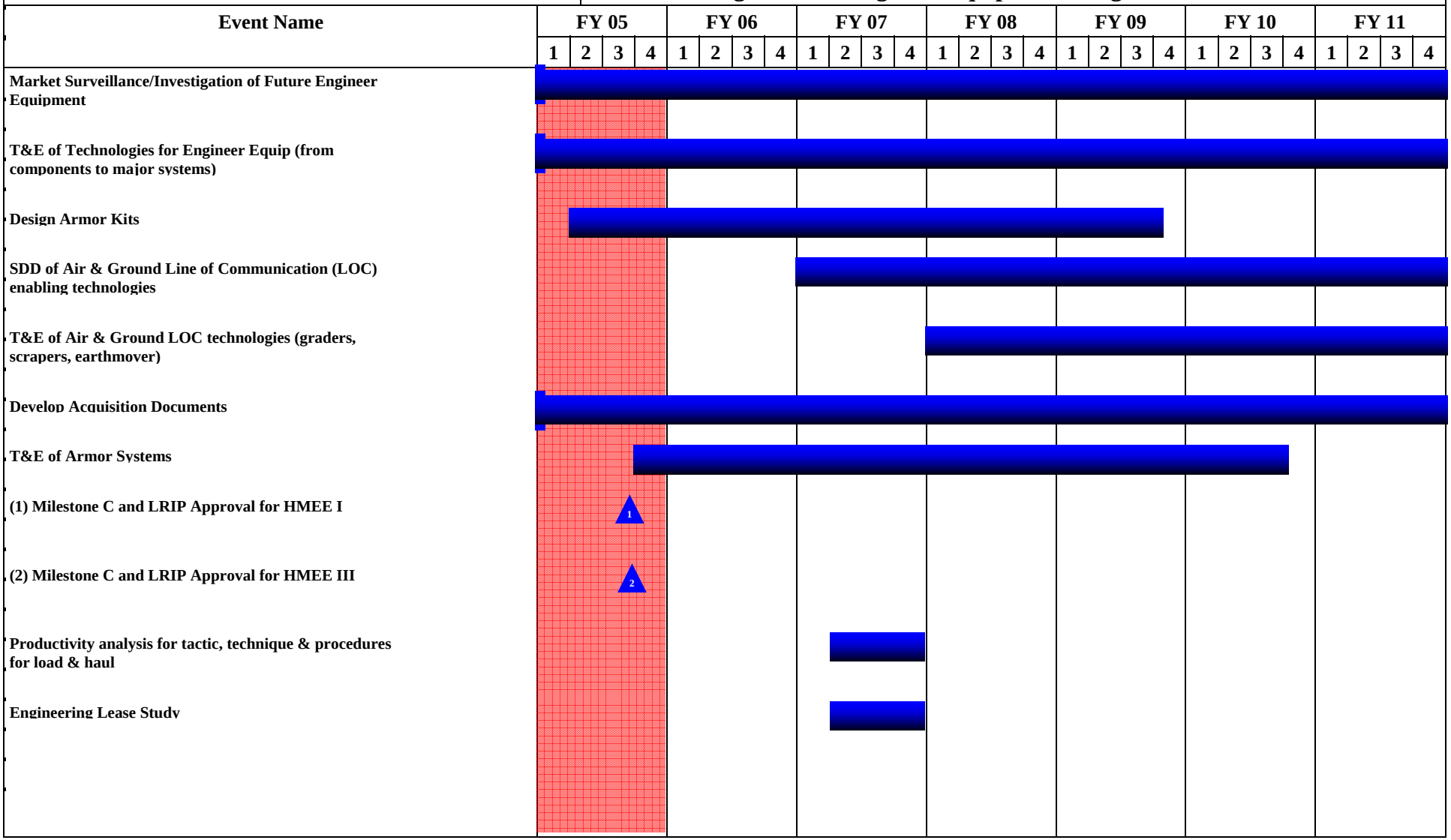
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
H01



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
H01

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Market Surveillance/Investigation	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Test and Evaluation of Future Engineer Equipment	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Design Armor Kits for various Construction Equipment systems	2-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
Air & Ground Line Of Communication (LOC) SDD			1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Air & Ground LOC Test & Evaluation				1-4Q	1-4Q	1-4Q	1-4Q
Develop Acquisition Documents	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
T&E Armor Systems	4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	
Productivity analysis for tactic, technique & procedure for load & haul			2-4Q				
Engineering Lease Study			2-4Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604804A - Logistics and Engineer Equipment - Eng Dev**	**H02**

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
H02	TACTICAL BRIDGING - ENGINEERING DEVELOPMENT	2374	983	2903	9404	23359	12237	12616	0	66753

A. Mission Description and Budget Item Justification: This project supports the engineering, system development and demonstration, and transition to procurement of Future Force Tactical Bridge Systems. Efforts supported include: Assessment of the Rapidly Emplaced Bridging System (REBS) for the Stryker Brigade Combat Team (SBCT) the development, integration and testing of forth-six meter capability for the Dry Support Bridge (DSB). Also included: is the development, integration and testing for float capabilities for the Dry Support Bridge (DSB, development, integration and testing an electronically controlled replacement engine for the Bridge Erection Boat (BEB), a remote controlled automatic launch for the REBS and finally integrate and test the REBS on an FCS chassis.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05: Completed Operational testing of the REBS.	1712	0	0
FY05-FY07: Continues Development, integration, and test for the DSB 46 meter bridge.	662	704	0
FY06-FY07: Continues Development, integration, and test for the DSB Float Bridge.	0	279	2903
Total	2374	983	2903

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, MX0100, Tactical Bridge	33979	25853	69608	50455	68584	60845	61364	CONT	CONT
OPA3, MA8890, Tactical Bridging, Float Ribbon	28540	5834	80093	74785	105627	85999	49451	CONT	CONT

C. Acquisition Strategy Limited RDT&E effort to support testing and follow-on production.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
H02

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
DSB 46 meter bridge	SS-CPFF	WFEL, Stockport, England	0	662	1Q	704	1Q	0		Continue	0	1366
DSB float bridge	SS-CPFF	WFEL, Stockport, England	0	0		269	1Q	2893	2Q	6000	0	8944
Subtotal:			0	662		973		2893		Continue	0	10310

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 Government Agencies	MIPR	TACOM, Warren, MI--Various	120	0	1Q	10	1Q	10	1Q	0	0	0
Subtotal:			120	0		10		10		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
REBS OT	MIPR	HQ OTC, Ft Hood, TX	912	1712	1Q	0		0		0	0	1714
DSB 46 meter Bridge	SS-CPFF	WFEL, Stockport, UK	246	0		0		0	1Q	0	0	208
Subtotal:			1158	1712		0		0		0	0	1922

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
Program Management Support	NA	TACOM, Warren, MI	727	0		0		0		0	727	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604804A - Logistics and Engineer Equipment - Eng Dev**	**H02**

Subtotal:	727	0		0		0		0	727	0
Project Total Cost:	**2005**	**2374**		**983**		**2903**		**6000**	**727**	**12232**

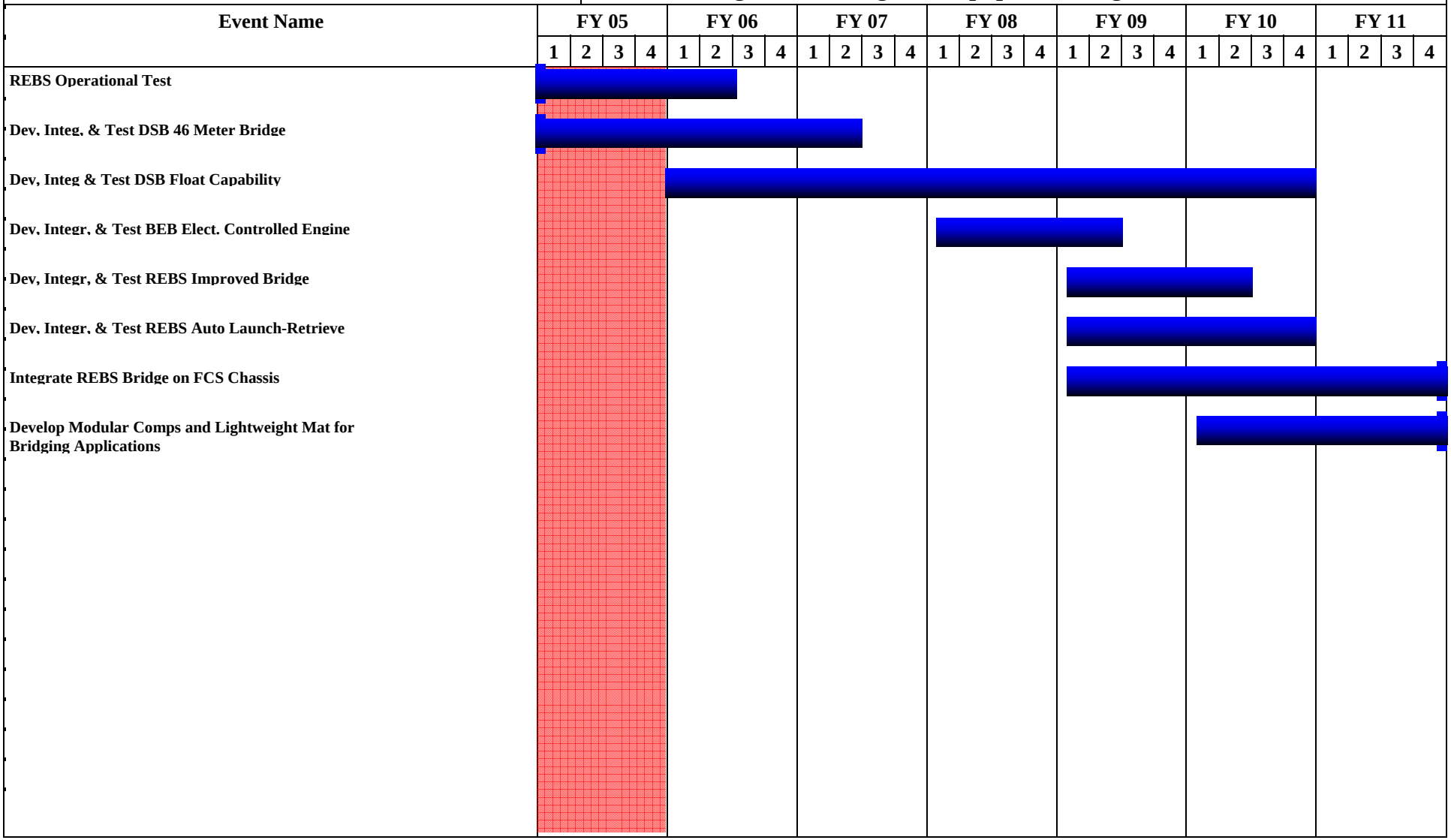
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
H02



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
H02

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
REBS Operational Test	1-4Q	1-3Q					
Develop DSB 46 Meter Bridge	1-4Q						
Integrate and Test DSB 46 Meter Bridge	1-4Q	1-3Q					
Develop DSB Float Bridge Capability		2-4Q	1-4Q	1-4Q			
Integrate DSB Float Bridge Capability					1-4Q		
Test DSB Float Bridge Capability						1-4Q	
Develop BEB Electronically Controlled Engine				1-3Q			
Integrate BEB Electronically Controlled Engine				4Q	1Q		
Test BEB Electronically Controlled Engine					1-2Q		
Develop New REBS Improved Bridge					1-3Q		
Integrate New REBS Improved Bridge					3-4Q		
Test New REBS Improved Bridge						1-2Q	
Develop REBS Fully Automated Launch/Retrieve					1-4Q		
Integrate REBS Fully Automated Launch/Retrieve						1-2Q	
Test REBS Fully Automated Launch/Retrieve						3-4Q	
Integration of REBS on Future Combat System (FCS) Chassis					1-4Q	1-4Q	1-4Q
Develop Modular Comps and Lightweight Material for Bridging Applications						1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604804A - Logistics and Engineer Equipment - Eng Dev**	**L39**

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
L39	Field Sustainment Support ED	4409	1911	8450	11047	7111	6664	6690	0	55297

A. Mission Description and Budget Item Justification: This project supports the System Development and Demonstration (SDD) of critical distribution and sustainment capabilities to include cargo aerial delivery, field shelters, showers, latrines, heaters, environmental control units, mortuary affairs, organizational equipment, and other combat service support equipment to fill identified theater distribution and services capability gaps, improve unit sustainability, and increase combat effectiveness. Project supports the demonstration of engineering development models and Type Classification of cargo parachutes, airdrop containers and other aerial delivery equipment to improve safety, effectiveness, and efficiency of airborne operations. Project supports development of tactical field systems and support equipment. This project develops critical enablers that support the Quartermaster (QM) Force Transformation Strategy and The Army's Modular Force Capabilities by maintaining readiness through fielding and integrating new equipment. This project also ensures Army Expeditionary Forces are capable of rapid deployment by providing aerial delivery initiatives. These reduce sustainment requirements, related Combat Support/Combat Service Support (CS/CSS), lift demands, the combat zone footprint, and costs for logistical support.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY 05: Obtained Milestone B approval and initiated development of Mobile Integrated Remains Collections System (MIRCS) prototypes. FY 06: Complete fabrication of MIRCS prototypes and initiate Developmental Testing (DT). FY 07: Complete DT and conduct Operational Testing (OT). Complete documentation and prepare for Milestone C package for MIRCS to transition into production.	1463	1425	1808
FY 05: Obtained Milestone C. Awarded Low Rate Initial Production (LRIP) contract, completed Field Evaluation for the 60k BTU Space Heater Convective (SHC).	56	0	0
FY 05: Completed Design Validation (DV) for 500' Low Velocity Airdrop System (LVADS).	1552	0	0
FY 05: Completed DT of platform and nets on the Enhanced Containerized Delivery System (ECDS). Procured OT test items. FY 06: Initiate and complete OT and obtain Milestone C for ECDS.	846	200	0
FY 05: Concluded technical feasibility and conducted DT of Extraction Parachute Jettison System Heavy (EPJS(H)). Procured OT test items. FY 06: Complete OT, obtain Milestone C and transition into production.	492	286	0
FY 07: Procure Joint Precision Airdrop System (JPADS) 2k DT and OT test prototypes and conduct JPADS 2k System DT.	0	0	6642
Total	4409	1911	8450

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA3, MF9303, Environmental Control Units (ECU)	4702	1724	3862	3492	4556	4064	2842	CONT	CONT
OPA 3, M77700 Mobile Integrated Remains Collection System	0	0	0	9941	17925	18491	3905	CONT	CONT

C. Acquisition Strategy Accelerate product development and testing to transition into production.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
L39

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
Soldier Support Equipment	In-House	PM FSS, Natick	1005	426	1-4Q	280	1-4Q	810	1-4Q	Continue	2521	3241
Soldier Support Equipment	In-House	CECOM, FT Belvoir	1441	0	1-4Q	0	1-4Q	0	1-4Q	Continue	1441	0
Soldier Support Equipment	Contracts	Various	4817	1839	1-2Q	1273	1-2Q	4448	1-2Q	Continue	0	0
Subtotal:			7263	2265		1553		5258		Continue	3962	3241

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	MIPR	DTC, MD and ATC, MD	580	132	1-4Q	100	1-4Q	804	1-4Q	Continue	0	130
Soldier Support Equipment	MIPR	Yuma Proving Ground, AZ, AEC	1896	1876	1-4Q	200	1-4Q	2143	1-4Q	Continue	0	76
Subtotal:			2476	2008		300		2947		Continue	0	206

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
Project Management Support		PM FSS, Natick	250	136	1-4Q	58		245		Continue	0	0
Subtotal:			250	136		58		245		Continue	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604804A - Logistics and Engineer Equipment - Eng Dev**	**L39**

Project Total Cost:	**9989**	**4409**		**1911**		**8450**		**Continue**	**3962**	**3447**

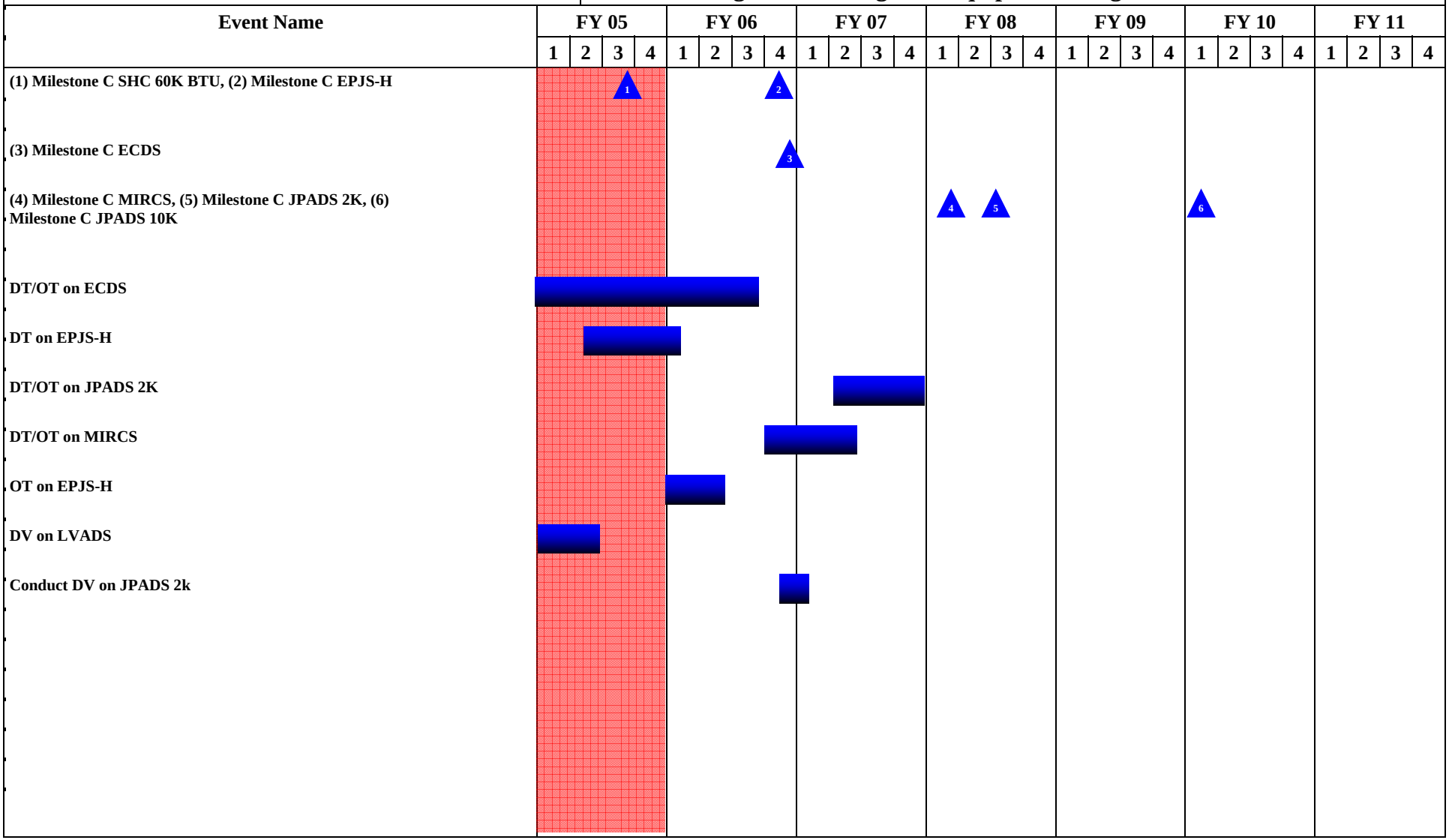
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
L39



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
L39

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Conduct DT/OT on the Mobile Integrated Remains Collection System (MIRCS).		4Q	1-2Q				
Conduct Milestone C Decision on the MIRCS and transition into production.				1Q			
Obtain Milestone C LRIP Decision on the 60k BTU SHC.	3Q						
Conduct DV on Advanced Low Velocity Airdrop System (LVADS).	1-2Q						
Conduct DT on Enhanced Containerized Delivery System (ECDS).	1-4Q	1Q					
Conduct OT on ECDS.		2-3Q					
Conduct Milestone C Decision on ECDS.		4Q					
Conduct DT on Extraction Parachute Jettison System - Heavy (EPJS-H).	2-4Q	1Q					
Conduct OT on EPJS-H.		1-2Q					
Conduct Milestone C Decision on EPJS-H.		4Q					
Initiate JPADS 2k System DT.			2Q				
Complete JPADS 2k System DT.			3Q				
Initiate JPADS 2k System OT.			3Q				
Complete JPADS 2k System OT.			4Q				
Conduct Milestone C on JPADS 2k System.				3Q			
Conduct Milestone C on JPADS 10k System.						1Q	
Conduct DV on JPADS 2k		4Q	1Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604804A - Logistics and Engineer Equipment - Eng Dev**	**L41**

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
L41	WATER AND PETROLEUM DISTRIBUTION - ED	8018	2156	7299	3610	3681	3644	3675	0	41164

A. Mission Description and Budget Item Justification: Description: This projects provides all services ample supply of clean fuel and water. The Army has the mission to supply fuel for all land-based forces, including the Marines and the Air Force, and must supply bulk drinking water to its soldiers. This System Development and Demonstration (SDD) program enables the Army to improve maneuver sustainment operations to meet the demands of the Stryker Brigade Combat Teams and Future Force. The mission includes receiving and transferring petroleum from trucks, ships, pipelines and permanent and temporary storage facilities; moving petroleum from storage to and within corps and division areas; fuel quality surveillance testing; and dispensing in support of tactical operations, including rapid refueling of aircraft. The Rapidly Installed Fuel Transfer System (RIFTS) is being developed as an enhancement system for bulk fuel distribution and does not replace the Inland Petroleum Distribution System (IPDS). RIFTS can be deployed at a rate of 20-30 miles per day as compared to 2-3 miles per day for IPDS. Additionally, the mission covers purification, storage, distribution, and quality control of water. The Army cannot fight without clean fuel and water. These R&D missions support the development and enhancement of rapidly deployed Petroleum and Water equipment which enables the Army to achieve its transformation vision by providing a highly mobile and self-sustaining system in hostile theaters of operation.

Justification: FY07 procures modules for the Rapidly Installed Fuel Transfer System (RIFTS). RIFTS is a bulk fluid distribution system which will consist of four major modules: conduit deployment/retrieval module (Block I), automated pumping station (APS), command and control module (C2M) with leak detection capabilities, and computer based planning aid (Block II). The state-of-the-art technology in Block II will significantly enhance the Army's bulk fuel distribution capabilities over the Inland Petroleum Distribution System (IPDS). IPDS pumps, due to their age and condition, are only marginally supportable. The Block II enhancements will increase mobility by becoming smaller and more efficient and will provide fuel throughput of 850,000 gallons (850K) of liquid per day. Integration of the C2M and the computer based planning aid will increase alertness and responsiveness by providing a quick optimum route for system layout and provide real time system operational status. The leak detection capability will provide fast and precise location of leak points. FY07 funding will focus on further development, integration, and maturation of these essential system capabilities. RIFTS Block II will provide significantly improved technological capabilitiy and a sharply reduced logistics footprint, which is critical to the Warfighter. The RIFTS will be the primary means of transferring bulk fuel from theater to corps or even the division rear area because it can be rapidly emplaced and used for early entry. If the RIFTS Block II is not funded, these key capabilities will either not be available or will be severely limited in their effect. Deployability, responsiveness, and logistic footprint would all be negatively impacted. Without a full RIFTS capability, line haul tank trucks (5,000 gallon (5K)) would be required for early entry sustainment, resulting in a larger logistical footprint and congestion on the Main Supply Route (MSR). Currently it takes 170 (5K) tank trucks and 340 soldiers to transfer 850K gallons of fuel per day. Also, significantly more money will have to be dedicated towards RESET/refitting IPDS if the RIFTS is not funded.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05: Evaluated commercial water treatment components for P3I for water purification systems.	297	0	0
FY05: Completed Rapidly Installed Fuel Transfer System (RIFTS) Block I development, prototype design, fabrication, and test.	2607	0	0
FY05-FY06: Continues Rapidly Installed Fuel Transfer System (RIFTS) Block I development and testing.	5114	2156	0
FY07: Continues Rapidly Installed Fuel Transfer System (RIFTS) Block II development, prototype design, fabrication and test.	0	0	7299

Total	8018	2156	7299

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0603804/K41, Logistics and Engineer Equipment - Advanced Development	3823	3265	4592	3670	3583	3446	3475	CONT	CONT
OPA 3, R05600, Water Purification Systems	59467	8768	9769	29628	33367	33138	20967	CONT	CONT
OPA 3, MA6000, Distribution Systems, Petroleum & Water	62077	59477	67867	98726	155464	201052	204458	CONT	CONT

C. Acquisition Strategy System Development and transitions to competitive procurement for most items under this project. Exceptions include Small Business Set Aside for the Rapidly Installed Fuel Transfer System (RIFTS).

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
L41

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
Rapidly Installed Fuel Transfer System (RIFTS) - BLOCK I	In-House	TARDEC, Warren, MI	1402	910	1-4Q	200	1-4Q	0		Continue	2512	Continue
RIFTS - BLOCK I	C-CPFF	Southwest Research Institute, San Antonio, TX	5833	3487	2Q	1052	1Q	0		Continue	0	Continue
RIFTS - BLOCK II	C-CPFF	Southwest Research Institute, San Antonio, TX	0	0		0		6671	2Q	Continue	0	Continue
RIFTS - BLOCK II	In-House	TARDEC, Warren, MI	0	0		160	1Q	350	1-4Q	Continue	510	Continue
Subtotal:			7235	4397		1412		7021		Continue	3022	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
Rapidly Installed Fuel Transfer System (RIFTS) - Block II	In-House	TACOM, Warren, MI	76	0		0		150	1Q	Continue	226	Continue
Subtotal:			76	0		0		150		Continue	226	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
Rapidly Installed Fuel Transfer System (RIFTS) - PQT-Block I	MIPR	YPG, Yuma, AZ	300	3324	3-4Q	604	2-4Q	0		3624	3624	3624
Water Purification P3I	MIPR	NFESC, Port Hueneme, CA	35	297	1Q	0		0		332	332	Continue
Subtotal:			335	3621		604		0		3956	3956	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
L41

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
Program Management Support-Rapidly Installed Fuel Transfer System (RIFTS)	In-House	TACOM, Warren, MI	877	0		100	1Q	78	1Q	Continue	1055	Continue
Program Management Support - RIFTS	Contract	ICI, Dayton, OH	0	0		40	2Q	50	2Q	Continue	90	Continue
Subtotal:			877	0		140		128		Continue	1145	Continue
Remarks: Not Applicable												
Project Total Cost:			**8523**	**8018**		**2156**		**7299**		**Continue**	**8349**	**Continue**

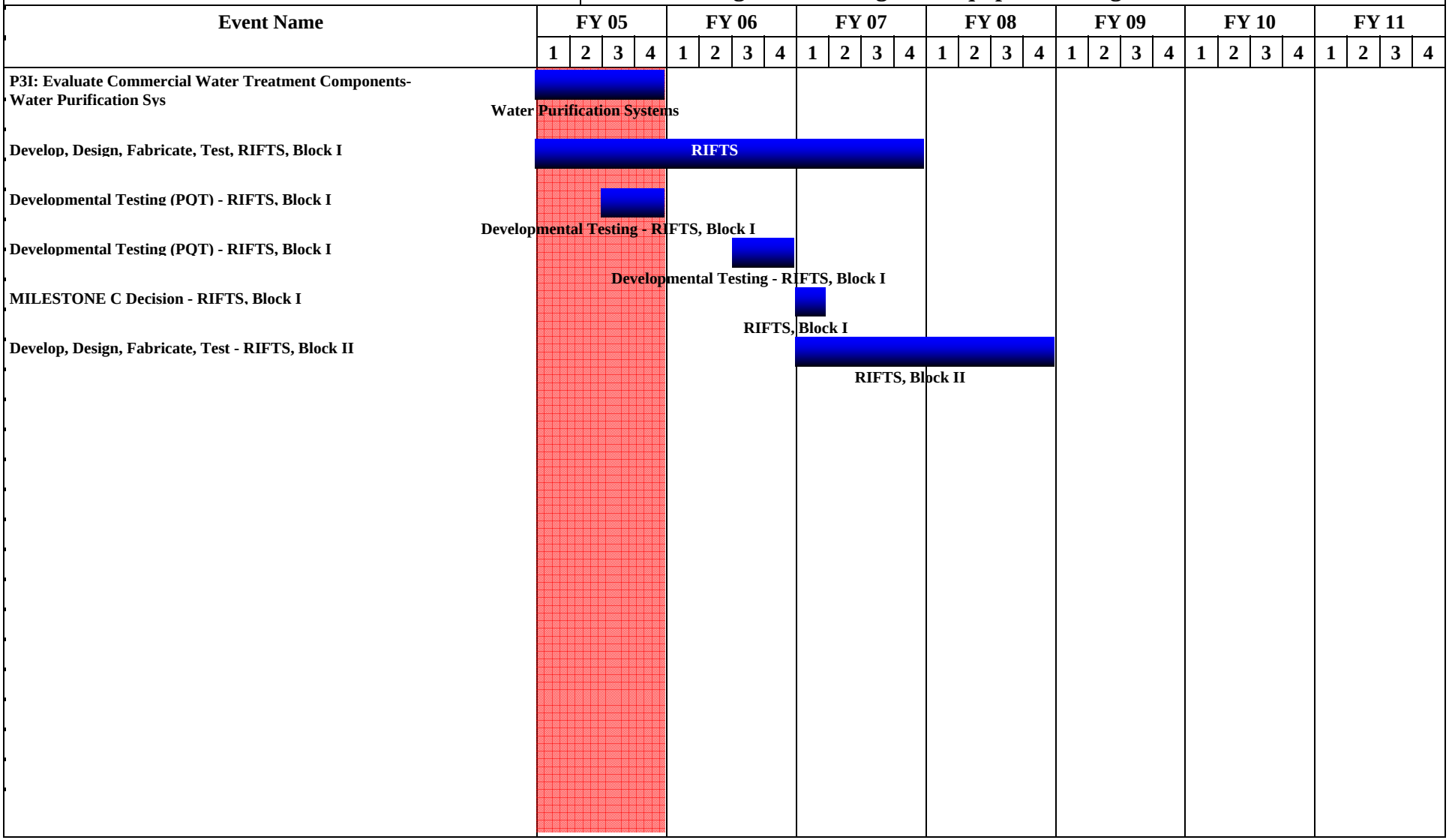
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
L41



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
L41

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Evaluate commercial water treatment components for P3I for water purification systems.	1-4Q						
Rapidly Installed Fuel Transfer System (RIFTS) Blk I;develop, prototype design, fabricate, and test,	1-4Q	1-4Q	1-4Q				
RIFTS Developmental Testing - PQT- Block I	3-4Q	3-4Q					
RIFTS - Milestone C - Block I			1Q				
RIFTS, Block II; develop, prototype design, fabricate, and test.			1-4Q	1-4Q			

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604804A - Logistics and Engineer Equipment - Eng Dev**	**L46**

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
L46	Maintenance Support Equipment	5447	0	1424	1466	1526	3363	3622	0	17319

A. Mission Description and Budget Item Justification: This project supports systems development and demonstration within the Maintenance Support Equipment (MSE) arena for automotive tool sets, forward repair mobile maintenance systems, individual & unit tool kits, and ground & aviation shop, Sets Kits Outfits and Tools (SKOT) used in support of Modularity.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY07: Optimization of antiquated SKOTs to support modularity in a 2 level maintenance environment	957	0	1199
FY07: Standard Automotive Tool Set (SATS) future field modules and feasibility of incorporating LHS capability.	173	0	225
FY05: Completed Mobile Parts Hospital	4317	0	0
Total	5447	0	1424

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA 3 ML5345/MA9650 SATS	9345	2269	0	19187	18789	18366	17350	CONT	CONT

C. Acquisition Strategy Programs will progress from System Development and Demonstration(SDD), transition into production, and incorporate enhanced future technologies.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
L46

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
MSE Life Cycle Configuration Analyses and Initial Capabilities Document (ICD) Development Support	In-House	PM SKOT Rock Island	158	347	1-2Q	0		409	1-3Q	Continue	0	Continue
SATS Additionl Field Maintenance Module Development and feasibility of incorporating LHS capability	In-House	PM SKOT Rock Island	173	10	1Q	0		125	1-3Q	Continue	0	Continue
Mobile Parts Hospital	MIPR/IN HOUSE	TARDEC/PM SKOT ROCK ISLAND	0	4015	2-3Q	0		0		0	0	0
Subtotal:			331	4372		0		534		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
Life Cycle Configuration Analyses & Support to Initial Capabilities Document Dev	In-House	PM SKOT Rock Island	15	37	1-2Q	0		100	1-2Q	Continue	152	Continue
Mobile Parts Hospital	In-House	PM SKOT Rock Island	0	302		0		0		Continue	0	0
Subtotal:			15	339		0		100		Continue	152	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
Life Cycle Configuration Analyses & Support to ICD Development	MIPR/In-House	Army Test & Evaluation Command(ATEC)/PM SKOT Rock Island & CASCOM Ord Cntr & School, Ft Lee	0	430	1-2Q	0		400	1-2Q	Continue	830	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604804A - Logistics and Engineer Equipment - Eng Dev**	**L46**

SATS Additionl Field Maintenance Modules and feasability of incorporating LHS capability	MIPR/In-House	Army Test and Evaluation Command (ATEC) & PM SKOT Rock Island	0	163	1-3Q	0		100	1-3Q	Continue	263	0
Subtotal:			0	593		0		500		Continue	1093	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
Conduct SKOT Modernization Efforts	MIPR/In-House	Army Test & Evaluation Command & PM SKOT Rock Island	125	143	1-2Q	0		290	1-3Q	Continue	558	0
Subtotal:			125	143		0		290		Continue	558	0
Project Total Cost:			**471**	**5447**		**0**		**1424**		**Continue**	**1803**	**0**

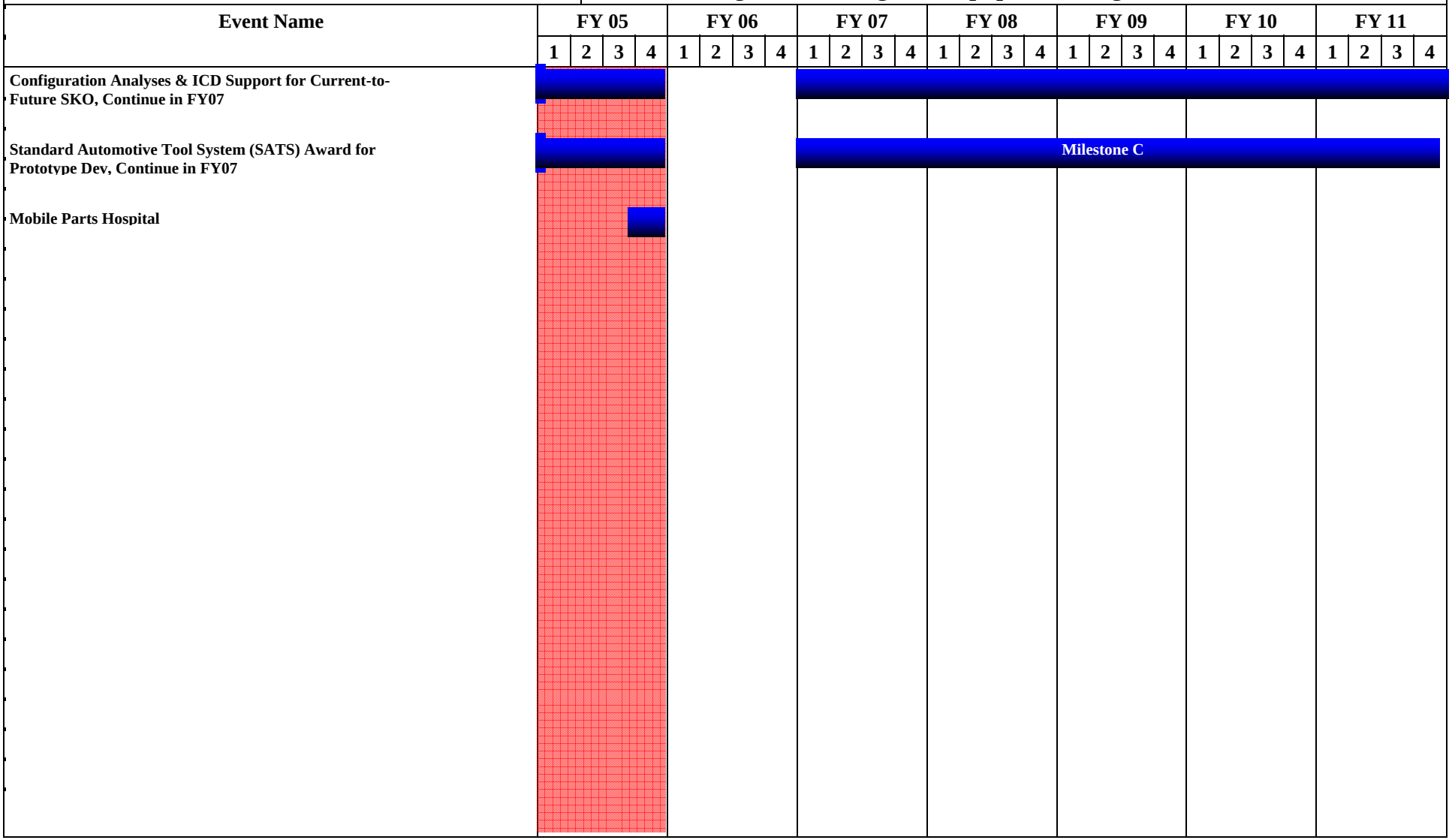
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
L46



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604804A - Logistics and Engineer Equipment - Eng Dev

PROJECT
L46

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Configuration Analyses for Current-to-Future and SBCT SKOTand ICD Support	1-4Q		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Standard Automotive Tool Systems (SATS) Award for Prototype Dev	1-4Q		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Mobile Parts Hospital	1-4Q						

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

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	217686	318947	10783	10126	9876	10155	10444	0	871383
097	Interop & Standards Compliance Experiment & Test	61	0	0	0	0	0	0	0	3950
485	Info Standards Interop Eng/Joint Interop Cert	2469	5161	5237	4876	4801	4884	5175	0	42243
589	ARMY SYS ENGINEERING & WARFIGHTING TECH SUP	5754	5364	5546	5250	5075	5271	5269	0	48785
591	Wpn Sys Tech Arch (WSTA)	559	0	0	0	0	0	0	0	3434
615	JTRS-GROUND DOMAIN INTEGRATION	97232	172337	0	0	0	0	0	0	525275
61A	JTRS CLUSTER 5 DEVELOPMENT	96042	128791	0	0	0	0	0	0	224833
F99	NUCLEAR ARMS CTRL TECH - SENSORE NETWORK MONIT	15569	7294	0	0	0	0	0	0	22863

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, which is being renamed to Ground Mobile Radios (GMR). This project provides for the development of Ground Vehicular platforms. Project D61A supports JTRS Cluster 5 program, which is being renamed to Handheld, Manpack, and Small Form Fit (HMS) radios. 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).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	218402	393062	320725
Current BES/President's Budget (FY 2007)	217686	318947	10783
Total Adjustments	-716	-74115	-309942
Congressional Program Reductions		-69241	
Congressional Rescissions		-4615	
Congressional Increases			
Reprogrammings	-716		
SBIR/STTR Transfer			
Adjustments to Budget Years		-259	-309942

FY06 Congressional Reductions
FY07 Realignment to higher Army Priorities

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604805A - Command, Control, Communications Systems - Eng Dev**	**485**

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
485	Info Standards Interop Eng/Joint Interop Cert	2469	5161	5237	4876	4801	4884	5175	0	42243

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 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 Enterprise Architecture (AEA). Specifically, this project resources the Army's messaging standards conformance authority in assessing compliance with the Defense Information Systems Repository (DISR), in meeting the warfighter information exchange requirements and in facilitating their interoperability. It also resources, in accordance with the DISR, 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 2005	FY 2006	FY 2007
Develop and update architecture standards and protocols necessary to ensure C4ISR systems interoperabilty.	1285	1425	1552
Conduct, chair & manage at multiple Army CCBs (Configuration Control Boards) and represent the Army at multiple Army/Joint CCBs	500	0	0

to support existing and evolving warfighter interoperability.			
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	0	0	0
Engineer, develop & publish Army Warfighter Information Standards (i.e. XML-USMTF/VMF,Wireless XML, database exchange, etc...) incorporating DoD standards requirements.	0	1200	1200
Identify, analyze, and provide solutions to gaps in technical architecture standards requirements.	200	1200	1140
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.	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	1136	1200
Knowledge Center Development - Build & update as necessary access to website repositories for key policies, directives, and architecture products.	476	200	145
Funds not received	8	0	0
Total	2469	5161	5237

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)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
485

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
Labor	In House	USACECOM , Fort Monmouth, NJ	11459	1070	1-4Q	5236		5495		Continue	0	0
Travel	In House	USACECOM, Fort Monmouth, NJ	346	111	1-4Q	0		0		Continue	457	0
Subtotal:			11805	1181		5236		5495		Continue	457	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
Development Support	C/CPFF	Arinc, Fort Monmouth, NJ	5699	0		0		0		0	5699	0
Development Support	C/CPAF	Telos, Fort Monmouth, NJ	4581	0		0		0		0	4581	0
Development Support	C/CPFF	CSC, Fort Monmouth, NJ	1963	0		0		0		0	1963	0
Development Support	C/CPFF	C3I, Fort Monmouth, NJ	1374	0		0		0		0	1374	0
Development Support	SS/CPFF	Mitre, Fort Monmouth, NJ	280	0		0		0		0	280	0
Development Support/ Army Enterprise Applications Architecture	C/T&M	Binary, Ft. Belvoir, VA	46	0		0		0		0	46	0
Development Support- Knowledge Center	C/T&M	ITEL, Ft Monmouth, NJ	1198	0		0		0		0	1198	0
Development Support	C/T&M	ITEL, Ft Monmouth, NJ	2018	622	2Q	0		0		Continue	2640	0
Development Support	C/T&M	Northrop Grumman (SEC SSES), Ft Monmouth, NJ	1973	606	2Q	0		0		Continue	2579	0
Technical Support	C/CPFF	TFE, Fort Monmouth, NJ	65	30	2-3Q	0		0		Continue	95	0

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5 - System Development and Demonstration

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Technical Support	C/CPFF	Marconi, Fort Monmouth, NJ	183	0		0		0		0	183	0
Equipment	In House	USACECOM, NJ	455	30	4Q	0		0		Continue	485	0
Equipment (Development Support)	C/FFP	GTE, Tauton, MA	106	0		0		0		0	106	0
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.

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									

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									

Project Total Cost:	**32891**	**2469**		**5236**		**5495**		**0**	**22831**	**0**

Schedule Detail (R4a Exhibit)

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BUDGET ACTIVITY
5 - System Development and Demonstration

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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Knowledge Center Development	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							
Experiment/Evaluate Joint Interoperability in conjunction with CIPO initiatives	1-4Q	1-4Q	1-4Q				
Conduct Joint/Coalition Experiments	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) Standard	1-4Q						
Develop and maintain Variable Message Format (VMF) application header standards	1-4Q						
Develop and maintain Variable Message Format (VMF) Standards & standard databases	1-4Q						
Configuration Management and control of TADIL(A,B,J) and USMTF standards	1-4Q						
Represent Army on Army/DOD forums	1-4Q						
Test and promulgate Defense Collaborative Tools Set within the Army	1-4Q						

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604805A - Command, Control, Communications Systems - Eng Dev**	**589**

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
589	ARMY SYS ENGINEERING & WARFIGHTING TECH SUP	5754	5364	5546	5250	5075	5271	5269	0	48785

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 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.	1480	1772	1716
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	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)	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.	740	740	740
DISR Compliance Requirements -Ensure Program Managers have an executable and effective strategy for implementing the Army/DoD Technical Architecture standards.	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.	740	835	925
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.	370	370	370
Define and exploit (through analysis) the relationships between architectural views to provide quantitative answers to complex questions	370	370	370

regarding the Army's future capabilities and the roadmap the Army will pursue in realizing them.			
Provide systems engineering solutions including techincal architectures for Army systems supporting Joint Blue Force Situational Awareness (JBFSA)initiative	1455	500	500
Total	5754	5364	5546

C. Acquisition Strategy Not applicable for this item

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

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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
Government Systems Engineering Support	In House	ASEO, DCTS, PING/03 only, Fort Monmouth, NJ	11755	1978	1-4Q	1978		1978		Continue	17689	0
Contract Support	C & T&M-R	C3ISGI, Tinton Falls, NJ	3080	0		0		0		0	3080	0
Contract Support	C & FP	TRW, Domingues Hills, CA	1281	0		0		0		0	1281	0
Overhead		ASEO/WTS CECOM, Fort Monmouth, NJ	1422	0		0		0		0	1422	0
Contract Systems Engineering Support	C & FP	Battelle, Alexandria, VA	354	0		0		0		0	354	0
System Development and Integration	MIPR	PEO C3S, PM TOCS, Fort Monmouth, NJ	25	0		0		0		0	25	0
Travel	In House	SEC, USACECOM, Ft. Monmouth, NJ	0	20	1-4Q	25		25		0	70	0
Development Support	C/T&M	Northrop Grummon (SEC SSES), Ft. Monmouth, NJ	0	50	2Q	50		50		0	150	0
Contract Systems Engineering Support	C & FP	SRI, Menlo Park, CA	199	0		0		0		0	199	0
Labor (Internal Government)	In House	SEC, USACECOM, Ft. Monmouth, NJ	0	867	1-4Q	867		867		0	2601	0
Equipment	In House	USACECOM, NJ	0	5	4Q	5		5		0	15	0
Development Support	C & TM	ITEL, Mays Landing, NJ	0	50	2Q	50		50		0	150	0
Contract Support	C & FP	Lockheed Martin, Eatontown, NJ	545	0		0		0		0	545	0
Development Support - Army Enterprise Applications Architecture	C/T&M	Binary, Ft. Belvoir, VA	0	0	3-4Q	0		0		0	0	0
Contract Support	C & T&M	SAIC, Falls Church,	1811	0		0		0		0	1811	0

		VA										
Contract Systems Engineering Support	C & FP	SRC, Atlanta, GA	612	0		0		0		0	612	0
Contract Systems Engineering Support	SS & FP	MITRE, Tinton Falls, NJ	7457	507	1-2Q	167	1Q	299		0	8430	0
Systems Engineering and Integration	MIPR	WTS - ISIO CECOM, Fort Monmouth, NJ	2341	0		0		0		Continue	2341	0
Contract Support	C & T&M	Datron, Simi Valley, CA	305	0		0		0		0	305	0
Contract Systems Engineering Support	C & FP	Gemini, Billerica, MA	137	0	2Q	0		0		0	137	0
Development Support- Knowledge Center	C & TM	ITEL, Mays Landing, NJ	849	0	2Q	0		0		0	849	0
Contract Support	IPA Agreement	Rutgers University, New Brunswick, NJ	528	0		0		0		0	528	0
Contract Systems Engineering Support	C & FP	Suntek Systems, Eatontown, NJ	460	0		0		0		0	460	0
Contract Systems Engineering Support	C & FP	HTPi, Shrewsbury, NJ	145	0		0		0		0	145	0
Contract Support	C & TM	Telos, Eatontown, NJ	24	0		0		0		0	24	0
Engineering Support	MIPR	ISEC, Fort Huachuca, AZ	1357	0	1-2Q	0		0		Continue	1357	0
Contract Support	C & TM	PTG/CACI, Eatontown, NJ	26	0		0		0		0	26	0
Contract Systems Engineering Support	C & FP	Litton, Reading, MA	245	0		0	1Q	245		0	490	0
Contract Support	C & FP	CSC, Eatontown, NJ	1746	0		0	1-2Q	0		0	1746	0
Contract Support	C & FP	Janus Research Group, Appling GA	72	0		0		0		0	72	0
Contract Support	C & T&M	BAE, Tinton Falls, NJ	139	0		0		0		0	139	0
Contract Systems Engineering Support	C & FPI	CSC, Eatontown, NJ	9883	2220	1-4Q	2220		2220		0	16543	0
Contract Systems Engineering Support	C & FP	GTE/BBN, Cambridge, MA	960	0		0		0		0	960	0

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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

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			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									

Project Total Cost:	**49134**	**5777**		**5442**		**5819**		**0**	**66172**	**0**

Schedule Detail (R4a Exhibit)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
TA - JTA-A 7.5							
TA - JTA-A 7.0							
TA - JTA 5.0							
TA - JTA 6.0							
SWB Shortfall Analysis							
AS-IS, AS-IS Plus Comms Analysis							
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				
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

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604805A - Command, Control, Communications Systems - Eng Dev**	**615**

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
615 JTRS-GROUND DOMAIN INTEGRATION	97232	172337	0	0	0	0	0	0	525275

A. Mission Description and Budget Item Justification: Project D615 supports the Joint Tactical Radio System (JTRS) Cluster 1 development efforts. JTRS products have been restructured under the Joint Program Executive Officer (JPEO) JTRS. JTRS Cluster 1 is now a product line under JTRS Ground Systems and will be renamed to Ground Mobile Radio (GMR). The JTRS GMR RDTE program will enable the Services 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 transformation and will provide critical communications capabilities across the spectrum of operations in a Joint environment. The JTRS GMR will provide networking capability using the Wideband Networking Waveform and Soldier Radio Waveform to connect the unmanned sensors to the decision makers "On-The-Move" (OTM) which will significantly reduce the decision cycle. The JTRS GMR is the key enabler for connectivity OTM to the Global Information Grid, an essential multiplier to network centric warfare. The GMR JTRS is a Joint program encompassing the incorporation of the JTRS Joint Waveforms Program Office (JWPO) developed waveforms (porting) and Ground Vehicular applications.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
JTRS Product Development (JTRS GMR Vehicular Hardware Design and Development of Prototypes and technical engineering support)	82028	155772	0
JTRS Test and Evaluation (JTRS EPG Testbed and Test Planning/Test Support/Electronic and Information Warfare Test and Evaluation/Labor)	4597	4174	0
JTRS Management Services (JTRS Program Management Office Support)	8777	10507	0
JTRS Support Costs (Systems Engineering and Technical Support)	1830	1884	0
Total	97232	172337	0

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Future Combat System (FCS), RDTE 60465A/F56/F61**	1622	2261	2415	2321	1862	1840	1891	CONT	CONT
RDTE, Army, 0604280A/162 (GMR)	0	0	219981	78739	67413	39191	15962	CONT	CONT
RDTE, Navy, 0604280N/3073 (GMR)	0	0	0	78308	67273	39139	15896	CONT	CONT
RDTE, Air Force, 0604280F/5068 (GMR)	0	0	0	78409	67708	39719	16223	CONT	CONT

Comment: Note: *Funding for the completion of development for GMR is contained in RDTE, Army, 0604280A/162 (GMR); RDTE, Navy, 0604280N/3073 (GMR); and RDTE, Air Force, 0604280F/5068 (GMR). **FCS funding reflects relevant JTRS GMR funding only and does not reflect entire FCS program funds. FCS JTRS GMR relevant funding is contained within Project F56 in FY 2004 and Project F61 in FY 2005.

C. Acquisition Strategy Project D615 supports the Joint Tactical Radio System (JTRS) Ground Mobile Radio (GMR), formerly Cluster 1, System Development and Demonstration efforts. After a successful Milestone B Decision in 3QFY02, the GMR development effort was awarded to develop multi-channel ground and airborne configurations (the airborne configuration is re-aligned under the new JTRS replan). The JTRS GMR 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 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 versions of the JTRS hardware, and successfully porting the waveforms to JTRS hardware produced by two different developers. Although Waveform development is part of the contract, the Waveform development is funded and managed under a separate project. In February 2005, all JTRS Clusters were realigned under the Joint Program Executive Office (JPEO) JTRS. The JTRS Defense Acquisition Executive (DAE) and Senior JTRS Leadership conducted a GMR replan meeting in November 2005. A replan option was selected which restructures the entire JTRS enterprise. This replan supports the formal rebaselining in early FY07 to the Capability Description Document (CDD) which is currently in staffing. The new strategy will be approved in an Acquisition Decision Memorandum (ADM), which is in the signature process. Under GMR, 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 as a product under the PM JTRS Ground Systems. In FY05, the program underwent some preliminary testing of hardware capabilities along with the restructuring of the program and on-going software development of the operating system. The FY06/07 budget supports continued development and support for the GMR sets to include the operating environment. The FY06 and out budget supports continued development and support for the GMR 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 GMR.

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - 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
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
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
JTRS GMR GFE	Various	Various	75	0		0		0		0	75	0
JTRS GMR (EPLRS Data Rights)	SS/FFP	Raytheon, Fullerton, CA	5000	0		0		0		0	5000	0
JTRS GMR SDD Development	C/CPAF	BOEING, Anaheim, CA	253602	81707	1-2Q	153325	1-2Q	0		Continue	0	0
Tactical Internet Integration	T&M	ITT, Ft. Wayne,IN	1792	0		0		0		0	1792	0
JTRS Development - System Engr Spt	various	MISC	3798	321	1-2Q	2447	1-2Q	0		Continue	0	0
ABCS System Engineering and Integration Efforts	Various	MISC	1227	0		0		0		0	1227	0
HMS Design and Development**	C/CPAF	TBD	21974	0		0		0		Continue	Continue	0
Technology Development Strategy Efforts	Various	Various	3214	0		0		0		Continue	0	0
Subtotal:			308319	82028		155772		0		Continue	Continue	17637

Remarks: The funding to complete the development efforts is contained in other funding lines as specified in the Other Program Funding.
*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 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
*NTDRS Test/Training/Logistics/Technical /Exercise Support	Various	Various	7562	0		0		0		0	7562	0
JTRS Antenna Studies	PWD	ARINC, Annapolis, MD	504	0		0		0		0	504	0
JTRS Technical Support	Various	Miscellaneous	10098	1830	1-2Q	1884	1-2Q	0		Continue	0	0

ABCS SE&I Effort			1633	0		0		0		0	1633	0
Subtotal:			19797	1830		1884		0		Continue	9699	0

Remarks: The funding to complete the development efforts is contained in other funding lines as specified in the Other Program Funding.
*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
*NTDRS Field Testing	MIPR	EPG, Fort Huachuca, AZ	95	0		0		0		0	95	0
JTRS Step 2C EPG Qual Testing/Customer Testing	MIPR	EPG, Fort Huachuca, AZ	2450	0		0		0		0	2450	0
JTRS EPG Testbed and Test Planning	MIPR	EPG, Fort Huachuca, AZ	3476	1239	1-4Q	1500	1Q	0		Continue	0	0
JTRS Modeling & Simulation	MIPR	USAIC	1588	320	2Q	600	1-2Q	0		Continue	0	0
JTRS Test Inhouse Spt & Govt Activities	Various	Various	2873	1425	1-2Q	1324	1Q	0		Continue	0	0
JTRS EOA/SIT/LUT/MOTE Test Activity		EPG, Fort Huachuca, AZ/Various	4190	1613	1-3Q	750	1-3Q	0		Continue	0	0
Subtotal:			14672	4597		4174		0		Continue	2545	0

Remarks: The funding to complete the development efforts is contained in other funding lines as specified in the Other Program Funding.
*NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

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
*NTDRS Program Support	MIPR	Fort Monmouth, NJ	655	0		0		0		0	655	0
JTRS Business/Engineering Management	Various	Various	14991	3145	1-4Q	3365	1-4Q	0		Continue	0	0
Project Management Office Support	Various	Various	12922	4934	1-4Q	6519	1-4Q	0		Continue	0	0
JTRS MITRE Support	PWD	MITRE Corp., Mclean, VA	3062	698	1Q	623	1Q	0		Continue	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

Data Base Correction Action			3240	0		0		0		0	0	0
Subtotal:			34870	8777		10507		0		Continue	655	0

Remarks: The funding to complete the development efforts is contained in other funding lines as specified in the Other Program Funding for all FY07 costs.
*NTDRS efforts prior to FY 2000 were funded in PE 0603713A, Proj D370

Project Total Cost:			**377658**	**97232**		**172337**		**0**		**Continue**	**38630**	**17637**

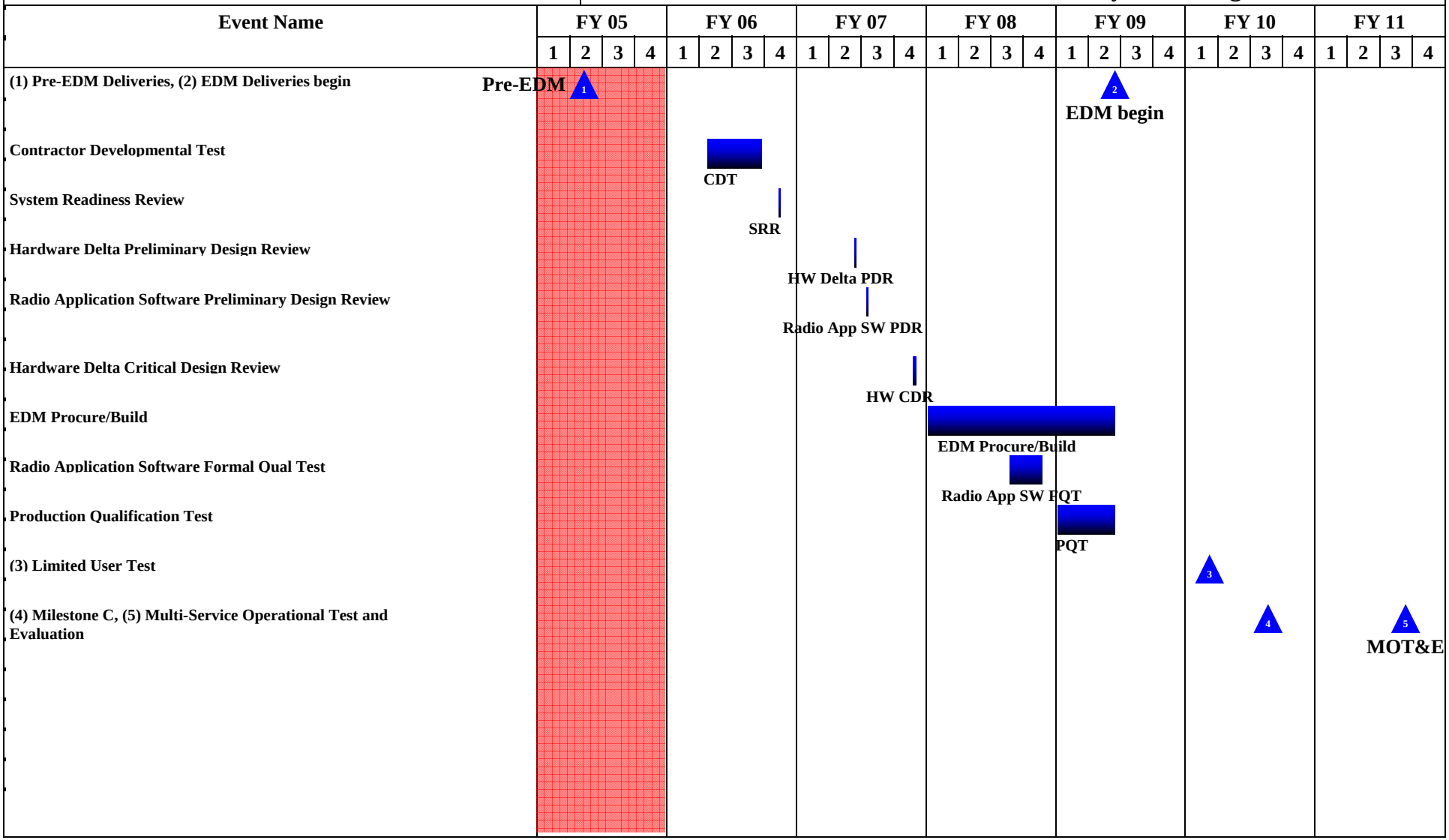
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
615



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
615

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Pre-EDM Deliveries	2Q						
Contract DevTest /Design VerificationTest Fault fix		2-3Q					
System Readiness Review		4Q					
HW Delta Preliminary Design Review			2Q				
Radio Applications SW Preliminary Design Review (PDR)			3Q				
Hardware CDR			4Q				
EDM procure/build				1-4Q	1-2Q		
Radio Application SW Functional Qualification Test				3-4Q			
EDM Delivery begin					2Q		
Product Qualification Test					1-2Q		
JTRS-Army GMR System Integration Test/Limited User Test (LUT)						1Q	
JTRS GMR Milestone C						3Q	
JTRS-Army GMR MOT&E							3Q
Product Improvements				1-4Q	1-4Q	1-4Q	2-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604805A - Command, Control, Communications Systems - Eng Dev**	**61A**

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
61A	JTRS CLUSTER 5 DEVELOPMENT	96042	128791	0	0	0	0	0	0	224833

A. Mission Description and Budget Item Justification: Project 61A supports the Joint Tactical Radio System (JTRS) Cluster 5 Research, Development, Test and Evaluation (RDT&E) development effort. JTRS products have been restructured under the Joint Program Executive Officer (JPEO) JTRS. JTRS Cluster 5 is now a product line under JTRS Ground Systems and will be renamed to Handheld, Manpack, and Small Form Fit (HMS) Radios. 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 provide transformational communication capabilities for the Warfighter. HMS provides the Warfighter with a software re-programmable, networkable, multi-band, multi-mode system capable of simultaneous voice, data and video communication. Increment 1 of the HMS program consists of the following form factors: 2 Channel Handheld, 2 Channel Manpack (including vehicular mounted), and a family of Small Form Fit (SFF) embedded applications (SFF-A, B, C, D, H, I and J).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
JTRS HMS Product Development of HMS radios.	84257	111247	0
JTRS HMS Test and Evaluation	5621	2023	0
JTRS HMS Management Services (JTRS Program Management Office Support)	3314	13051	0
JTRS HMS Support Costs (Technical Support)	2850	2470	0
Total	96042	128791	0

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, FCS, 654645/F61	13000	4000	0	0	0	0	0	0	17000
RDTE, Army, 0604280A/162 (HMS)	0	0	110948	35409	35759	23877	7380	0	213373
RDTE, Navy, 0604280N/3073 (HMS)	0	0	0	35215	35685	23845	7349	0	102094
RDTE, Air Force, 0604280F/5068 (HMS)	0	0	0	35261	35916	24198	7500	0	102875

Comment: Funding for the completion of development for HMS is contained in RDTE, Army, 0604280A/162(HMS); RDTE, Navy, 0604280N/3073(HMS); and RDTE, Air Force, 0604280F/5068(HMS).

C. Acquisition Strategy A successful Milestone (MS) B was achieved on April 26, 2004 to begin the development of the Handheld, Manpack, and Small Form Fit (HMS) Radios. Following full and open competition, a single Cost Plus Award Fee (CPAF) contract was awarded on July 16, 2004. The JTRS programs have since undergone a

restructuring. The JTRS Defense Acquisition Executive (DAE) and Senior JTRS Leadership conducted a HMSR replan meeting in November 2005. A replan option was selected which restructures the entire JTRS enterprise. The new strategy will be approved in the Acquisition Decision Memorandum (ADM), which is currently in the signature process. This evolutionary acquisition strategy is based on incremental development, reduced requirements, and better reuse/teaming with other product lines and National Security Agency (NSA). The revised contract will be structured to address Increment 1, consisting of Phases 1 and 2.

Increment 1, Phase 1 will develop 1 and 2 Channel Type 2 Small Form Fits (SFFs) A, C, H and J running SRW waveform v1.0/2.1 for use in a sensitive but unclassified environment. The initial development of SFF J is an interim product to be delivered to support Future Combat Systems (FCS) Spin Out 1. Phase 1 MS C will be conducted in early FY09. After MS C, there will be a Low Rate Initial Production (LRIP) Award, with a competitive Full Rate Production (FRP) contract award to follow.

Increment 1, Phase 2 will develop the 2 Channel Handheld, 2 Channel Manpack, and SFFs B, D, I and J that are all Type 1 compliant for use in a classified environment. Waveforms to be ported include UHF SATCOM, HF, EPLRS, SINCGARS, and SRW. Phase 2 MS C will be conducted in early FY10. After MS C, there will be an LRIP award, with a competitive FRP contract award to follow.

The FY07 budget supports development of breadboards, prototypes, and Engineering Development Models (EDMs). The outyear budget supports Contractor Development Test (CDT) and Government Development Test (GDT), as well as Manpack and Handheld Limited User Test (LUT) and Multi-Service Operational Test and Evaluation (MOT&E).

Increment 2 is currently in the planning stages and is projected to complete development of the remaining form factors with additional operational waveform capabilities.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - 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
JTRS HMS Design, Development and Manufacture of Engineering Development Models (EDMs)	C/CPAF	General Dynamics Decision Systems, Scottsdale, AZ	0	81559	1Q	105698	1Q	0		0	0	0
JTRS HMS Development System Engineering Support	Various	Various	0	2698	1-2Q	5549	1-2Q	0		0	0	0
Subtotal:			0	84257		111247		0		0	0	0

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).
The funding to complete the development efforts is contained in other funding lines as specified in the Other Program Funding Summary.

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
JTRS Technical Support	Various	Various	0	2850	1-3Q	2470	1-3Q	0		0	0	0
Subtotal:			0	2850		2470		0		0	0	0

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).
The funding to complete the development efforts is contained in other funding lines as specified in the Other Program Funding Summary.

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
JTRS EPG test bed and planning	MIPR	EPG, Ft. Huachuca, AZ	0	115	1-2Q	650	1Q	0		0	0	0
JTRS Modeling & Simulation	MIPR	USAIC, Ft. Huachuca, AZ	0	299	1Q	235	1Q	0		0	0	0
JTRS Test Inhouse Support & Goverment Activities	Various	Various	0	1350	1-3Q	1138	1-3Q	0		0	0	0
Field Test/LUT and OT	Various	Various	0	3857	1-3Q	0	1-3Q	0		0	0	0
Subtotal:			0	5621		2023		0		0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
61A

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).
The funding to complete the development efforts is contained in other funding lines as specified in the Other Program Funding Summary.

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
Project Management Office Support	Various	Various	0	1911	1-4Q	10234	1-4Q	0		Continue	0	0
JTRS Business/Engineering Management	Various	Various	0	1403	1-4Q	2817	1-4Q	0		Continue	0	0
Subtotal:			0	3314		13051		0		Continue	0	0

Remarks: Funding for FY2004 is captured in PE 0604805A in the Project 615 (Cluster 1).
The funding to complete the development efforts is contained in other funding lines as specified in the Other Program Funding Summary.

Project Total Cost:	**0**	**96042**		**128791**		**0**		**Continue**	**0**	**0**

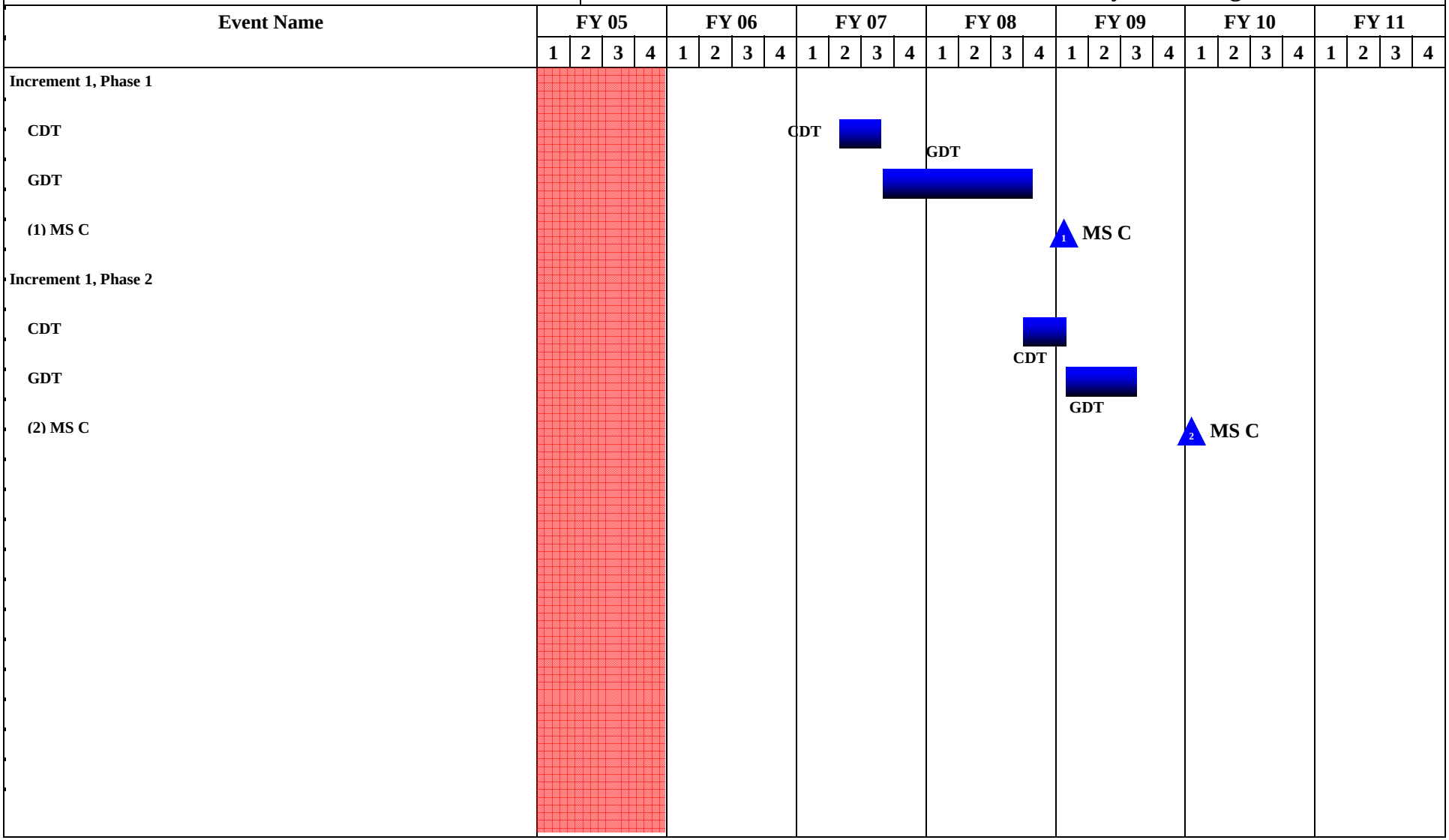
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
61A



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
61A

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
CDT - Inc 1, Ph 1			2-3Q				
GDT - Inc 1, Ph 1			4Q	1-4Q			
MS C - Inc 1, Ph 1					1Q		
CDT - Inc 1, Ph 2				4Q	1-2Q		
GDT - Inc 1, Ph 2					2-4Q		
MS C - Inc 1, Ph 2						1Q	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604805A - Command, Control, Communications Systems - Eng Dev**	**F99**

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
F99	NUCLEAR ARMS CTRL TECH - SENSORE NETWORK MONIT	15569	7294	0	0	0	0	0	0	22863

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 2005	FY 2006	FY 2007
Conduct analyses as required to support the OSD manager	400	350	0
Development of prototype sensor	1500	1400	0
Development of radionuclide particle and noble gas detectors	850	825	0
Information system enhancements	850	825	0
Continue the R&D support system	600	500	0
Research on location calibration for seismic events	1712	1600	0
Development of techniques to identify signals from sensor systems	2000	1794	0
Development of Standoff Sensor for Radionuclide Identification	7657	0	0
Total	15569	7294	0

C. Acquisition Strategy Not applicable for this item

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
F99

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
Product Development			0	3093	1-2Q	2100	1-2Q	0		0	0	0
Subtotal:			0	3093		2100		0		0	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
Monitoring Sensor Systems, Program Data Analysis, Verification Systems Concept Demo		SAIC, General Dynamics, VA	0	4653	1-4Q	2694	1-4Q	0		0	0	0
Support Contracts & Government Support	Various	FL, NM, VA, AL	0	2323	1-4Q	1000	1-4Q	0		0	3323	0
SMDC		Huntsville, AL	0	1500	1-4Q	500	1-4Q	0		0	2000	0
Subtotal:			0	8476		4194		0		0	5323	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 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
SMDC		Huntsville, AL	0	2000	1-4Q	500	1-4Q	0		0	2500	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604805A - Command, Control, Communications Systems - Eng Dev**	**F99**

Subtotal:	0	2000		500		0		0	2500	0
Project Total Cost:	**0**	**15569**		**7294**		**0**		**0**	**10323**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
F99

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Conduct exps & calibrations for seismic, hydroacoustic, infrasound, & radio																												
Baseline system software & analytical tools for event detection & identific																												
Develop a fiber optic acoustical sensor																												
Develop a radionuclide event analysis tool																												
Develop a Standoff Sensor																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604805A - Command, Control, Communications Systems - Eng Dev

PROJECT
F99

Schedule Detail	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						

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

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	19315	16487	14509	15934	35243	33830	15580	0	185181
812	MIL HIV VAC&DRUG DEV	3565	4141	4561	4701	4735	4573	4573	0	33947
832	COMBAT MEDICAL MATL ED	4258	812	3762	5337	14996	14299	5518	0	63830
834	SOLDIER SYS PROT-ED	1010	0	3012	1870	1798	1698	1691	0	17540
849	INFEC DIS DRUG/VACC ED	3390	593	3174	4026	13714	13260	3798	0	48871
A11	LSTAT MEDICAL TECHNOLOGY (CA)	1727	1971	0	0	0	0	0	0	5703
A12	BIOMEDICAL ENGINEERING TECH & ADV MATERIALS (CA)	0	4633	0	0	0	0	0	0	5588
A14	CHITOSAN BANDAGE COMPONENT (CA)	2012	3351	0	0	0	0	0	0	5363
A15	BIOTERRORISM EDUCATION (CA)	957	0	0	0	0	0	0	0	957
A16	CHEMICAL-BIOLOGICAL CASUALTY TREATMENT (CA)	2396	0	0	0	0	0	0	0	2396
MD3	CARTLEDGE INFUSER	0	986	0	0	0	0	0	0	986

A. Mission Description and Budget Item Justification: This program element (PE) funds advanced development of medical materiel within the System Demonstration and Low Rate Initial Production portions of the Acquisition Life Cycle. It supports products successfully transitioned through the Systems Development and Demonstration In-Process Review (IPR). This largely includes Phase 3 human clinical trials, along with related stability and production manufacturing testing for medical pharmaceuticals, biologics, and devices. Added operational testing and evaluation (OT&E) for military unique requirements is evaluated and fulfilled as required.

Disease and non-battle injuries (DNBI) are the largest contributor to the medical footprint. Infectious disease vaccines and preventive drugs reduce the risk of service members' contracting debilitating or fatal diseases, which reduces levels of DNBI affected soldiers - and in turn, negates the requirement for supporting echelon 3 facilities in the theater of operations, as well as mitigates the strain placed on the Army's personnel replacement and logistical systems. This is especially important due to the higher risk posed by the ever expanding urban warfare environments. The reduction of patient evacuation requirements within Future Force (F2) units will act as a force multiplier, due to the retention of uniquely skilled and combat tested soldiers in the theater.

Combat Casualty Care devices and medicines have the major effects of: (1) enhancing forward care at the first responder level and, (2) reducing the medical footprint. The result is a far greater mobile and more easily sustained medical force. The F2 concept places soldiers into a more austere environment with lengthened evacuation times (both arrival and transit). This requires medics and first responders to improve their ability to save lives and extend stabilization. Reduction in weight, cube, and sustainment allows medical units to increase mobility and maintain contact with their supported Units of Action.

Soldier Performance Enhancers in the form of drugs or diagnostics, allow commanders to increase soldiers' cognitive awareness and stamina. This improves soldiers' operational capabilities and has the potential to reduce casualties.

The U.S. Army Medical Research and Materiel Command manages this program.

Project 812, Military HIV Vaccine and Development funds militarily relevant human immunodeficiency virus (HIV) research.

Major contractors/intra-governmental agencies include Cambridge Consultants Corporation, IGR Enterprises, Army Medical Department Board Test Center, and SeQual Technologies, Inc.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	19325	5627	14418
Current BES/President's Budget (FY 2007)	19315	16487	14509
Total Adjustments	-10	10860	91
Congressional Program Reductions		-73	
Congressional Rescissions		-167	
Congressional Increases		11100	
Reprogrammings	-10		
SBIR/STTR Transfer			
Adjustments to Budget Years			91

FY 2006 - Congressional Plus-Up ($11,100) - Cartledge Infuser ($1,000); Biothreat Database Program ($1,000); Oxygen Generation Advanced Development ($1,700); Battlefield Respirator and Ventilator (BRAV) ($2,000); Life Support for Trauma and Transport (LSTAT) ($2,000); Chitosan Bandage Component ($3,400).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604807A - Medical Materiel/Medical Biological Defense Equipm**	**812**

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
812 MIL HIV VAC&DRUG DEV	3565	4141	4561	4701	4735	4573	4573	0	33947

A. Mission Description and Budget Item Justification: This project funds Congressionally mandated, militarily relevant human immunodeficiency virus (HIV) medical countermeasures. These funds provide for engineering and manufacturing development of multiple candidate vaccines and drugs to permit large-scale field testing. Development efforts are focused on militarily unique needs affecting manning, mobilization, and deployment.

The major contractor is Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
In FY05, completed enrollment for the multi-year Phase 3 clinical trial of the Prime-Boost HIV Vaccine in Thailand. In FY06, complete immunizations and enter the observation and follow-up phase of the Phase 3 trial. Conduct a Design Readiness Review. In FY07, continue the observation and follow-up phase of the Phase 3 study in Thailand.	3565	4141	4561
Total	3565	4141	4561

C. Acquisition Strategy Test and evaluate commercially developed vaccine candidates in government-managed trials.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
812

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
Product Development	Cooperative Agreement	Henry M. Jackson Foundation, Rockville, MD	4400	2530		2923		3243		0	10896	0
Subtotal:			4400	2530		2923		3243		0	10896	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
No product/contract costs greater than $1M individually			233	38		42		45		0	358	0
Subtotal:			233	38		42		45		0	358	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 and Evaluation	Government Laboratory	Walter Reed Army Institute of Research (WRAIR), Silver Spring, MD	806	927		1092		1180		0	4005	0
Subtotal:			806	927		1092		1180		0	4005	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
No product/contract costs greater			165	70		84		93		0	412	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
812

than $1M individually												
Subtotal:			165	70		84		93		0	412	0
Project Total Cost:			**5604**	**3565**		**4141**		**4561**		**0**	**15671**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
812

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) HIV Vaccine																												
Design Readiness Review					1																							

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604807A - Medical Materiel/Medical Biological Defense Equipm**	**812**

Schedule Detail	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
HIV Vaccine Design Readiness Review (DRR)		2Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604807A - Medical Materiel/Medical Biological Defense Equipm**	**832**

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
832 COMBAT MEDICAL MATL ED	4258	812	3762	5337	14996	14299	5518	0	63830

A. Mission Description and Budget Item Justification: This project funds technical development of candidate medical products for the advancement of combat casualty care, especially far forward on the battlefield with first responders, combat lifesavers, and field medics. This primarily funds Phase 3 human clinical trials or mechanical engineering evaluations for efficacy of devices or biologics unique to military operational requirements. This work is frequently completed through a joint laboratory and contractor team with the contractor obtaining ultimate U.S. Food and Drug Administration (FDA) licensure. These products (enhanced location and diagnostic devices of patients and more potent resuscitative biologics) will decrease mortality rates and increase soldiers' morale and willingness to place themselves in danger. Additionally, several products, Dental Field Treatment and Operating System (DEFTOS), Ventilated Assist Device, and Oxygen Generator will reduce medical organizational sustainment footprint through smaller weight and cube or equipment independence from supporting materiels. Priority is given to those products that provide the greatest clinical benefit balanced with the technical and financial risks.

Major contractors/intra-governmental agencies include: Bell Dental Inc., Cambridge Consultants Corporation, IGR Enterprises, Army Medical Department Board Test Center, Smisson-Cartledge Biomedical, SeQual Technologies, Inc., and Enginivity, Inc.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Conduct testing & milestone reviews for the following field medical treatment and treatment aid devices: (1) Dental Field Treatment & Operating System (DEFTOS): In FY05, deployed first 30 units of production item to IRAQ. Conducting a long term user evaluation.(2) Thawed Blood Processing System (TBPS): In FY05, terminated development program. (3) Ceramic Oxygen Generator (COG): In FY05, fabricated first portable Oxygen Generator prototype. In FY06, conduct user and technical testing and conduct Milestone B review. In FY07, develop the engineering pre-production prototype and obtain FDA clearance. (4) Rotary Valve Pressure Swing Adsorption Oxygen Generator (RVPSAOG): In FY05, reduced oxygen generator weight and size. Determined current air compressor unsuitable. Found potentially more reliable candidate. In FY06, conduct Milestone B in-progress review. Develop engineering pre-production prototype and conduct technical and user testing and evaluation. In FY07, conduct Milestone C in-progress review. Initiate low rate production. (5) Ventilatory Assist Device (VAD): In FY05, conducted technical and user testing, made required modifications, and held Milestone C in-progress review. Supported the fielding process.(6) Cartledge Infuser (CI): In FY05, finalized prototype design. In FY06 conduct technical/user testing, and obtain FDA clearance for infuser system. FY07, conduct Milestone C. (7) Battery Powered IV Fluid Warmer: In FY07, develop engineering model, conduct user evaluation and conduct Milestone C.	4258	812	3762
Total	4258	812	3762

C. Acquisition Strategy Evaluate commercially developed materiel in government-managed trials.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
832

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
Rotary Valve Pressure Swing Adsorption oxygen Generator		Sequal Technologies,Inc., San Diego, CA	482	1298		413		800		0	2511	0
Cartledge Infuser		Smisson-Cartledge Biomedical L.L.C., Macon, GA	3110	0		0		0		0	3110	0
Subtotal:			3592	1298		413		800		0	5621	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
Not Applicable			0	0		0		0		0	0	0
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
Not Applicable			0	0		0		0		0	0	0
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
No product/contract costs greater than $1M individually			11753	2960		399		2962		Continue	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604807A - Medical Materiel/Medical Biological Defense Equipm**	**832**

Subtotal:	11753	2960		399		2962		Continue	0	0
Project Total Cost:	**15345**	**4258**		**812**		**3762**		**Continue**	**5621**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
832

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) Ceramic Oxygen Gen Sys, (2) Ceramic Oxygen GenSys					MS B 1					MS C 2																		
(3) Ventilatory Assist Device	MS C 3																											
(4) Rotary Valve Press Swing Oxy, (5) Rotary Valve Press Swing Oxy					MS B 4					MS C 5																		
(6) Cartledge Infuser									MS C 6																			
(7) Battery Powered Iv Fld Warm, (8) Battery Powered Iv Fld Warm					MS B 7				MS C 8																			

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
832

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Dental Field Treatment and Operating System (FRPND)							
Ceramic Oxygen Generator Systems (MS B); (MS C)		3Q	4Q				
Rotary Valve Pressure Swing Oxygen (MS B); (MS C)		3Q	4Q				
Ventilatory Assist Device (MS C)	2Q						
Cartledge Infuser (MS C)			3Q				
Battery Powered IV Fluid Warmer (MS B, MS C)		3Q	3Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604807A - Medical Materiel/Medical Biological Defense Equipm**	**834**

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
834 SOLDIER SYS PROT-ED	1010	0	3012	1870	1798	1698	1691	0	17540

A. Mission Description and Budget Item Justification: This project supports system development and demonstration of preventive medicine materiels to include devices, medicines in order to provide protection, sustainment, and enhancement of the physical and psychological capabilities of soldiers engaged in combat operations across varied environmental conditions. The focus is on reduction of personnel losses due to preventable disease and non-battle injuries through development of environmental and physiological performance monitors and other preventive medicine countermeasures.

A major contractor is Allermed Laboratories, Inc., San Diego, CA.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
In FY05, funded the Air Worthiness Certification of the Special Medical Emergency Evacuation Device (SMEED) and Life Support for Trauma and Transport (LSTAT) Next Generation. FY07, begin the development of coliform analyzer. Conduct Milestone B.	279	0	3012
In FY05, began termination phase of contract for Leishmania skin tests.	731	0	0
Total	1010	0	3012

C. Acquisition Strategy Test and evaluate in-house and commercially developed vaccine candidates in government-managed trials to meet FDA requirements.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
834

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
No product/contract costs greater than $1M individually			1834	483		0		1439		0	3206	0
Congressional Add in Support of Chem-Bio Protection			4550	0		0		0		0	4550	0
Subtotal:			6384	483		0		1439		0	7756	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
No product/contract costs greater than $1M individually			42	32		0		89		0	163	0
Subtotal:			42	32		0		89		0	163	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
No product/contract costs greater than $1M individually			241	239		0		545		0	1025	0
Subtotal:			241	239		0		545		0	1025	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
No product/contract costs greater than $1M individually			645	256		0		939		0	1840	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604807A - Medical Materiel/Medical Biological Defense Equipm**	**834**

Subtotal:	645	256		0		939		0	1840	0
Project Total Cost:	**7312**	**1010**		**0**		**3012**		**0**	**10784**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
834

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) Coliform Analyzer									MS B 1																			

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604807A - Medical Materiel/Medical Biological Defense Equipm**	**834**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Coliform Analyzer (MS B)			1Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604807A - Medical Materiel/Medical Biological Defense Equipm**	**849**

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
849 INFEC DIS DRUG/VACC ED	3390	593	3174	4026	13714	13260	3798	0	48871

A. Mission Description and Budget Item Justification: This project funds technical development of candidate medical countermeasures for infectious diseases that occur within militarily relevant areas of the world. These products fall within three major areas: vaccines, drugs, and diagnostic kits. The funds support Phase 3 human clinical trials for large-scale efficacy testing, long-term animal studies, and related manufacturing tests. This work, which is jointly performed by military laboratories and civilian contracted pharmaceutical firms, is directed toward the prevention of disease, early diagnosis if contracted, and speeding recovery once diagnosed. These trials are required to meet U.S. Food and Drug Administration (FDA) regulatory approval guidance, a mandatory obligation for all military products placed into the hands of medical providers or service members. Priority is based upon four major factors: the extent of the disease within the Combatant Command's theater of operations, the clinical severity of the disease, the technical maturity of the proposed solution, and the affordability of the solution (development and production). Consequently, malaria, dysentery, hepatitis, and dengue diseases (which are found in Central Command, European Command, Southern Command, and Pacific Command areas) rise to the top of the requirement list.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Clinical trials, developmental testing, and appropriate reviews of malarial/antimalarial vaccines, drugs, and diagnostics: In FY05, continued the FDA-mandated Phase 1 safety trial of the Antimalarial Drug, Tafenoquine; with user approval, shifted the acquisition strategy for Tafenoquine to development for acute treatment and post-exposure prophylaxis of Plasmodium vivax malaria. In FY06, complete mandated Phase 1 safety trial, conduct a Design Readiness Review to re-baseline product development plan for tafenoquine and initiate the necessary clinical field trials to bring Tafenoquine to FDA licensure. In FY07, continue field testing of Tafenoquine.	2955	510	3042
Prepare for conducting clinical studies, trials, and appropriate reviews of grouped vaccines, drugs, and diagnostics (Hepatitis E Vaccine, Combined Camouflage Face Paint/Insect Repellent): In FY05, completed data analysis of the Hepatitis field trial and met with industry partner to determine future development strategy. Contractor for the Combined Camouflage Face Paint/Insect Repellent (CCFP) completed pre-clinical testing of the new stick formulation. In FY06, conduct a Design Readiness Review (DRR) to re-baseline Hepatitis E development based on agreement with industry partner. Conduct a DRR for the CCFP and initiate clinical testing of the new CCFP formulation. In FY07, complete clinical testing and data analysis for the CCFP.	435	83	132
Total	3390	593	3174

C. Acquisition Strategy Test and evaluate in-house and commercially developed products in government-managed trials to meet FDA requirements and Environmental Protection Agency registration.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
849

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
No product/contract costs greater than $1M individually			5791	1247		206		1094		Continue	7185	Continue
Subtotal:			5791	1247		206		1094		Continue	7185	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
No product/contract costs greater than $1M individually			440	70		71		63		Continue	644	Continue
Subtotal:			440	70		71		63		Continue	644	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
No product/contract costs greater than $1M individually			8839	1506		173		1474		Continue	10211	Continue
Subtotal:			8839	1506		173		1474		Continue	10211	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
No product/contract costs greater than $1M individually			2399	567		143		543		Continue	3652	Continue
Subtotal:			2399	567		143		543		Continue	3652	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604807A - Medical Materiel/Medical Biological Defense Equipm**	**849**

Project Total Cost:	**17469**	**3390**		**593**		**3174**		**Continue**	**21692**	**Continue**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
849

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
(1) Malaria Rapid Diagnostic Device	MS C 1																											
(2) Tafenoquine Antimalarial Drug	Design Readiness Review 2																											
(3) Comb Camoufl Face Paint/Insect Rep	Design Readiness Review 3																											
(4) Hepatitis E Vaccine	Design Readiness Review 4																											

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604807A - Medical Materiel/Medical Biological Defense Equipm

PROJECT
849

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Malaria Rapid Diagnostic Device (MS C)	4Q						
Tafenoquine antimalarial drug Design Readiness Review (DRR)		1Q					
Combined Camouflage Face Paint/Insect Repellent (DRR)		1Q					
Hepatitis E Vaccine (DRR)		1Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
5 - System Development and Demonstration	**0604808A - Landmine Warfare/Barrier - Eng Dev**

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	57090	74482	118078	103817	101633	76168	41732	Continuing	Continuing
016	Close Combat Capabilities ENG DEV	36033	40658	81960	56652	36090	19816	20565	Continuing	337795
415	MINE NEUTRAL/DETECTION	14117	28909	36118	47165	65543	56352	21167	0	354407
434	ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)	6940	4915	0	0	0	0	0	0	60475

A. Mission Description and Budget Item Justification: This program element (PE) provides for System Development and Demonstration of networked munitions and countermine systems. This PE implements the National Landmine Policy to develop alternatives to the non-self-destructing anti-vehicle and anti-personnel landmine systems: the Close Combat Capabilities Engineering Development, provides for the development of the anti vehicle mine replacement, the Intelligent Munitions System (IMS), an Future Combat System Core system. Anti-Personnel Landmine Alternatives provides for development of the Spider alternative systems for Non Self-Destruct (NSD)Anti-Personnel Landmines (APLs). The program also provides for a variety of demolition efforts to include development of Magneto-Inductive Remote Activation Munition System (MI-RAMS). Project Mine Neutralization/Detection Engineering Development provides for development of the Airborne Surveillance, Target Acquisition and Minefield Detection (ASTAMIDS), Ground Standoff Mine Detection System (GSTAMIDS), Handheld Standoff Mine Detection System (HSTAMIDS), and Explosive Standoff Minefield Clearer (ESMC).

IMS is a Future Combat System Core and a Landmine alternative program; ASTAMIDS and GSTAMIDS are Future Combat System Complementary Programs.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604808A - Landmine Warfare/Barrier - Eng Dev

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	57116	80560	80750
Current BES/President's Budget (FY 2007)	57090	74482	118078
Total Adjustments	-26	-6078	37328
Congressional Program Reductions		-5327	
Congressional Rescissions		-751	
Congressional Increases			
Reprogrammings	-26		
SBIR/STTR Transfer			
Adjustments to Budget Years			37328

Change Summary Explanation: Funding:
FY 2007 Adjustment: +$28.7M - Project 016 - Funding for IMS RDTE Program transferred from IMS production. +$8.6M - Project 415 - Additional funding provided for the ASTAMIDS/GSTAMIDS Program.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604808A - Landmine Warfare/Barrier - Eng Dev**	**016**

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
016 Close Combat Capabilities ENG DEV	36033	40658	81960	56652	36090	19816	20565	Continuing	337795

A. Mission Description and Budget Item Justification: The Intelligent Munitions System is an integrated system of effects (lethal anti-vehicle, anti-personnel, non-lethal, demolitions), software, sensors/seekers and communications that may be emplaced by multiple means and is capable of unattended employment for the detection, classification, tracking and engagement of selected targets in accordance with the commander's intent. IMS is one of the 18 Core systems that make up the Future Combat Systems Family of Systems. It shall be fielded as part of the Future Combat System Spin-out 1 plan and the core program of record. With its self-destructing/self-deactivating capability it is the materiel solution that will comply with the National Landmine Policy to replace all non-self-destructing anti-vehicle mines from the U.S. inventory. IMS will enhance the effectiveness for both the current and future force in the areas of force protection and battle space shaping.

This project also provides for Magneto-Inductive Remote Activation Munition System (MI-RAMS).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05: Completed IMS concept development.	17008	0	0
FY05: Completed IMS concept prototype assessment test.	6725	0	0
FY06-FY07: Continues with the IMS system development.	0	36858	73710
FY06-FY07: Continues integration of IMS into FCS.	800	0	0
FY06-FY07: Continues to conduct IMS modeling and simulation.	3000	1100	550
FY06-FY07: Conducts IMS system contractor, development and operational testing.	0	2700	7700
FY05: Developed Magneto-Inductive Remote Activation Munition System (MI-RAMS) Shock Tube Initiator.	8500	0	0
Total	36033	40658	81960

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
643619 / D005 Close Combat Capabilities - Advanced Development (IMS)	0	0	0	0	0	0	0	0	34951
PAA E96901 - Intelligent Munitions System	0	0	0	78805	97934	207792	242890	CONT	CONT
OPA2 B55503 - Intelligent Munitions System (IMS) Remote Control Unit	0	0	0	7219	6822	14550	15426	CONT	CONT

C. Acquisition Strategy IMS - The IMS is being developed as an evolutionary acquisition in an incremental approach. The first increment will field a capability to meet the National Landmine Policy and FCS spinout-1. Competitively awarded two cost plus incentive fee, incrementally funded Concept and Technology Development (C&TD) phase contracts which were completed in FY05. Will down-select to one of the C&TD phase contractors for System Development and Demonstration (SD&D) phase and award a cost plus incentive fee contract which will be incrementally funded . This contract will have Low Rate Initial Production (LRIP) Options. Follow-on increments will be developed as part of the FCS Spinout Plan.

MI-RAMS - Awarded a sole source contract to Magneto Inductive Systems LTD for SDD.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604808A - Landmine Warfare/Barrier - Eng Dev

PROJECT
016

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
IMS Technology development	C-CPIF	GDAIS, Bloomington, MN	9000	11532	1Q	0		0		Continue	20532	0
IMS Technology development	C-CPIF	Textron System Corp., Wilmington, MA	9000	6993	1Q	0		0		Continue	15993	0
IMS System Development and Demonstration (SDD)	C-CPIF	TBS	0	0		31877	3Q	72105	1Q	Continue	0	0
IMS - MITRE provide C4 support		MITRE, McLean, VA	0	576		690		690		0	1956	0
Magneto Inductive - RAMS	C-CPIF	Coastal System Station, Panama City FL	0	5207		0		0		Continue	13126	0
Subtotal:			18000	24308		32567		72795		Continue	51607	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
IMS Engineering Support	MIPR	ARDEC Picatinny Arsenal, NJ	2000	3145	1Q	2700	1Q	3000	1Q	Continue	0	0
IMS Engineering Support	MIPR	CECOM CERDEC, Fort Monmouth, NJ	600	300	1Q	400	1Q	400	1Q	Continue	0	0
IMS Engineering Support	MIPR	CECOM NVESD, Fort Belvoir, NJ	0	400	1Q	400	1Q	600	1Q	Continue	0	0
IMS Engineering Support	MIPR	Various	300	367	1Q	251	1Q	400	1Q	Continue	0	0
Magneto Inductive - RAMS	MIPR	Various	1715	1550	2Q	0		0		Continue	5665	0
Subtotal:			4615	5762		3751		4400		Continue	5665	0

III. Test And Evaluation	Contract Method &	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award	FY 2006 Cost	FY 2006 Award	FY 2007 Cost	FY 2007 Award	Cost To Complete	Total Cost	Target Value of

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604808A - Landmine Warfare/Barrier - Eng Dev

PROJECT
016

	Type				Date		Date		Date			Contract
Magneto Inductive - RAMS	MIPR	DTC, Aberdeen, MD	30	768		0		0		Continue	798	0
IMS	MIPR	AMSAA, APG, MD	310	415	1Q	225	1Q	225	1Q	Continue	0	0
IMS	MIPR	AEC, APG, MD	0	18	1Q	200	1Q	200	1Q	Continue	0	0
IMS	MIPR	DTC,APG,MD	0	2000	1Q	1000	1Q	1000	1Q	Continue	0	0
IMS	MIPR	CECOM, Fort Belvoir, VA	0	100	1Q	400	1Q	400	1Q	Continue	0	0
Subtotal:			340	3301		1825		1825		Continue	798	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
Magneto Inductive - RAMS	In-House	PM CCS, Picatinny Arsenal, NJ	356	975	1-4Q	0		0		Continue	1331	0
IMS	In-House	PM CCS, Picatinny Arsenal, NJ	896	1275	1-4Q	2095	1-4Q	2500	1-4Q	Continue	0	0
IMS	T.O. Contract	Robbins-Goia, Alexandria, VA	0	412	1Q	420	1Q	440	1-4Q	Continue	0	0
Subtotal:			1252	2662		2515		2940		Continue	1331	0
Project Total Cost:			**24207**	**36033**		**40658**		**81960**		**Continue**	**59401**	**0**

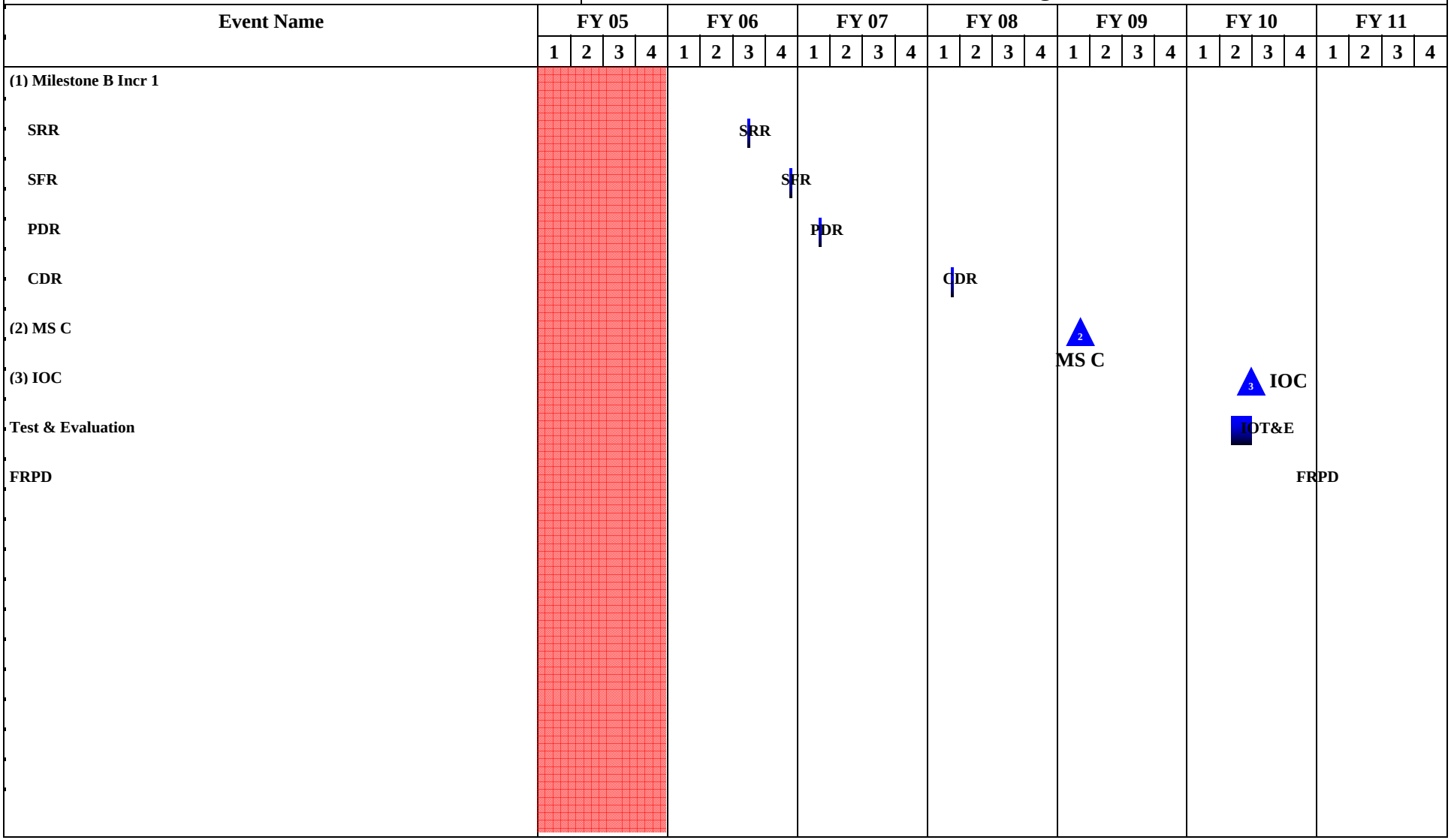
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604808A - Landmine Warfare/Barrier - Eng Dev

PROJECT
016



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604808A - Landmine Warfare/Barrier - Eng Dev

PROJECT
016

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
INCREMENT I IMS							
IMS Prototype Assessment Test	3Q						
IMS Milestone B		2Q					
IMS SDD Contract Award		3Q					
IMS SDD System Requirement Review		3Q					
IMS System Functional Review		4Q					
IMS Preliminary Design Review			1Q				
IMS Critical Design Review				1Q			
IMS Milestone C					1Q		
IMS Initial Operational Capability						2Q	
IOT&E						2Q	
Full Rate Production Decision						4Q	
INCREMENT II IMS							
Milestone B					1Q		
Milestone C							4Q
INCREMENT III IMS							
Milestone B							4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604808A - Landmine Warfare/Barrier - Eng Dev**	**415**

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
415 MINE NEUTRAL/DETECTION	14117	28909	36118	47165	65543	56352	21167	0	354407

A. Mission Description and Budget Item Justification: This project provides System Development and Demonstration (SDD) for the Airborne Surveillance, Target Acquisition, and Minefield Detection System (ASTAMIDS). The ASTAMIDS uses Multi-Spectral Imaging (MSI) and visible/Near IR sensor mounted on a Future Combat System Brigade Combat Team (BCT) Unmanned Aerial Vehicle to detect and locate combat targets and to detect minefields and obstacles that are impediments to maneuver forces. ASTAMIDS can be used in tactical operations day and night, to detect surface emplaced and recently buried minefields and obstacles. ASTAMIDS can also recognize and identify combat targets and designate them for laser guided munitions. Handheld Stand-off Mine Detection System (HSTAMIDS) is a handheld multi-sensor detector that combines an advanced metal detector with a special purpose Ground Penetrating Radar (GPR) coupled to an advanced signal processor and software algorithms. It provides for enhanced detection capabilities against non-metallic mines and reduces incidences of false alarms in highly cluttered metal environments.

Ground Standoff Mine Detection System Future Combat Systems (GSTAMIDS FCS) The advent of the Army's Future Force Transformation, the GSTAMIDS Program has been restructured to meet the countermine requirements for FCS. The April 2003, Joint Requirements Oversight Council (JROC) approved the FCS Operational Requirements Document (ORD) which includes countermine requirements. The GSTAMIDS FCS will provide the Unit of Action (UA) a capability that can be used for mine detection, mine and temporary lane marking, precision mine neutralization and interfaces with FCS host platform(s) and Command, Control, Communications, and Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) reporting during on-route countermine operations. Sensor/Mine marking capability currently under development will be fielded into the current force on an existing platform in FY2008.

ASTAMIDS and GSTAMIDS have been identified in FCS Spinouts 2 & 3 respectively as part of the Army's initiative to spiral future capabilities to the current force.

Explosive Standoff Minefield Clearer (Mongoose) is a rocket deployed array of shaped charge munitions, launched across minefields and command detonated, to provide a high confidence cleared lane for the passage of mounted troops. Mongoose will defeat all defined threat mines from a stand-off position including mines with countermeasures to current countermine systems.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY05: gstamids FCS - Completed Engineering Development Unit (EDU) design and fabrication.	12797	0	0
FY06: GSTAMIDS FCS - Initiates EDU preliminary testing and System Trade Studies	0	9333	0
FY07: GSTAMIDS FCS - Initiates Development of the Brassboard prototypes & conducts contractor testing.	0	0	20626
FY06: ASTAMIDS - Completes Preliminary Design Reviews	0	12000	0
FY06: ASTAMIDS - Completes Spiral 1 Component Fabrication	0	2000	0
FY06: ASTAMIDS - Initiates Spiral 1 Gimbal Fabrication	0	4000	0
FY06: ASTAMIDS - Initiates Spiral 2 Component Fabrication	0	1576	0

FY07: ASTAMIDS - Completes Critical Design Reviews	0	0	3000
FY07: ASTAMIDS - Completes Spiral 1 Prototype Fabrication	0	0	3000
FY07: ASTAMIDS - Initiates Contractor Functional and Qual Testing	0	0	7492
FY07: ASTAMIDS - Initiates Spiral 2 Gimbal Fabrication	0	0	2000
FY05: ESMC - Successfully demonstrated resolution of technical issues in Full Scale flight test.	1320	0	0
Total	14117	28909	36118

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 0603619A, Project 606, Countermine/Barrier Advanced Dev	11141	0	8439	39929	44475	19008	4213	CONT	CONT
OPA 3, R68102, GSTAMIDS FCS/Interim capability	0	0	197061	272116	226063	219910	304123	CONT	CONT
OPA 3, R68105 ESMC	79264	2922	614	0	0	0	0	0	82800
Ammo, E81400 ESMC	0	0	0	20699	0	0	0	0	20699
OPA 3, S11500 ASTAMIDS	0	0	0	11708	12860	12487	12631	CONT	CONT

C. Acquisition Strategy The Explosive Standoff Minefield Detection Clearer (ESMC) competitively-selected CTD contractor, was awarded a sole source System Development & Demonstration (SDD) contract upon completion of CTD phase and MDA approval.

The ASTAMIDS competitively selected Prime System contractor was awarded Cost Plus Incentive Fee (CPIF) System Development and Demonstration (SDD)after MDA Milestone B approval. A Sole source production contract with multiple options is anticipated.

GSTAMIDS FCS entered the SDD Phase in 3QFY04 with MDA approval and competitively selected SDD Cost Plus Fixed Fee (CPFF)contract.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604808A - Landmine Warfare/Barrier - Eng Dev

PROJECT
415

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
GSTAMIDS Block 1	C-CPFF	Quantum Magnetics San Diego, CA	1725	0		0		0		0	1725	1725
GSTAMIDS FCS	C-CPFF	BAE Systems, Austin,TX	17869	0		0		0		0	17869	17869
GSTAMIDS FCS	C-CPFF	BAE Systems, Austin,TX	0	8760	2Q	4900	1Q	15732	1Q	Continue	29392	Continue
GSTAMIDS Block 0	C-CPFF	EG&G Systems Inc., Albuquerque, NM	16406	0		0		0		0	16406	16406
HSTAMIDS	C-CPIF	CY Terra Corporation, Orlando, FL	15776	0		0		0		0	15776	15776
ESMC	SS-CPIF	BAE Systems, Austin,TX	68887	750		0		0		Continue	69637	69637
AROC II	Various		1850	0		0	1Q	0	1Q	1850	1850	1850
ASTAMIDS	C-CPIF	Northurp Grumman	12000	0		15360	1Q	8188	1Q	Continue	35548	Continue
Subtotal:			134513	9510		20260		23920		Continue	188203	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
Eng. support GSTAMIDS Blk 0	MIPR	NVESD/ CECOM, Ft Belvoir, VA	6828	0		0		0		0	6828	0
Eng support GSTAMIDS Blk 0	MIPR	Various OGAs	6247	0		0		0		0	6247	0
Eng Support GSTAMIDS Block 0	Various	Various Contractors	7853	0		0		0		0	7853	0
GSTAMIDS Blk I/FCS	MIPR	Various OGAs	812	880	1Q	779	1Q	1147	1Q	Continue	3618	0
GSTAMIDS Support Blk I/FCS	MIPR	NVESD/CECOM, Ft Belvoir, VA	2716	1584	1Q	1444	1Q	2048		Continue	7792	0
Support GSTAMIDS Blk 1/FCS	Various	Various Contractors	1179	382	1Q	305	1Q	394	1Q	Continue	2260	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604808A - Landmine Warfare/Barrier - Eng Dev

PROJECT
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Eng Support HSTAMIDS	MIPR	NVESD/CECOM, Ft Belvoir, VA	4533	0		0		0		0	4533	0
Support HSTAMIDS	Various	Various	4367	0		0		0		0	4367	0
ESMC (Mongoose)	MIPR	NVESD/CECOM, Ft Belvoir, VA	2304	100	1Q	0		0		Continue	2404	0
ESMC (Mongoose)	Various	Various	7153	235	1Q	0		0		Continue	7388	0
ASTAMIDS	MIPR	NVESD/CECOM, Ft Belvoir, VA	0	0		750	1Q	1500	1Q	Continue	2250	0
ASTAMIDS	Various	Various	0	0		431	1Q	550	1Q	Continue	981	0
Subtotal:			43992	3181		3709		5639		Continue	56521	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 GSTAMIDS Blk 0	MIPR	ATEC, Alexandria, VA	4369	0		0		0		0	4369	0
Test support HSTAMIDS	MIPR	ATEC, Alexandria, VA	2859	0		0		0		0	2859	0
Test Support ESMC	MIPR	ATEC, Alexandria, VA	2371	179		0		0		Continue	2550	0
Test support GSTAMIDS Blk 1/FCS	MIPR	ATEC, Alexandria, VA	40	0	2Q	137	2Q	400	2Q	Continue	577	0
ASTAMIDS	MIPR	ATEC, Alexandria, VA	0	0		300	2Q	1515	2Q	Continue	1815	0
Subtotal:			9639	179		437		1915		Continue	12170	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
Program management	In-House	PM-CCS, Picatinny Arsenal, NJ	4719	419	1-4Q	2243	1-4Q	2344	1-4Q	Continue	9725	0
Program management Contractor support	Various	Various	6115	828	1-4Q	2260	1-4Q	2300	1-4Q	Continue	11503	0

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604808A - Landmine Warfare/Barrier - Eng Dev**	**415**

Subtotal:	10834	1247		4503		4644		Continue	21228	0
Project Total Cost:	**198978**	**14117**		**28909**		**36118**		**Continue**	**278122**	**123263**

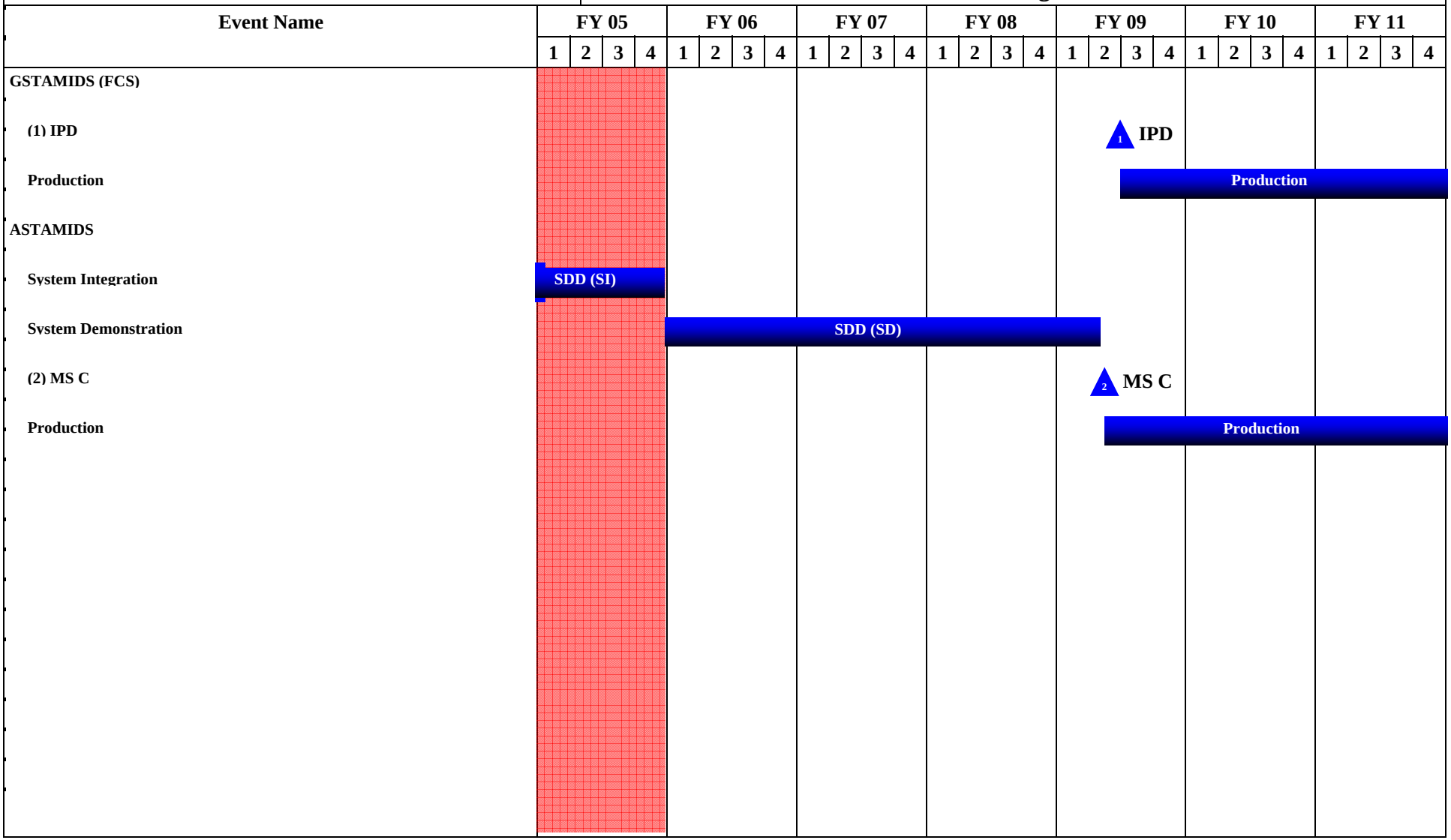
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604808A - Landmine Warfare/Barrier - Eng Dev

PROJECT
415



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604808A - Landmine Warfare/Barrier - Eng Dev

PROJECT
415

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ASTAMIDS FCS C Complete SDD Integration		1Q					
ASTAMIDS MS C					2Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604814A - Artillery Munitions - EMD**	**708**

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
708 XM982 PROJECTILE	137391	114709	102554	62841	77969	42867	2024	0	760819

A. Mission Description and Budget Item Justification: This project funds two programs, the Excalibur XM982 Projectile and the Spin Stabilized-Sensor Fuzed Munition (SS-SFM).

Excalibur provides improved fire support through a Precision Guided Extended Range family of munitions with greatly increased accuracy and offer significant reduction in collateral damage in most of all urban environments. The Excalibur will be interoperable with the M777A2 Lightweight 155mm howitzer (LW155), the M109A6 (Paladin) howitzer, and the Future Combat System (FCS) Non-Line of Sight Cannon (NLOS-C). Excalibur will provide a 33% range increase over current Rocket Assisted Projectiles, with a 10 meter accuracy (Circular Error Probable) at all ranges. Excalibur is also highly resistant to GPS jamming. Excalibur is an international program, teamed with the Kingdom of Sweden (KoS), who contributes resources towards the development in accordance with an established Project Agreement.

The Excalibur program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible, and to deliver advanced capabilities and lower costs as technology matures. The Block Ia-1 will be fielded to the CFLCC in Iraq to fulfill an Urgent Need Request. Additional fielding in early FY07 is planned to the LW155 howitzer equipped Stryker Brigade Combat Team #5 being formed in Hawaii. Block Ia-2 delivered in FY08 will provide greatly increased range to LW155, Paladin and FCS Cannon forces Army-wide when fielded. The third planned increment, Block Ib, will be fielded in FY11 and will provide a further performance improvement while significantly lowering unit costs.

FY04 and FY05 also included funding for SS-SFM compliance testing in accordance with the Joint Ballistics Memorandum of Understanding (JBMOU). SS-SFM's are advanced "fire and forget" smart artillery projectiles that can be used in all 155mm artillery systems. SS-SFM's use one or more sensors to defeat self-propelled artillery and lightly armored targets in all weather and environmental conditions.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Complete Block Ia airframe structure development and projectile system level integration efforts to conduct contractor development testing, and initiate Block Ib development.	27700	19663	14096
Continue guidance unit integration, gun hardening, tactical telemetry, systems software development, and programmed maneuver flight demonstration and support system integration and initiate Block Ia development.	42171	22655	18092
Complete Block Ia Systems and Specialty Engineering activities, to include specification development, Cost As Independent Variable (CAIV), program metric tracking, and conduct modeling of lethality, effectiveness, and aeroballistics, and requirements analysis to incorporate a tactical telemetry system and initiate Block Ib development.	23116	24639	20328
Complete Unitary warhead development, to include structure penetration, fragmentation testing, validation of modeling, and initiate Block Ib development.	9554	1752	1730
Complete Platform Integration efforts for Block Ia and initiate efforts for Block Ib including design and build of prototype hardware for Enhanced Platform Integration Kit and Portable Inductive Artillery Fuze Setter (EPIAFS) and development of Advanced Field Artillery	8474	8702	5170

Tactical Direction System (AFATDS) integration.			
Procure and test Development Test hardware in accordance with for Contractor Development Master Test Plan and Test and Evaluation Master Plan (TEMP), less the operational assessment efforts (next line).	13650	31368	31086
Procure production representative projectiles and conduct Limited User Test (LUT) and Independent Operational Test & Evaluation (IOTE) efforts.	3620	5930	12052
SS-SFM JBMOU Testing	9106	0	0
Total	137391	114709	102554

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604814A - Artillery Munitions - EMD**	**708**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	133167	113368	99127
Current BES/President's Budget (FY 2007)	137391	114709	102554
Total Adjustments	4224	1341	3427
Congressional Program Reductions		-503	
Congressional Rescissions		-1156	
Congressional Increases		3000	
Reprogrammings	4224		
SBIR/STTR Transfer			
Adjustments to Budget Years			3427

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Procurement Ammunition Army: Proj 155mm Extended Range: XM982-U Excalibur: E80103	23889	29261	22971	29469	35075	65483	62664	1159509	1428321
OPA2: Enhanced Portable Inductive Fuze Setter (E-PIAFS): AD3260	1943	6679	7441	7572	2596	0	0	0	26231

Comment:

D. Acquisition Strategy Excalibur is a family of 155mm Precision Guided Extended Range Munitions. A competitive source selection awarded an Engineering and Manufacturing Development (E&MD) contract for the initial block, with options for the other block's development and all Low Rate Initial Production quantities (LRIP). In coordination with the Defense Acquisition Executive, the Army has implemented an incremental development process to provide for early fielding of projectiles to the Stryker Brigade Combat Team #5. In FY05 the program responded to an Urgent Needs Statement to provide an initial capability to MNC-I in FY06. The Product Manager's Office is currently managing a contract option for the Block Ia-1 LRIP concurrent with the balance of System Development and Demonstration (SDD) for the Block Ia-2 configuration. The initial increment (Block Ia-1) will meet the most critical Operational Requirement Document (ORD) Block Ia Key Performance Parameter (KPP) requirements. The second increment (Block (Ia-2)) will meet all of the ORD Block Ia KPP requirements by the fourth quarter FY08. The Product Manager's office intends to award the third increment (Block Ib) SDD in FY07, which will meet all of the ORD Block Ib KPP requirements and fielded in FY11.

The SS-SFM effort (funded in FY04 and FY05) conducted compliance testing, safety certification and firing table development, but no procurement of projectiles for the

inventory.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604814A - Artillery Munitions - EMD

PROJECT
708

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
Excalibur Block Ia Development	C/CPAF	Raytheon Missile System,Tucson, AZ	227981	82683	1-4Q	64305	1-4Q	42455	1-4Q	Continue	0	Continue
Award Fee on Excalibur Development Contract	N/A	Raytheon Missile System,Tucson, AZ	11083	14428	2-4Q	10081	2-4Q	3006	2-4Q	Continue	Continue	Continue
TCM Merger Assessment	FP	Bofors Defence, Karlskoga, Sweden	14430	0		0		0		0	14430	0
Platform Integration-Systems Contractor	CPAF	TBS	150	0	1Q	500	1Q	600		Continue	Continue	0
Misc Support Contracts	Various	Various	1397	369	1-2Q	350	1-2Q	400	1-2Q	Continue	Continue	0
Platform Integration/Fire Control - AFATDS	SS/CPIF	Raytheon AFATDS, Ft Wayne, IN	588	3457	1Q	948	1-2Q	500	1-2Q	Continue	Continue	0
Platform Integration Firing Tables Development	MIPR	ARDEC, Firing Tables Branch, Picatinny, NJ/Aberdeen, MD	820	441	1Q	463	1Q	500	1Q	Continue	Continue	0
Platform Integration LW155 M777A2	CPIF	BAE, Burlington Vt.	3739	5000	2Q	3250	1-2Q	0	1-2Q	0	11989	0
SS-SFM Test Projectiles	C/FFP	Various	5084	5731	2Q	0		0		0	10815	0
Excalibur Block Ib Development	C/CPAF	TBS	0	0		0		24000	2Q	Continue	Continue	0
Govt IPT Support Platform Integration Development	MIPR	ARDEC, Picatinny, NJ	0	1120	1-4Q	1730	1-4Q	820	1-4Q	Continue	Continue	0
Platform Integration & EPIAFS Software Development	MIPR	Navy, Surface Warfare Center, MD	0	80	1-4Q	150	2Q	0	2Q	Continue	Continue	0
Subtotal:			265272	113309		81777		72281		Continue	Continue	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
Program Management	In House	PM Excalibur ,	12077	4388	1-4Q	4147	1-4Q	4354	1-4Q	Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604814A - Artillery Munitions - EMD**	**708**

		Picatinny, NJ										
Government IPT Support-Excalibur XM982	MIPR	ARDEC, Picatinny, NJ	22015	9369	1-4Q	10349	1-4Q	8279	1-4Q	Continue	Continue	0
Government TCM Support	MIPR	ARDEC, Picatinny, NJ	910	0		0		0		0	910	0
Goverment Support- Ft Sill	MIPR	Ft. Sill, OK	2254	173	1Q	400	1-2Q	400	1-2Q	Continue	Continue	0
Paladin Platform Integration	MIPR	PM Paladin Picatinny, NJ	650	0		0		0		0	650	0
Modeling and Structural Development	MIPR	Army Research Labs, Adelphi, MD	3521	1111	1-2Q	1344	1-4Q	850	1-4Q	Continue	Continue	0
Govt IPT Support Platform Integration	MIPR	ARDEC, Picatinny, NJ	5591	0		0		0		0	5591	0
Milestone Support	SS/FP	Camber, Alexandria, VA	820	220	2Q	250	2Q	142	2Q	Continue	Continue	0
Technical Spt Contract for Platform Integration	SS/FP	Camber, Dallas, TX	449	122	1-2Q	125	1-2Q	128	1-2Q	Continue	Continue	0
Fire Control development support	MIPR	Ft Monmouth, NJ/Ft Sill, OK	410	221	1-2Q	252	1-2Q	87	1-2Q	Continue	Continue	0
Miscellaneous Support	MIPR	Various	625	250	1-4Q	500	1-4Q	500	1-4Q	Continue	Continue	0
Platform Integration Software Support	MIPR	Navy Surface Warfare Center, MD	390	0	1-4Q	0	2Q	0		0	390	0
PM CAS SS-SFM	In-House	PM CAS, Picatinny, NJ	250	450	1-4Q	0		0		0	700	0
Government IPT Support - SS-SFM	MIPR	ARDEC, Picatinny, NJ	0	1625	1-3Q	0		0		0	1625	0
Subtotal:			49962	17929		17367		14740		Continue	Continue	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
TECOM Test Range	MIPR	YPG, Yuma, AZ	8575	944	1-4Q	4341	1-4Q	8755	1-4Q	Continue	Continue	0
Test Instrumentation and Analysis	MIPR	Army Research Labs, Adelphi, MD	2502	400	1-4Q	350	1-4Q	450	1-4Q	Continue	Continue	0
Telemetry Support	SS/FF	Physical Science	1496	150	1Q	350	2Q	350	2Q	Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604814A - Artillery Munitions - EMD

PROJECT
708

		Laboratories (PSL), Las Cruces, NM										
Telemetry Support	MIPR	ARDEC, Picatinny, NJ	5041	2534	1-4Q	4743	1-4Q	2200	1-4Q	Continue	Continue	0
Telemetry Cryptographic Support	MIPR	Ft. Huachuca, AZ	138	0	1Q	0		0		0	138	0
Tri-Service Software Assessment	MIPR	OSD, Wash, DC	61	0		0		0		0	61	0
Operational Test Support	MIPR	ATEC, Alexandria, VA	320	239	2Q	4831	2Q	2778	2Q	Continue	Continue	0
Target Replacement, Definition, Maintenance and Repair and Threat Assessment	MIPR	Target Management Office, Huntsville, AL.	300	300	1-2Q	400	1-2Q	400	1-2Q	Continue	Continue	0
ARDEC Testing	MIPR	ARDEC, Picatinny, NJ	1075	90	1-4Q	350	1-4Q	350	1-4Q	Continue	Continue	0
Test Gun Equipment	MIPR	Watervliet Arsenal, NY	3376	196	1-2Q	200	1-2Q	250	1-2Q	Continue	Continue	0
SS-SFM Testing	MIPR	Yuma Proving Grounds, Yuma, AZ	1000	1300	1-3Q	0		0		0	2300	0
Subtotal:			23884	6153		15565		15533		Continue	Continue	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									

Remarks: Not Applicable

Project Total Cost:	**339118**	**137391**		**114709**		**102554**		**0**	**49599**	**0**

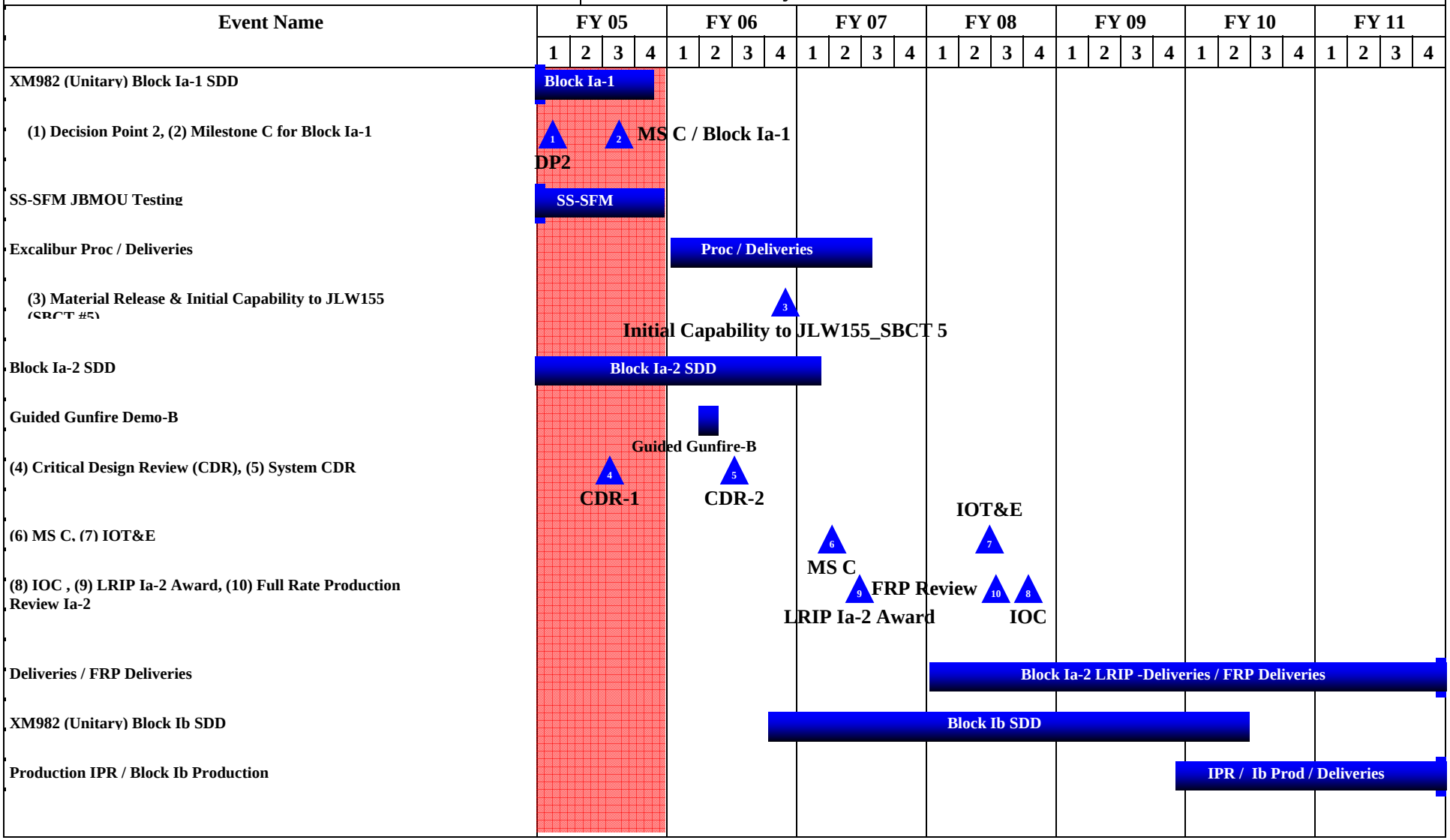
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604814A - Artillery Munitions - EMD

PROJECT
708



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604814A - Artillery Munitions - EMD

PROJECT
708

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Decision Point 2	1Q						
Guidance Soft Recovery Testing/Sys. Reliability Growth	1-4Q	1-4Q	1-3Q				
Guided Gunfire A (Tactical Guidance System Testing)	1Q						
Milestone C for Block Ia-1	3Q						
Guided Gunfire B (Initial Full System Test Firing)	4Q	2Q					
System Critical Design Review (CDR) -1	3Q						
System Final CDR -2		3Q					
Inductive Fuze Setter Preliminary Design Review (PDR)							
Inductive Fuze Setter CDR	4Q						
Milestone C for Block Ia-2			2Q				
Initial Capability to JLW155			1Q				
Award LRIP II Contract			2Q				
Award Block Ib SDD Contract			2Q				
System IOT&E				2Q			
SS-SFM JBMOU Testing	1-4Q						
Full Material release & IOC 1a				4Q			
MS C Block 1b					4Q		
Block 1b Production Start						1Q	
FAT Block 1b							2Q
Material Release Block 1b							4Q

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)	February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604814A - Artillery Munitions - EMD**	**708**

Funding in $000

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
XM982 Excalibur		10769	2944				
Total Termination Liability Funding:		10769	2944				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604817A - Combat Identification

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	12068	5395	39	20225	21733	1035	0	0	71635
482	Ground Combat Identification	6823	5395	39	20225	21733	1035	0	0	58631
902	Individual Combat Identification System (ICIDS)	5245	0	0	0	0	0	0	0	13004

A. Mission Description and Budget Item Justification: The ultimate goal of combat identification is to maximize combat effectiveness by minimizing and mitigating incidents of fratricide. This is achieved by the rapid, reliable identification of friends, foes, and neutrals. Project 482 supports the development of ground-to-ground and air-to-ground combat identification (CID) solutions for the Current Force and for the complementary systems that operate with the Future Force. This project also supports combat identification initiatives approved by the Army Marine Corps Board (AMCB) to narrow CID capability gaps.

FY07 funds will support program management office requirements.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604817A - Combat Identification

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	12069	2973	17807
Current BES/President's Budget (FY 2007)	12068	5395	39
Total Adjustments	-1	2422	-17768
Congressional Program Reductions		-24	
Congressional Rescissions		-54	
Congressional Increases		2500	
Reprogrammings	-1		
SBIR/STTR Transfer			
Adjustments to Budget Years			-17768

FY07 funding realigned to support higher priority initiatives.
FY06 Congressional increase for Command Post Platform efforts.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604817A - Combat Identification**	**482**

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
482 Ground Combat Identification	6823	5395	39	20225	21733	1035	0	0	58631

A. Mission Description and Budget Item Justification: Combat identification (CID) is intended to maximize combat effectiveness by minimizing battlefield causalities that may result from fratricide (friendly fire) incidents. The funds requested for this project will support efforts to develop combat identification solutions that will achieve the Army's goal of minimizing fratricide in ground-to-ground and air-to-ground combat operations.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Identify technical solutions for reducing the unit procurement costs of BTID for vehicle-to-vehicle fratricide reduction.	3513	2431	0
Development of the concept of operation and TTPs for RF Tags to achieve reductions in air-to-ground fratricide.	2023	0	0
Acquisition of RF Tag prototypes	800	0	0
Insertion of satellite communications on the move capabilities into Command Post Platforms	0	2464	0
Support internal program management office requirements	487	500	39
Total	6823	5395	39

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA2, SSN BA0510, Combat Identification Program	0	0	0	3646	26604	65897	74532	0	170679

Comment: The FY08-11 CID OPA funds support the AMCB CID Initiatives.

C. Acquisition Strategy The Army's overall CID acquisition strategy is to execute the Army Marine Corps Board (AMCB) CID Initiatives in FY07 and beyond.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604817A - Combat Identification

PROJECT
482

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
B-Kit Development	C/CPAF	TRW, CA	69765	0		0		0		0	69765	69765
A-Kit Development (Abrams)	C/CPFF	GDLS, MI	10909	0		0		0		0	10909	10909
A- Kit Development (Bradley)	C/CPFF	UDLP, CA	3364	0		0		0		0	3364	3364
A-Kit Development (Various)	Misc.	E&S, TRW, UDLP, AM General, Raytheon.	5836	0		0		0		0	5836	5836
Air-to-Ground Efforts	MIPR	I2WD Ft. Monmouth, NJ	2206	0		0		0		0	2206	0
Air-to-Ground Solution Efforts	MIPR	Sandia National Labs/DOE Albuquerque, NM	550	0		0		0		0	550	0
Combat Identification International Efforts	C/CPFF	Raytheon Ft. Wayne, IN	415	0		0		0		0	415	0
BTID Cost Reduction Efforts	FFP	Raytheon Ft. Wayne, IN	0	3421	3Q	1822	2Q	0		0	0	0
RF Tags Program Efforts	MIPR	I2WD Ft. Monmouth, NJ	0	2023	2Q	0		0		0	0	0
RF Tag Prototypes	C/CPFF	BAE Nashua, NH	0	800	2Q	0		0		0	800	0
Command Post Platform Efforts	TBD	Northrop Grumman Huntsville, AL	0	0		2464	2Q	0		0	0	0
Subtotal:			93045	6244		4286		0		0	93845	89874

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	CECOM, Fort Monmouth NJ	8303	0		209	1Q	0		0	0	0
System Eng/Tech Assistance	T&M/MIPR	COLSA, Falls Church, VA; Tecelote, Crystal	7150	92	3Q	400	1-2Q	0		0	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604817A - Combat Identification

PROJECT
482

		City, VA; Sytex, Eatontown, NJ										
Test Planning	MIPR	CECOM, Fort Monmouth NJ	437	0		0		0		0	437	0
Technical Support	MIPR	Sandia National Laboratories/IDA Albuquerque, NM	570	0		0		0		0	570	0
Subtotal:			16460	92		609		0		0	1007	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
Technical Test, Log Demo, SCD, IOTE	MIPR	ATEC, YPG, AZ	3513	0		0		0		0	3513	0
Limited User Test	MIPR	ATEC, YPG, AZ	673	0		0		0		0	673	0
ASCIET	MIPR	Misc.	6651	0		0		0		0	6651	0
Subtotal:			10837	0		0		0		0	10837	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
Program Management	In-house support	PM NavSys/TIMS, Ft. Monmouth, NJ	5508	487	1-4Q	500	1-4Q	39	1Q	0	0	0
Subtotal:			5508	487		500		39		0	0	0

Project Total Cost:	**125850**	**6823**		**5395**		**39**		**0**	**105689**	**89874**

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

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	64585	66026	69172	60826	52587	13145	8555	0	544930
323	COMMON HARDWARE SYSTEMS	6193	4429	6753	7062	7352	0	0	0	56132
334	COMMON SOFTWARE	19882	15567	11787	11859	14269	0	0	0	129046
C15	MOUNTED BATTLE COMMAND ON-THE-MOVE (MBCOTM)	0	9833	16598	22191	11925	3488	0	0	64035
C29	CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)	11316	9564	10228	10497	10025	9657	8555	0	92064
C34	ARMY TAC C2 SYS ENG	9264	16215	9130	9217	9016	0	0	0	92993
C39	Tactical Operations Centers (TOCs)	10350	3005	4476	0	0	0	0	0	29122
C3A	ARMY AIRBORNE COMMAND & CONTROL SYS (A2C2S)	7580	7413	10200	0	0	0	0	0	81538

A. Mission Description and Budget Item Justification: The umbrella program to exploit automation technology for the conduct of combat operations is the Army Tactical Command and Control System (ATCCS) program which is a component of the Army Battle Command System (ABCS). The ATCCS program provides automation in the five battlefield functional areas (BFAs) with the following specific systems: (1) Maneuver Control System (MCS); (2) Effects and Fires Command and Control Systems (EFCCS); (3) All Source Analysis System (ASAS) for Intelligence/Electronic Warfare; (4) Forward Area Air Defense Command, Control and Intelligence System (FAADC2I); and (5) Battle Command Sustainment Support System (BCS3). To provide an overall technically sound, cost effective, and operationally responsive approach, the design and development of ATCCS must be accomplished on a total systems basis. The ATCCS Engineering Program, more commonly known as Systems Engineering and Integration (SE&I), provides the required overall systems engineering to assure integrated Army tactical command and control and the utilization of common hardware and software throughout the five ATCCS nodal systems. This program element also includes the Central Technical Support Facility (CTSF) which provides a single technical "center of mass" for software checkout and physical system integration. The Common Hardware and Software projects provide common products to customers to meet their developmental and fielding needs. The Tactical Operations Centers (TOCs) project designs and develops the TOCs that form the structural backbone of the Army's digitized fielding concept. Starting in FY04 this program includes funding for the SICPS program which was previously funded in project C12 in FY03. The Army Airborne Command & Control (A2C2S) provides the avionics system required to horizontally and vertically integrate the battlefield. These systems support the Legacy to Objective transition path.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	64811	66980	68873
Current BES/President's Budget (FY 2007)	64585	66026	69172
Total Adjustments	-226	-954	299
Congressional Program Reductions			
Congressional Rescissions	-45	-665	
Congressional Increases		-289	
Reprogrammings	-181		
SBIR/STTR Transfer			
Adjustments to Budget Years			299

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604818A - Army Tactical Command & Control Hardware & Softwar**	**323**

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
323 COMMON HARDWARE SYSTEMS	6193	4429	6753	7062	7352	0	0	0	56132

A. Mission Description and Budget Item Justification: CHS is the program through which the Army ensures standardization and common integration for the Army Battle Command Systems (ABCS) hardware. CHS provides fully qualified interoperable, compatible, deployable, and survivable hardware and COTS software for Command, Control and Communications at all echelons of Command, for the United States Army and other DoD Services with world-wide repair, maintenance and logistics support through contractor operated CHS Repair Centers (CRCs) and management of a comprehensive warranty program.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue management of the acquisition and delivery of CHS equipment in support of customer requirements	5393	3629	5878
Continue supporting customers testing efforts with CHS equipment	300	300	300
Continue CHS technology insertion	500	500	575
Total	6193	4429	6753

C. Acquisition Strategy The overall goal is to improve interoperability and compatibility and lower life cycle costs by standardizing battlefield command and control (C2) automation through centralized buys of non-developmental items (NDI), standardized protocols and reusable commercial common software. This project provides a coherent migration strategy for ABCS systems through the use of technolgy insertion.

CHS also conducts common environmental and developmental testing of hardware items thereby reducing the testing requirements for individual BFAs. A firm fixed price, full and open competition contract, was awarded to GDC4S in May 2003, for ruggedization and production.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
323

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
GDC4S/CHS-3 Non-Recurring Engineering	C/FFP/IDIQ	Taunton, MA	12000	0		0		0		12000	Continue	0
Technology Insertion	Various	Various	11685	500	1-3Q	500	1-3Q	575	1-3Q	Continue	0	0
Systems Engineering	Various	Fort Monmouth, NJ	63887	2456		618		2632		Continue	0	0
In-house Government Support	MIPR	Fort Monmouth, NJ/Huntsville, AL	48699	2937	1-3Q	3011	1-3Q	3246	1-3Q	Continue	0	0
Subtotal:			136271	5893		4129		6453		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Not applicable			0	0		0		0		0	0	0
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
CHS Test Activities	MIPR	Other Government Activities	900	300	3Q	300	3Q	300	3Q	Continue	1800	0
Subtotal:			900	300		300		300		Continue	1800	0

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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604818A - Army Tactical Command & Control Hardware & Softwar**	**323**

	Type				Date		Date		Date			Contract
Subtotal:			0									
Project Total Cost:			**137171**	**6193**		**4429**		**6753**		**12000**	**1800**	**0**

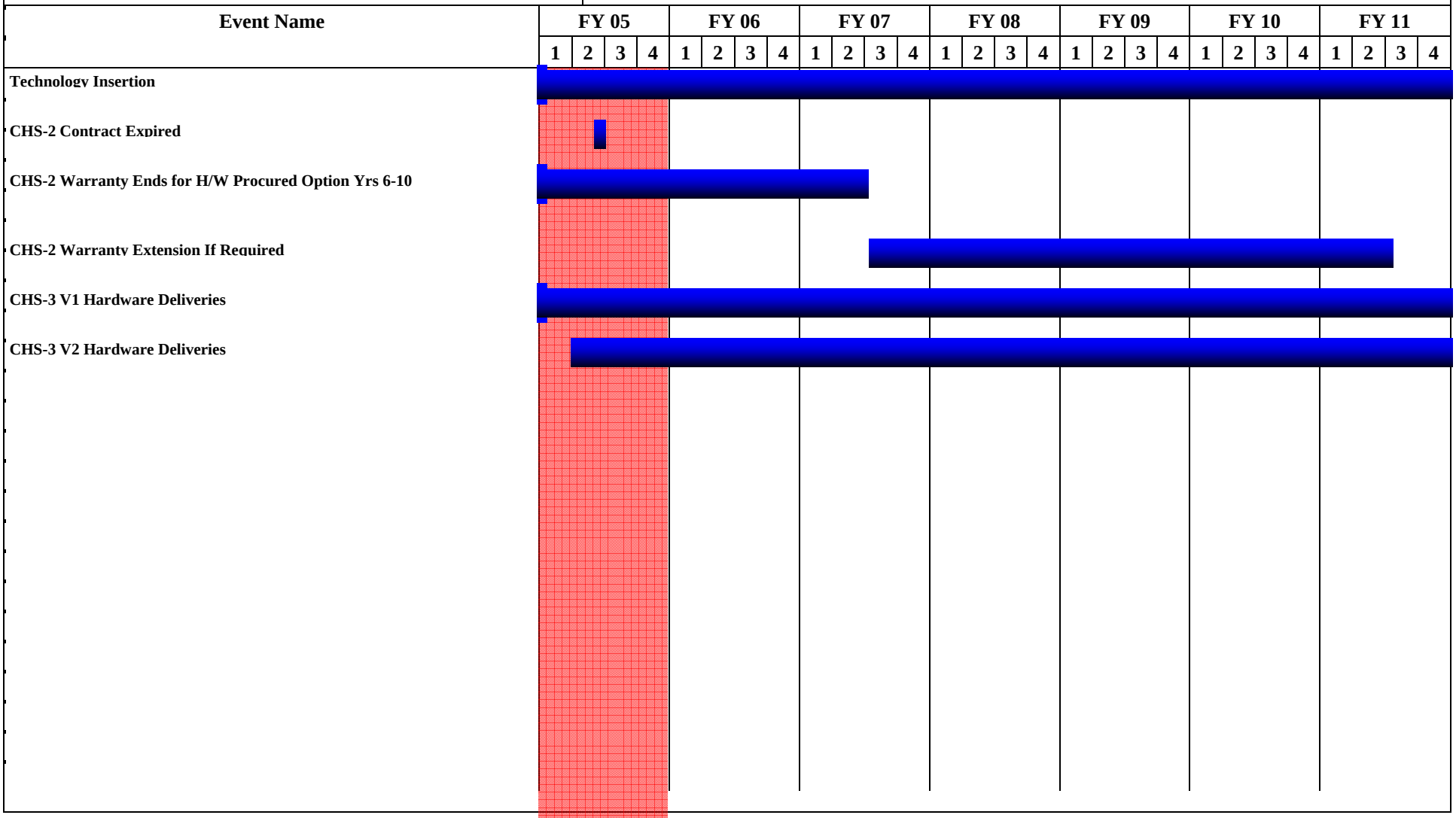
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
323



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
323

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
CHS Technology Insertion (continuous)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
CHS-3 V1 deliveries	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
CHS-3 V2 deliveries	2-4Q	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
5 - System Development and Demonstration	**0604818A - Army Tactical Command & Control Hardware & Softwar**	**334**

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
334 COMMON SOFTWARE	19882	15567	11787	11859	14269	0	0	0	129046

A. Mission Description and Budget Item Justification: Project D334 Common Software (CS): Common Software is the program through which the Army procures, develops, integrates and tests common software products and/or modules and/or components for both the Army and Joint Services. The CS project provides state-of-the-art software technologies and functionality that is used by numerous Army Battle Command Systems (ABCS) and joint systems thereby eliminating the need for similar independent development and duplication of effort. The CS program is a cornerstone in the Army's digitization efforts.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue the development, acquisition management and delivery of CS products in support of Army and Joint Service customer requirements to include software upgrades. Continue to achieve enhanced levels of interoperability by defining, testing and implementing software techologies that are provided to the warfighter. CS products will bridge current to future force technologies in support of the Future Combat System (FCS) and the Army's way ahead.	7384	7380	3580
Continue execution of the Common Software technology and reuse program; support customer integration and testing; explore and evaluate new software technologies in support of the overall CS program; and develop, upgrade and deliver DII COE products into Army and Joint Service systems. The CS products released to the Army and Joint Programs are also used in support of the US/Allied coalition efforts.	12498	8187	8207
Total	19882	15567	11787

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Not applicable for Common Software Program	0	0	0	0	0	0	0	0	0

C. Acquisition Strategy The overall goal is to improve software development, integration and interoperability, and to lower life cycle costs by providing common software products to the Army, Joint Services, and Coalition efforts. The CS program is designed to increase both horizontal and vertical interoperability while reducing development, integration and testing resources. This strategy will be realized through defined Application Program Interfaces (APIs), standardized protocols, reusable software and standard commercial products. The CS program plans to partner with and provide products to the Future Combat System (FCS).

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
334

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
Matrix Support of CS Lab, Data Access	MIPR	CECOM, Fort Monmouth, NJ	1458	395	1-3Q	0		0		0	1853	0
Engineering/Software Development	C, T&M	Various GSA Contractors / Various Locations	30812	10386	1-3Q	13810	1-3Q	9971	1-3Q	22308	87287	0
ABCS System Engineering & Integration	MIPR	PEO C3T, Fort Monmouth, NJ	210	0		0		0		0	210	0
3D Display Technology	OTA	Concurrent Technology Corp., Johnstown, PA	9083	0		0		0		0	9083	0
Digital System Engineers	C, T&M	Mantech, Ft. Hood, TX	7000	7400	1-2Q	0		0	4Q	0	14400	0
DISA Support for COE	MIPR		1486	0		0		0		0	1486	0
IDM-T Engineering Support	MIPR	GSA Contractors	2000	0		0		0		0	2000	0
Subtotal:			52049	18181		13810		9971		22308	116319	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
Program Support	In-house	PM GCC2, Ft. Monmouth, NJ	777	816	1-3Q	841	1-3Q	866	1-3Q	1811	5111	0
Automation Support	C, T&M	PKMM, Oceanport, NJ	499	165	1-2Q	171	1-2Q	179	1-2Q	385	1399	0
Subtotal:			1276	981		1012		1045		2196	6510	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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
334

Not applicable			0	0		0		0		0	0	0
Subtotal:			0	0		0		0		0	0	0

Remarks: Development Testing (DT) is performed by development contractors and is covered under the Product Development section of this R-3. Operational Testing (OT) is funded by the applicable BFA application programs.

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
Program Office Management	In-House	Fort Monmouth, NJ	2357	720	1-4Q	745	1-4Q	771	1-4Q	1624	6217	0
Subtotal:			2357	720		745		771		1624	6217	0
Project Total Cost:			**55682**	**19882**		**15567**		**11787**		**26128**	**129046**	**0**

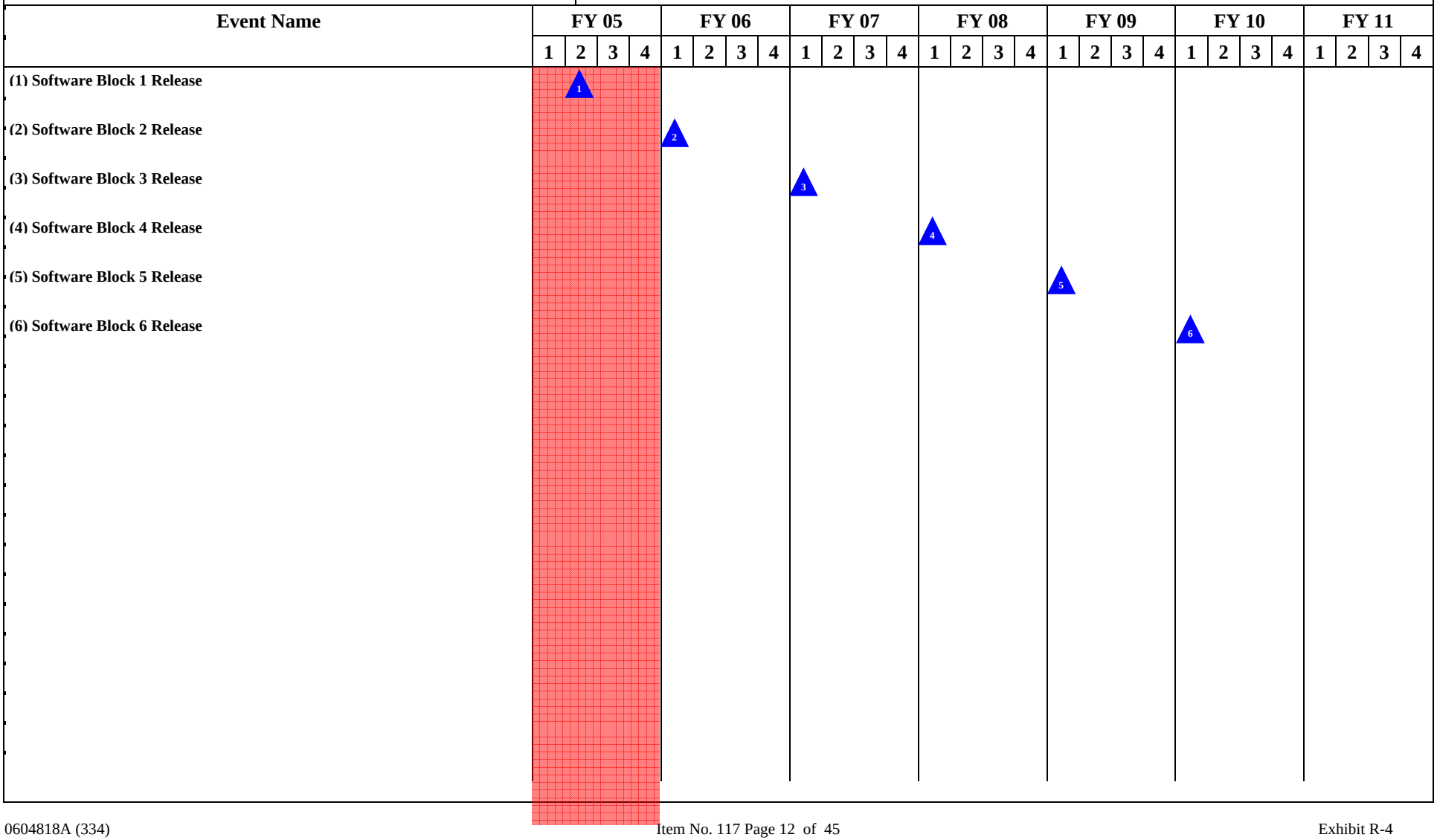
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
334



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Software Block 1 Release	2Q						
Software Block 2 Release		1Q					
Software Block 3 Release			1Q				
Software Block 4 Release				1Q			
Software Block 5 Release					1Q		
Software Block 6 Release						1Q	

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604818A - Army Tactical Command & Control Hardware & Softwar**	**C15**

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
C15	MOUNTED BATTLE COMMAND ON-THE-MOVE (MBCOTM)	0	9833	16598	22191	11925	3488	0	0	64035

A. Mission Description and Budget Item Justification: This project funds the procurement of the Mounted Battle Command on the Move System (MBCOTM). MBCOTM is a Command, Control, Computers, Communications, Intelligence (C4I) mission equipment package/ B Kit integrated into TO&E authorized platforms which allows Brigade and above Commanders to move to the decisive point on the battlefield. The focus of MBCOTM is to facilitate commander execution of Netcentric operations versus command post centric operations. MBCOTM provides the battle command commander situational awareness in the form of a digital common operational picture enabling a commander to maintain situational understanding while On The Move (OTM) and when physically separated from fixed command posts. MBCOTM provides battle command enablers to support war (i.e., deterring aggression and coercion; fighting conflicts) and operations other than war (i.e., peacekeeping, domestic disaster relief, reducing potential conflicts, promoting regional stability, humanitarian missions and homeland security). MBCOTM supports the mission area of Command and Control. Future capabilities will include adding Joint Tactical Radio System (JTRS) and Wideband Gapfiller system (WGS). Future improvements will include addition of Secure Wireless Local Area Network (SWLAN), Land Warrior, and Unmanned Aerial Vehicle (UAV) feed, as well as the integration of MF-TDMA technology which allows large numbers of MBCOTMs to populate the battlefield and provide OTM communications services and range extension on the Battlefield. Other future enhancements will include 20 inch KU SOTM antennas, and beginning FY07 the Common Army Marine Command and Control Vehicle (CAMC2V) architecture which will include an 18 or 20 inch Ku/Ka Satellite on the Move (SOTM) antenna, Multiple Frequencies Time Division Multiple Access (MF TDMA)modem with spreading at 512kbps Tx, 1+mbps Rx, NIPR/SIPR, and wireless access point.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
System Development/Tech Upgrades	0	2802	5000
Prototype Build	0	0	3500
Log Development/CLS	0	2000	2071
Program Spt/SSEB	0	4009	3027
Test/Evaluation	0	1022	3000
Total	0	9833	16598

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Mounted Battle Command on the Move MBCOTM (BZ9970	20000	30859	79035	73804	70530	49909	13542	0	337679

C. Acquisition Strategy Mounted Battle Command on the Move (MBCOTM) will be integrated on three vehicle platforms: HMMWV, Bradley Command Vehicle, and the Stryker Command Vehicle. Various tests will be run throught this SDD phase such as Systems and Engineering tests for the MBCOTM PP1 HMMWV variant. Upgrades to include PLGRS to DGRS. The Government is developing technology demonstrators of the Common Army Marine Command and Control Vehicle (CAMC2V) which will be designed to be a Transit Case solution (Mission Equipment Package/B Kit) to be integrated on a HMMWV. This is a cooperative variant being developed with the Army and Marine Corps in order to gather information for writing the product specification, as well as to gain better insight on a design. This competitive Request for Proposal (RFP) for the System Design and Development (SDD) phase for the Bradley, Stryker and CAMC2V variant is anticipated 3QFY06. Award of this contract is scheduled for 1QFY07.

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C15

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/Prototype build/Log Development	T&M	TBD	0	0		3252	1-2Q	10571	1Q	Continue	0	0
Subtotal:			0	0		3252		10571		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/ICS	T&M	Various	0	0		1550	1-2Q	1627	1Q	Continue	0	0
Subtotal:			0	0		1550		1627		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
Operational Assessments/IOT&E	MIPR	Army Test and Evaluation Center	0	0		1022	2Q	3000	1Q	Continue	0	0
Subtotal:			0	0		1022		3000		Continue	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Management	MIPR	Various	0	0		4009	1-2Q	1400	1Q	Continue	0	0
Subtotal:			0	0		4009		1400		Continue	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604818A - Army Tactical Command & Control Hardware & Softwar**	**C15**

Project Total Cost:	**0**	**0**		**9833**		**16598**		**Continue**	**0**	**0**

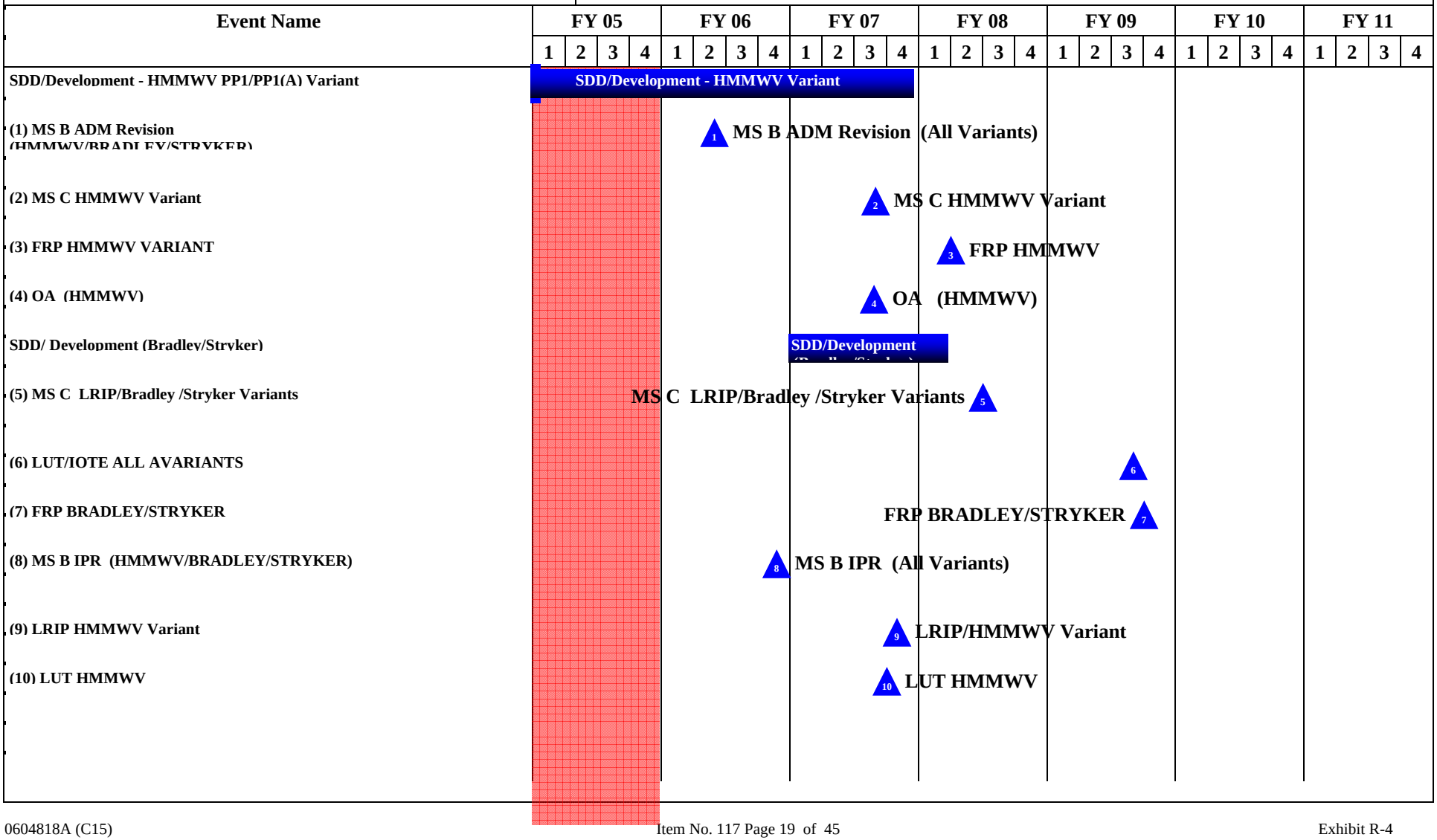
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C15



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C15

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
SDD/Development HMMWV variant	1-4Q	1-4Q	1-4Q				
LRIP Production HMMWV variant			4Q				
MS B	2Q						
MS C HMMWV Variant			3Q				
FRP HMMWV Variant				2Q			
OA (HMMWV)			3Q				
IOTE (HMMWV)				2Q			
SDD/Development for Bradley/Stryker			1-4Q	1Q			
LUT/IOTE ALL VARIANTS					3Q		
MS C/LRIP Bradley/Stryker				2Q			
FRP Bradley/Stryker					4Q		
MS B ADM Rev		2Q					
MS B IPR		4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604818A - Army Tactical Command & Control Hardware & Softwar**	**C29**

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
C29	CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)	11316	9564	10228	10497	10025	9657	8555	0	92064

A. Mission Description and Budget Item Justification: Project DC29 - Centralized Technical Support Facility: The Central Technical Support Facility (CTSF) is located in Fort Hood, Texas. The CTSF provides a centralized on-the-ground capability to ensure interoperability among various digitized platforms and serves as the final integration and maturation facility for Common Operating Environment (COE). The CTSF is the Warfighters "Edge" that acts as an enabler for rapid integration of dissimilar software and hardware systems through real time, on-site integration of soldiers, contractors, testers, Program Managers and the requirements community. Also the CTSF provides a single technical "center of mass" for software checkout and system integration and provides a controlled environment with connectivity to other C4I systems either on-site or through the Army Interoperability Network (AIN) to support digital integration and fielding. This effort supports the Current to Future transition path.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue test planning/procedures/execution/reporting	1739	1674	1927
Continue software engineering.	2066	1741	1791
Provide infrastructure (Facilities, upgrades, additions).	1440	1202	1236
Continue Digital System Engineering	1304	1089	1120
Continue management operations.	1302	1104	1135
Provide equipment for instrumentation, simulation/stimulation, software evaluation and development tools.	905	755	777
Continue configuration management.	826	689	709
Provide networks connections to include DISN, SIPRNET, NIPRNET, GUARDNET.	315	263	270
Provide logistics support.	233	194	200
Provide DA Mandated Intra-Army Digital Certification test and validation.	1186	853	1063
Small Business Innovative Research	0	0	0
Small Business Technology Transfer Programs	0	0	0
Total	11316	9564	10228

C. Acquisition Strategy This project provides the technical and programmatic disciplines required for systems engineering and integration, experimentation, acquisition management, testing, software development, interoperability, fielding and sustainment to ensure an interoperable and affordable ATCCS. The Program Executive Officer for Command, Control, Communications, Tactical (PEO C3T) has planned an evolutionary approach to fielding ATCCS as soon as possible.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C29

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
MANTECH (Direct Labor)	C/CPFF	Fort Hood, TX	4921	2384	1Q	2108	1Q	2515	1Q	Continue	0	Continue
COMPUTER SCIENCE CORP (System Engineering)	C/CPAF	Fort Hood, TX/Fort Monmouth, NJ	2344	1214	1Q	1013	1Q	1086	1Q	Continue	0	Continue
MITRE Corp (System Engineering)	C/CPFF	Fort Hood, TX/Eatontown, NJ	2116	1104	1Q	921	1Q	948	1Q	Continue	5089	Continue
CAMBER (Config Mgt/)	C/CPAF	Fort Hood, TX	1200	600	1Q	501	1Q	515	1Q	Continue	2816	Continue
Northrop Grumman (Field Engineering)	C/CPIF	Fort Hood, TX	1953	1011	1Q	844	1Q	868	1Q	Continue	4676	Continue
NICHOLS (Logistics Support)	C/CPAF	Fort Hood, TX	1521	790	1Q	659	1Q	678	1Q	Continue	3648	Continue
ILEX (Field Engineering)	C/CPAF	Fort Hood, TX	763	395	1Q	330	1Q	339	1Q	Continue	1827	Continue
ROBBINS- GIOIA (Data Base Management)	C/CPAF	Fort Hood, TX/Fort Monmouth, NJ	607	314	1Q	262	1Q	270	1Q	Continue	1453	Continue
GTE	C/CPFF	Fort Hood, TX	468	243	1Q	203	1Q	209	1Q	Continue	1123	Continue
EWA	C/CPAF	Fort Hood, TX	283	146	1Q	122	1Q	125	1Q	Continue	676	Continue
Subtotal:			16176	8201		6963		7553		Continue	21308	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
CECOM Matrix	MIPRs	Fort Hood, TX/Fort Monmouth, NJ	145	0		0		0		Continue	Continue	Continue
In-House Support	MIPRs	Fort Hood, TX	273	159	1Q	133	1Q	137	1Q	Continue	702	Continue
Other Government Support	MIPRs	Fort Hood, TX	83	55	1Q	46	1Q	48	1Q	Continue	232	Continue
Subtotal:			501	214		179		185		Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C29

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
ELECTRONIC PROVING GROUNDS (EPG)	MIPR		4670	2426	1-2Q	2025	1-2Q	2082	1-2Q	Continue	11203	Continue
CAMBER (Testing)	CPAF	Fort Hood, TX	875	475	1Q	397	1-2Q	408	1-2Q	Continue	2155	Continue
Subtotal:			5545	2901		2422		2490		Continue	13358	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
Not applicable			0	0		0		0		0	0	0
Subtotal:			0	0		0		0		0	0	0
Project Total Cost:			**22222**	**11316**		**9564**		**10228**		**0**	**35600**	**0**

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C29

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Army Battle Command System (ABCS) 6.3 Test/Fixes/Integration							
ABCS 6.4 System of System (SoS) Integration							
Operation Iraqi Freedom (OIF)	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
ABCS 6.4 Test Window	1Q	1Q					
Operation Enduring Freedom (OEF)	3-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
I Corps Warfighter	1Q						
Prairie Warrior 05	3Q						
III Corps Warfighter		1Q					
Prairie Warrior		3Q	3Q	3Q	3Q		
Ulchie Focus Lens (UFL)		4Q	4Q	4Q	4Q		
Certification Software Blocking	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
5 - System Development and Demonstration	**0604818A - Army Tactical Command & Control Hardware & Softwar**	**C34**

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
C34	ARMY TAC C2 SYS ENG	9264	16215	9130	9217	9016	0	0	0	92993

A. Mission Description and Budget Item Justification: Project DC34 - Army Tactical Command and Control Systems (ATCCS) Engineering which is also referred to as Systems Engineering and Integration (SE&I): Doctrine requires military leaders to make sound and timely command and control decisions to direct the activities of assigned and supporting units. The umbrella program to exploit automation technology in support of this mission is the ATCCS or SE&I program. The effort to achieve horizontal integration of the ATCCS Battlefield Functional Areas (BFAs), although going on independently in each BFA, was not disciplined enough to address all connections and needs within the entire spectra of command, control and communications. Therefore, to ensure this horizontal integration effort is complete and fully automated, a significant management, systems engineering and integration effort is required. This effort, supporting the Army Battle Command Systems (ABCS) Version 6.30, includes fielding the ABCS Version 6.4 to the entire Army in four years and the currrent to the future transition path. The four year fielding is with "Good Enough" software and the future transition path was developed as the "Top Down Architecture".

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue Army Battle Command System (ABCS) Integrated Logistics Support	187	382	213
Continue ABCS Testing and Evaluation of all Battlefield Functional Area (BFA) fielded software	477	803	447
Continue ABCS Fielding/Scheduling	936	1410	785
Continue ABCS Integrated Training Support	840	0	0
Continue ABCS information engineering	1126	2209	1177
Conduct and support system interoperability engineering	346	571	318
Continue exploring state of the art technology insertion in support of the ABCS program	180	373	208
Continue development and implementation of the ABCS information assurance	452	525	292
Continue ABCS System Engineering	2738	5082	2987
Continue System of Systems Development	1982	4860	2703
Small Business Innovative Research/Small Business Technology Transfer Programs	0	0	0
Small Business Technology Transfer Programs	0	0	0
Total	9264	16215	9130

C. Acquisition Strategy This project provides the technical and programmatic disciplines required for systems engineering and integration, experimentation, acquisition management, testing, interoperability, support to fielding and sustainment to ensure an interoperable and affordable Army Tactical Command and Control Systems (ATCCS).

The Program Executive Officer for Command , Control, Communications, Tactical (PEO C3T) has planned an evolutionary approach to fielding ABCS 6.4 in four years which ends in first quarter FY08. Fiscal years FY08 and FY09 will focus on "Systems of Systems" Engineering and integration for evolution toward JC2 and FCS.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C34

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Northrop Grumman	C/CPIF	Fort Monmouth, NJ/Fort Hood, TX	9463	1090	1Q	595	1Q	692	1Q	Continue	0	Continue
CSC, NICHOLS	C/CPAF	Fort Monmouth, NJ/Fort Hood, TX	31283	1251	1Q	4044	1Q	888		Continue	0	Continue
MITRE	C/CPFF	Ft Monmouth, NJ/Eatontown, NJ	27425	4157	1Q	7517	1Q	4255	1Q	Continue	0	Continue
MANTECH (Direct Labor)	C/CPFF	Fort Monmouth, NJ/Fort Hood, TX	6496	0		0		0		0	6496	6546
CAMBER (Config Mgt/)	C/CPAF	Fort Hood, TX	1788	0		0		0		0	1788	855
ROBBINS-GIOIA	C/CPAF	Fort Monmouth, NJ/Fort Hood, TX	4972	540	1Q	1620	1Q	890	1Q	Continue	8022	Continue
LOCKHEED MARTIN	C/CPAF	Eatontown, NJ	6034	0		0		0	1Q	Continue	6034	Continue
GTE (Labor and Equipment)	C/CPFF	Fort Hood, TX	2281	0		0		0	1Q	Continue	2281	Continue
Misc Contracts	C/CPAF	Fort Monmouth, NJ/Fort Hood, TX	5703	185	1-2Q	250	1Q	90	1-2Q	Continue	0	Continue
Unixpros	C/CPAF	Eatontown, NJ	3711	0		0		0		0	3711	3711
ATSC	MIPR	Fort Leavenworth, KY	1850	0	1Q	0		0		Continue	1850	Continue
IDA	MIPR	Fort Monmouth, NJ	1724	0	1Q	0		0		Continue	1724	Continue
ITT	C/CPAF	Eatontown, NJ	1070	0		0		0		Continue	Continue	Continue
BOOZ-ALLEN	C/CPAF	Eatontown, NJ	1950	0		0		0	1Q	Continue	1950	Continue
MISCELLANEOUS SUPPORT	C/CPAF	Eatontown, NJ/Fort Hood, TX	1521	464	1-2Q	525	1-2Q	566	1-2Q	Continue	3076	Continue
Subtotal:			107271	7687		14551		7381		Continue	Continue	Continue

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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C34

	Type				Date		Date		Date			Contract
IN-HOUSE SUPPORT	MIPRs	Fort Monmouth, NJ/Fort Hood, TX	5727	335	1Q	352	1Q	370	1Q	Continue	6784	Continue
CECOM MATRIX	MIPRs	Fort Monmouth, NJ/Fort Hood, TX	4045	982	1Q	1031	1Q	1083	1Q	Continue	7141	Continue
OTHER GOVERNMENT SUPPORT	MIPRs	Fort Monmouth, NJ/Fort Hood, TX/Fort Belvoir, VA	3339	130	1Q	137	1Q	144	1Q	Continue	3750	Continue
Subtotal:			13111	1447		1520		1597		Continue	17675	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
EPG	MIPR	Fort Huachuca, AZ	2463	130	1Q	144	1Q	152	1Q	Continue	2889	0
Subtotal:			2463	130		144		152		Continue	2889	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
SBIR/STTR	Various		792	0		0		0		0	792	0
Subtotal:			792	0		0		0		0	792	0

Project Total Cost:	**123637**	**9264**		**16215**		**9130**		**0**	**58288**	**11112**

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C34

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
ABCS 6.3.X							
NATIONAL TRAINING CENTER (NTC) ROTATIONS	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
ABCS 6.4 SOFTWARE DEVELOPMENT and TESTING	1-2Q						
SBCT-2 FIELDING							
SBCT-3 FIELDING	1-3Q						
SBCT - 4 FIELDING	1-4Q	1-3Q					
SBCT-5 FIELDING	4Q	1-4Q	1-3Q				
SBCT-6 FIELDING		4Q	1-4Q	1-3Q			
FUTURE OPERATIONAL ARCHITECHTURE (OA)/SYSTEM ARCHITECTURE (SA)				1-4Q	1-4Q		
ABCS SYSTEMS ENGINEERING & INTEGRATION TRANSITION TO FCS				1-4Q	1-4Q		
FIELDING OF ABCS 6.4 TO ARMY	1-4Q	1-4Q	1-4Q	1Q			

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604818A - Army Tactical Command & Control Hardware & Softwar**	**C39**

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
C39	Tactical Operations Centers (TOCs)	10350	3005	4476	0	0	0	0	0	29122

A. Mission Description and Budget Item Justification: The Tactical Operations Center (TOC) program provides commanders and their staffs with digitized platforms and command information centers, where courses of action become plans, plans become orders and battle tracking occurs. Based on the approved Standardized Integrated Command Post System (SICPS) Capabilities Production Document (CPD), a new start TOC program consisting of Command Post Platforms (CPPs) with standardized shelters, installation kits, large screen displays, environmentally-controlled tents and trailer-mounted support systems (TMSS), will be developed and fielded to future units. The CPPs will integrate Army Battle Command Systems (ABCS), communications equipment, intercoms, and local area networks into a standard Army platform. CPPs are digitized, tactically mobile, and fully integrated using military off-the-shelf, commercial off-the-shelf, non-developmental items, and emerging technologies. Network centric TOCs/SICPS support joint interoperability, ensuring that information superiority and force synchronization are gained on the tactical and operational battlefield. Fielded TOCs include Current Force TOCs for 4ID and Stryker Brigade Combat Teams (SBCT 1-3). SBCT-4 fielding to complete 2Q FY 06. SICPS Low Rate Initial Production (LRIP) is ongoing for 1CD, SBCT-5, SBCT-6 and OIF/OEF 06-08 rotation units. 1CD fielding to complete 3Q FY 06. The War on Terrorism and War in Iraq have emphasized the critical need for integrated command and control platforms where real time situational awareness and battle command can be executed in environmentally controlled, modular shelters, tents and TMSS that are deployable and supportable. The TOC program with development of state-of-the-art SICPS is providing this capability on an expedited schedule to meet the Army's requirement for OEF/OIF, and integrate the Army's updated ABCS systems as quickly as practicable. Currently, the TOC program is providing OEF/OIF support to the Coalition Forces Land Component Command (CFLCC), Coalition Joint Task Force 7, 4ID, and SBCT-3. TOCs/SICPS provide the command post migration path to Future Combat Systems (FCS). FY 07 provides incorporation of engineering changes resulting from IOT&E and continues CPP weight reduction efforts to provide trade space for future BC and armor requirements.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Design, engineering and test of TOCs	800	0	0
Design, engineering and testing of Standardized Integrated Command Post Platforms	7013	1342	3392
Government Test Support	1451	1410	826
In-house Government Support	1086	253	258
Total	10350	3005	4476

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Other Procurement Army 2 - SSN: BZ9865	124035	129616	57707	385831	226982	222002	222165	CONT	CONT

C. Acquisition Strategy The TOC evolutionary acquisition strategy relies on non-developmental items (NDI), Commercial Off-the-Shelf (COTS), and Government-furnished equipment (GFE) to design, integrate, assemble, test, train, and field Tactical Operations Centers (TOCs), Command Post Platforms (CPPs), and Tents and Trailer Mounted Support Systems (TMSS). A contract was awarded in August 2004, using full and open competition to design, develop and test CPPs. Tents/TMSS are being procured through the Defense Logistics Agency.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C39

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
Current Force TOCs	C/CPFF	GDDS (Huntsville, AL)	10567	800		0		0		0	11367	0
SBCTs 1,2 & 3	C/CPIF	NGMS (Huntsville, AL)	8745	0		0		0		0	8745	0
SBCTs 4	C/CPFF/FFP	PIF/JVYS	682	0		0		0		0	682	0
Command Post Platforms	C/CPIF	NGMS (Huntsville, AL)	365	7013	1Q	1342	1Q	3392	1Q	Continue	12112	0
In-House and Government Support		Various	1488	1086	1-2Q	253	1-2Q	258	1-2Q	Continue	3085	0
TOC 3D Survivable Carrier			4100	0		0		0		0	4100	0
Subtotal:			25947	8899		1595		3650		Continue	40091	0

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Government Test Support		various	110	1451	1-2Q	1410	1-2Q	826	1-2Q	Continue	3797	0
Subtotal:			110	1451		1410		826		Continue	3797	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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604818A - Army Tactical Command & Control Hardware & Softwar**	**C39**

Subtotal:	0									
Project Total Cost:	**26057**	**10350**		**3005**		**4476**		**0**	**43888**	**0**

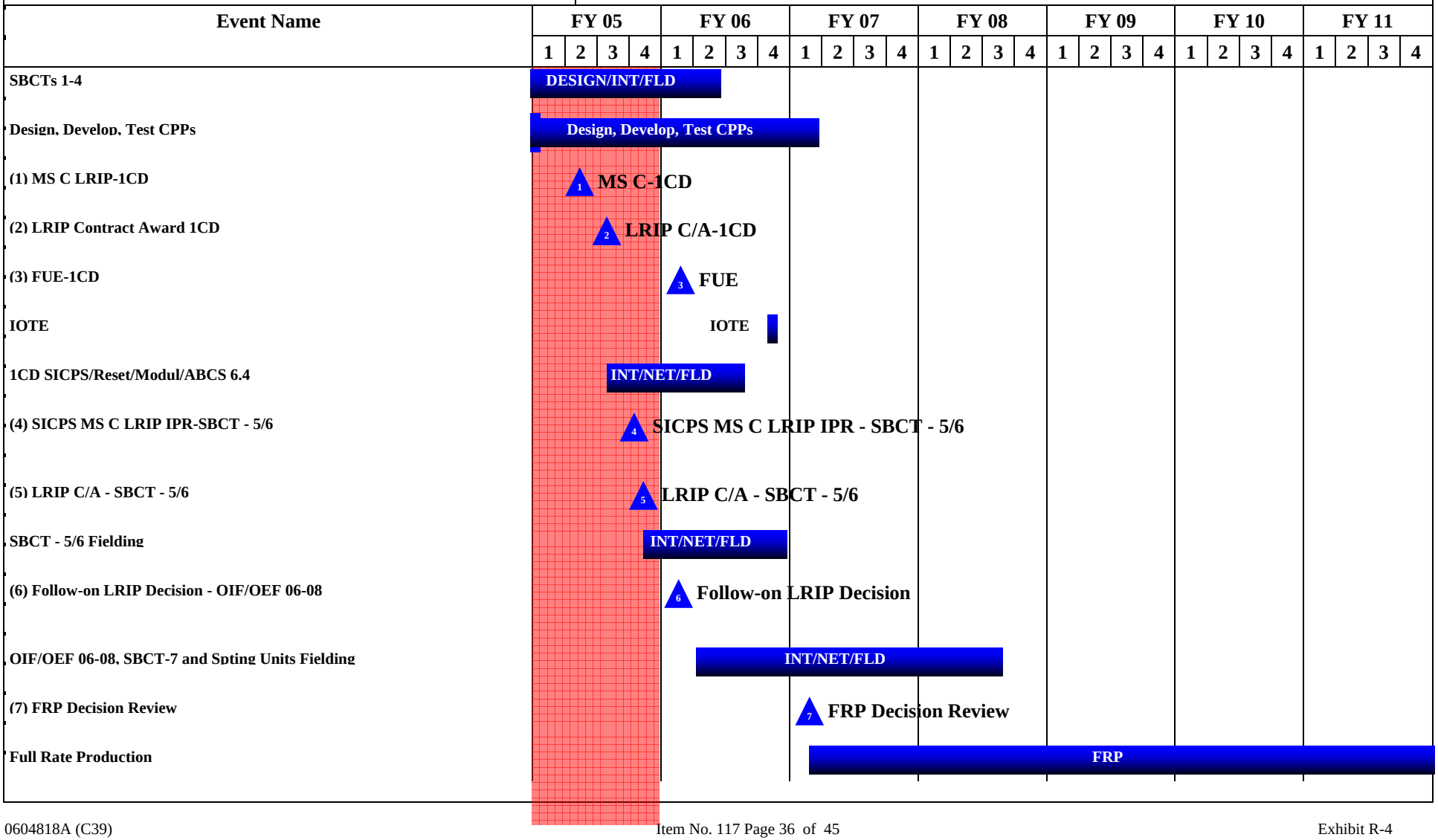
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C39



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C39

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
SBCTs Design/Int /Field	1-4Q	1-2Q					
Design, Develop, Test CPPs	1-4Q	1-4Q	1-2Q				
Milestone C LRIP - 1CD	2Q						
LRIP Contract Award -1CD	3Q						
First Unit Equipped - 1CD		1Q					
Initial Operational Test & Evaluation		4Q					
1 CD SICPS/Reset/Modul/ABCS 6.4 INT/NET/FLD	3-4Q	1-3Q					
SICPS MS C LRIP IPR - SBCT-5/6	4Q						
LRIP Contract Award - SBCT - 5/6	4Q						
SBCT 5 INT/NET/FLD	4Q	1-4Q					
SBCT 6 INT/NET/FLD		1-4Q					
Follow-On LRIP Decision - OIF/OEF 06-08		1Q					
OIF/OEF 06-08, SBCT-7 and Supporting Units INT/NET/FLD		2-4Q	1-4Q	1-3Q			
FRP Decision Review			1Q				
Full Rate Production			2-4Q	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
5 - System Development and Demonstration	**0604818A - Army Tactical Command & Control Hardware & Softwar**	**C3A**

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
C3A	ARMY AIRBORNE COMMAND & CONTROL SYS (A2C2S)	7580	7413	10200	0	0	0	0	0	81538

A. Mission Description and Budget Item Justification: This project funds the development of an Airborne Battle Command On The Move System required to horizontally and vertically integrate a linear and non-linear battlefield. Tasks in this project support research efforts in the engineering and manufacturing development phase of this system. The Army Airborne Command and Control System (A2C2S) is an Army Airborne Battle Command acquisition program for a system supporting the Unit of Employment, and Brigade Combat Teams. The A2C2S enables Commanders and their staffs, to traverse the battle space rapidly - maintaining situational awareness of all battlefield systems - and maintaining communications throughout the decision continuum. Using Battle Command Software and line-of sight and non-line-of sight voice and data communications the A2C2S provides information superiority through a common operational picture. In addition, A2C2S is to the airborne first-responder for Homeland Security and disaster relief by providing a robust communications platform for emergency response coordinators of air and ground operations. It will support initial and remote scene operations centers, convoy operations, and disaster coordination between state, federal, civilian and military assets. This system is critical to enhance the Battle Command Group's ability to effectively perform combat unit operations and serve as a force multiplier in the Future Force. Due to new technology and requirements to be compatible, design integration will be required to retrofit existing A2C2S systems. A2C2S supports the Chief's Vision and the modularity concept of the Army Over Time.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue System Development and Evaluation	3107	3248	2718
Continue "Good Enough" Integration (ABCS 6.4 and NLOS SATCOM)	3000	760	665
Continue AWQ, Development and Operational Test	1473	2913	5217
Complete Technical Manuals	0	492	600
Develop Homeland Defense (HLD) Capabilities (Civil Use Waveforms and Applications)	0	0	1000
Total	7580	7413	10200

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
Airborne Command and Control SSN AA0710	28065	27678	40220	53853	79998	87740	18105	CONT	CONT

C. Acquisition Strategy A competitive cost type contract was awarded for A2C2S development in August 2001 to Raytheon. Raytheon produced three (3) prototype systems in FY03 in support of OEF/OIF. Raytheon produced five (5) LRIP Systems before the end of the contract period of performance, 30 Sep 05. The PIF produced three (3) LRIP A2C2S 1.0 Systems as described in MOA dated Jan 05 and will produce one (1) LRIP A2C2S 1.1 System. The Prototype Integration Facility (PIF) will produce four (4) LRIP A2C2S 1.1 Systems in FY06 and seven (7) LRIP A2C2S 1.1 Systems in FY07.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C3A

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 Dev and Eval	CPIF, MIPR	Raytheon Huntsville, and PIF JVYS	8672	3851	1Q	3914	2Q	4189	1Q	Continue	Continue	0
Prototype Integration (Systems 3 - 7)	CPIF	Raytheon	9497	0		0		0		Continue	Continue	0
Software Integration/Development	CPIF	Raytheon Huntsville	2618	0	1Q	0		0		Continue	Continue	0
Systems and Engineering Logistics Support	Various	Raytheon /AMCOM	12599	1285	1Q	0		0		Continue	Continue	0
ABCS SE&I	MIPR	Ft. Monmouth, NJ	195	0		0		0		0	195	0
Inhouse/Government	Various	Various	0	560	1Q	431	2Q	431	1Q	Continue	Continue	0
Subtotal:			33581	5696		4345		4620		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Support of System 1 and 2 deployed to 4th ID and 101st ABN	Various	Various	3759	0		0		0		0	3759	0
Subtotal:			3759	0		0		0		0	3759	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
Development Test & Evaluation and AWQ	MIPR/CPIF	ATEC/RTTC/AATD/AED/Raytheon/PIF JVYS	11903	1473	1Q	1400	2Q	4925	1Q	Continue	Continue	0
Operational Test	Various	Various	1883	0		1513	2Q	500	1Q	Continue	Continue	0
Subtotal:			13786	1473		2913		5425		Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C3A

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
In-House/Gov't			5219	411	1Q	155	1Q	155	1Q	Continue	Continue	0
Subtotal:			5219	411		155		155		Continue	Continue	0
Project Total Cost:			**56345**	**7580**		**7413**		**10200**		**Continue**	**Continue**	**0**

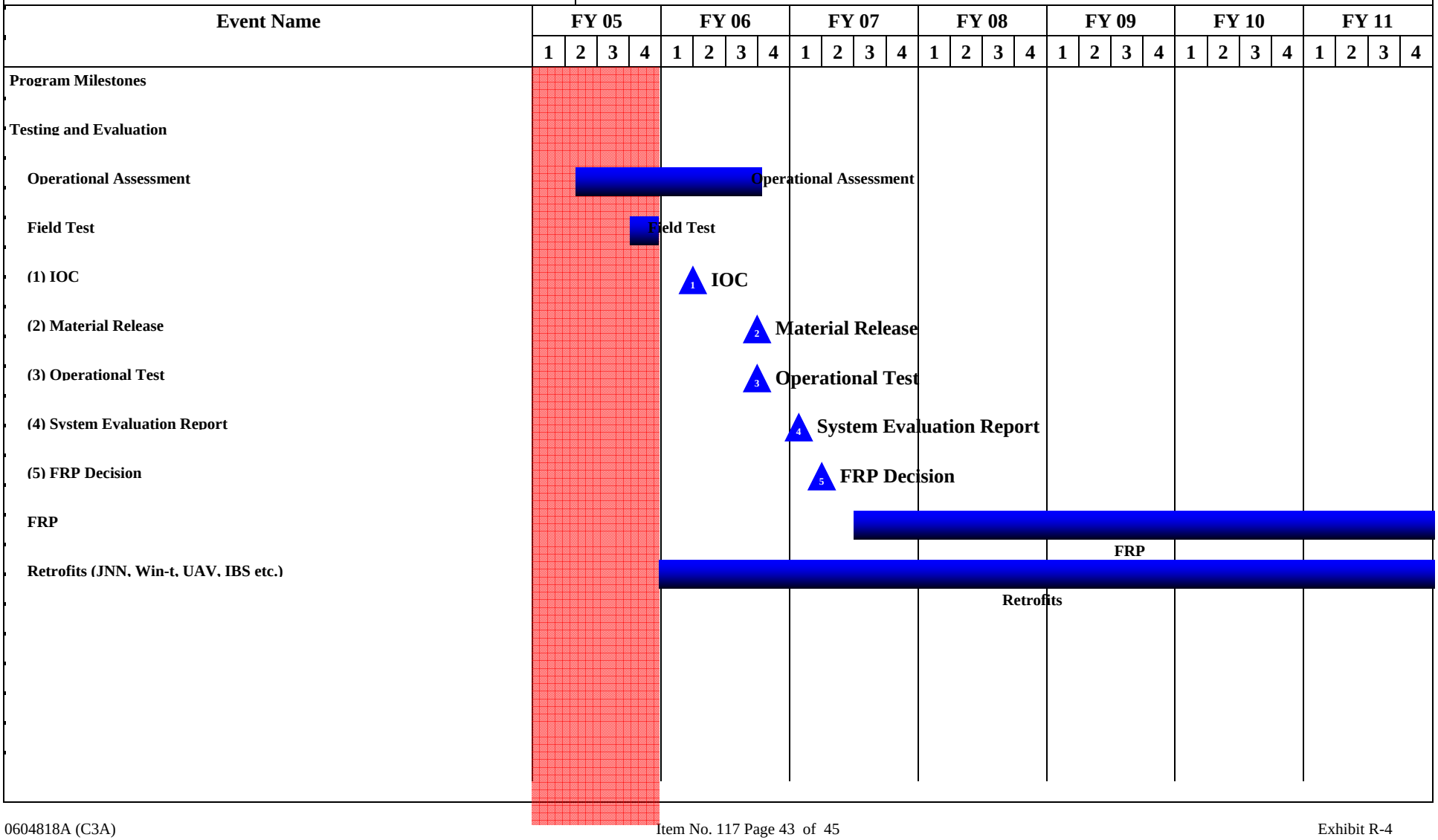
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C3A



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604818A - Army Tactical Command & Control Hardware & Softwar

PROJECT
C3A

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MS C							
Operational Assessment	2-4Q	1-3Q					
Field Test	4Q						
IOC		2Q					
Material Release		4Q					
Operational Test		4Q					
System Evaluation Report			1Q				
FRP Decision			2Q				
FRP			3-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Retrofits		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604820A - RADAR DEVELOPMENT**	**E10**

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
E10 SENTINEL	5848	5008	2527	2622	0	0	0	0	16005

A. Mission Description and Budget Item Justification: The Short Range Air Defense (SHORAD) Project Office merged with the Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) Project Office on January 11, 2005 to become the Cruise Missile Defense System (CMDS) Project Office. On January 13, 2005, the Program Executive Office (PEO) for Air, Space and Missile Defense (PEO ASMD) which CMDS is assigned to merged with the PEO for Tactical Missiles (PEO TM) to become the PEO for Missiles and Space (PEO MS).
The Sentinel Modernization Program is part of the Missiles and Space System of Systems (SoS). This enables the Cruise Missile Defense Systems (CMDS) weapons to engage these targets at maximum effective range. Sentinel supports Missiles and Space (MS) SoS through efforts which are initiated in FY05. These are Surface Launched Advance Medium Range Air-to-Air Missile (SLAMRAAM) Integration (SI), Mode V (MV), Joint ID (JID) and Composite Sensor Net (CSN).

SLAMRAAM Integration modifies Sentinel to interface with the SLAMRAAM MS Common Software communications network and adds specific SLAMRAAM engagement support capabilities. Current budgeted funds for the Sentinel Program will accomplish initial Sentinel modification. The integration development effort is partially funded.

Mode 5 is a replacement for Mode 4. Mode 5 provides improvements over Mode 4 in Crypto sensitivity, range performance, probability of identification, Friend from Friend identification, lethal interrogation capability and reduced interference with Civil Air Traffic Control Systems.

Joint Identification leverages off of fielded Air Force and Navy Electronic Support Measures (ESM) Technology, to optimize the affordability and effectiveness to address Cruise and Unmanned Aerial Vehicles (UAV) threats. Cutting edge specific emitter identification technology and cruise missile emitter detection will be integrated with Sentinel to provide passive and semi-active target acquisition along with jointly accepted identification capability. Signal processing will be tailored to reduce ESM processing cost by 40 - 50% versus airborne ESM systems by multiplexing processing across emitter bands. This capability improves survivability, effectiveness against air breathing Weapons of Mass Destruction (WMD) delivery systems, and fully supports multi-service SoS sensor and joint identification capability.

Composite Sensor Netting is a software and communications link that allows target data to be shared among sensors and the Command, Control, Communications, Computers and Intelligence (C4I) structure to support both hostile identification and sensor resource management. This software and communication link allows a Sentinel radar communication net to effectively exchange target acquisition, tracking and classification information with other Sentinel radars on the battlefield. It improves the ability to cue weapon systems to destroy fixed wing, rotary wing, unmanned aerial vehicles and cruise missiles. When integrated with SLAMARRAM system it improves the accuracy of the missile by providing 3 times the update rate of commands to the missile versus the current system.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Initiate ASMD SoS Integration Development (SLAMRAAM/Sentinel SW Integration, Joint ID, Composite Sensor Netting, Mode 5)	5848	5008	2527
Total	5848	5008	2527

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604820A - RADAR DEVELOPMENT**	**E10**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	5851	5080	2547
Current BES/President's Budget (FY 2007)	5848	5008	2527
Total Adjustments	-3	-72	-20
Congressional Program Reductions		-22	
Congressional Rescissions		-50	
Congressional Increases			
Reprogrammings	-3		
SBIR/STTR Transfer			
Adjustments to Budget Years			-20

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 0603869A, MEADS	251298	0	0	0	0	0	0	0	251298
PE 0604869A, Patriot/MEADS CAP	0	284695	329583	459684	517049	592013	422005	0	2605029
PE 273801, PATRIOT PIP	32067	15957	10770	11051	11297	12227	12734	0	106103
PE 06504865,A PAC-3	60408	0	0	0	0	0	0	0	60408
SSN C49100, PATRIOT System	496990	483260	489067	472907	478795	0	0	0	2421019
SSN C50001, PATRIOT/MEADS CAP	0	0	0	89735	65296	429735	674386	0	1259152
PE 172419A, JLENS	79279	105888	264491	465214	353856	335490	301143	0	1905361
SSN BZ0525, JLENS PRODUCTION	0	0	0	0	0	30471	476728	0	507199
PE 0604802A, SLAMRAAM	63084	35587	26961	10132	0	0	0	0	135764
SSN C81001, SLAMRAAM	2438	19061	22039	59314	82656	82143	60979	0	328630
SSN WK 5057, Sentinel MODS	10566	8289	15125	20914	33394	33239	25314	0	146841
PE 643327, Integrated Fire Control AMD	19984	24480	41746	47995	50096	0	0	0	184301

Comment: This PE is an integral part of the PEO, Missiles and Space Integrated Air and Missile Defense (IAMD) Program including Integrated Fire Control, JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, JTAGS, SENTINEL, and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

D. Acquisition Strategy In FY 2005, a Engineering Services Memorandum (ESM) was issued under the current Sentinel Engineering Services contract for the Sentinel integration into SLAMRAAM. Sentinel funded the FY05 integration effort. The additional funding for FY 06 and 07 is provided by the Integrated Air and Missile Defense (IAMD) Program under the current SLAMRAAM System Design and Development Contract. The System Design, Development and Production of Mode 5, Joint Identification and Composite Sensor Netting hardware and will be funded from several contract and government sources.

Several Sole Source FFP procurement contracts are planned for award to TRS in FY 05 through FY 13 to procure and install Enhanced Target Range and Classification (ETRAC) System Kits (integration of an upgraded Transmitter Mod Kit and an ETRAC Mod Kit into a single Mod kit) into the remaining Sentinel fleet.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604820A - RADAR DEVELOPMENT

PROJECT
E10

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
ETRAC System Development	SS/CFFP	Raytheon, CA, Sentinel PM/AMCOM, AL	102729	0		0		0		0	102729	79192
Initiate MS SoS Integration Development (SI, JID, MV, CSN)	SS/CPFF	Raytheon, CA Sentinel PM/AMCOM, AL	0	5848	3-4Q	4621	1-4Q	1537	1-4Q	629	12635	11624
Subtotal:			102729	5848		4621		1537		629	115364	90816

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
ETRAC Product Support Services	MIPR/1095	AMCOM, Redstone Arsenal, AL	16930	0		0		0		0	16930	0
Initiate MS SoS (SI, JID,M5, CSN)	1095	CMDS PM, AL;Redstone Arsenal, AL	0	0		176	1Q	0		0	176	0
Subtotal:			16930	0		176		0		0	17106	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
ETRAC IOT&E, KPP Demonstration & other T&E Activities	MIPR/1095	OPTEC, VA; Redstone Technical Test Ctr, redstone Arsenal Al	34599	0		0		0		0	34599	0
Initiate MS SoS (SI, JID,M5, CSN)	SS/CPFF, MIPR/1095	Technical Test Center, CMDS PM,Thales Raytheon, CA;Redstone Arsenal, AL	0	0		29	1Q	990	1-2Q	1657	2676	2462
Subtotal:			34599	0		29		990		1657	37275	2462

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604820A - RADAR DEVELOPMENT

PROJECT
E10

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
ETRAC Product Manager support	CPFF; MIPR/1095	Raytheon, MA; PM Sentinel/AMCOM, AL ; Vista Tech, AL; O2K Contractor, AL	11398	0		0		0		0	11398	10258
Initiate MS SoS Integration Development (SI, JID, MV, CSN)	MIPR/1095	Sentinel PM, AMCOM, AL; Various SETA Contractors, AL	0	0		182	1Q	0		336	518	0
Subtotal:			11398	0		182		0		336	11916	10258
Project Total Cost:			**165656**	**5848**		**5008**		**2527**		**2622**	**181661**	**103536**

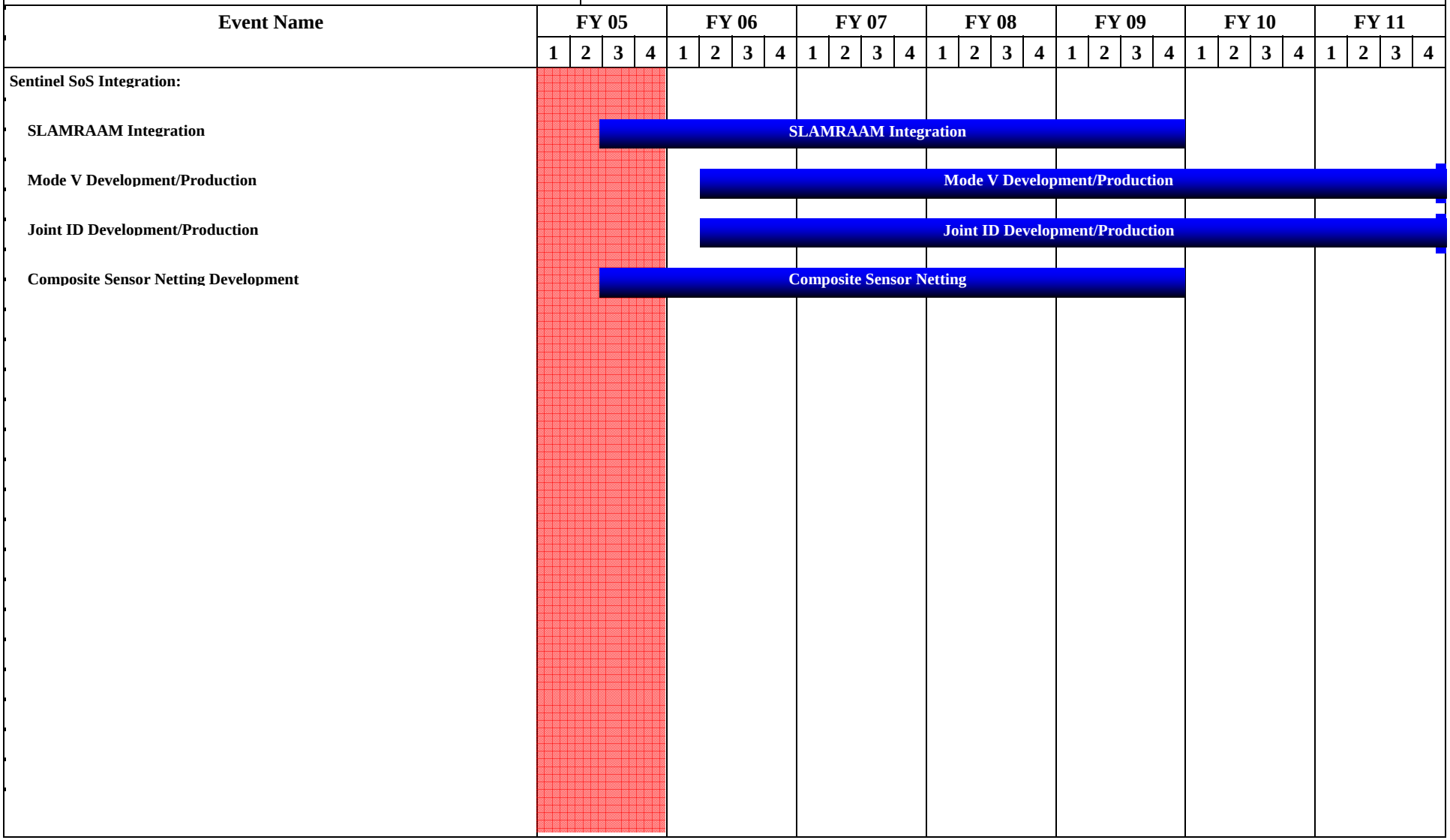
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604820A - RADAR DEVELOPMENT

PROJECT
E10



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604820A - RADAR DEVELOPMENT

PROJECT
E10

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
SLAMRAAM Integration	3-4Q	1-4Q	1-4Q	1-4Q	1-4Q		
Mode V Development/Production		2-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Joint ID Development/Production		2-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Composite Sensor Netting Development	3-4Q	1-4Q	1-4Q	1-4Q	1-4Q		

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604822A - General Fund Enterprise Business System (GFEBS)**	**GF5**

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
GF5	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	58007	70105	61194	62162	31047	0	0	0	282515

A. Mission Description and Budget Item Justification: The General Fund Business Enterprise System (GFEBS) is a Major Automated Information System (MAIS) program and is in the developmental phase. It will follow the DoD Business Enterprise Architecture which is aligned to the mandated Federal Enterprise Architecture. GFEBS was implemented to fulfill the needs and comply with the Federal Financial Management Improvement Act (FFMIA), The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Clinger-Cohen Act of 1996 and to fulfill the stated mission of the Assistant Secretary of the Army for Financial Management and Comptroller (ASA(FM&C)). GFEBS will replace financial systems operating in excess of 30 years like the Standard Finance Systems (STANFINS) and other costly feeder systems which do not allow the Department of Defense (DoD) or the U.S. government to achieve an unqualified opinion on its financial statements. GFEBS will become the Department of the Army's new core financial management system for administering its General Fund. GFEBS will be a commercial off-the-shelf (COTS) Enterprise Resource Planning (ERP) system that is certified by the Chief, Financial Officer Council (CFOC) and provides the six core financial functions. GFEBS will allow tactical commanders to make informed decisions on a virtually real time system.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
System Concept Exploration	19612	781	1196
Development	0	9778	22172
System Procurement	0	15389	0
System maintenance/Item Management	0	7897	0
Project Management	38395	22207	37826
System Initiation, Implementation, and Fielding	0	4664	0
Hardware maintenance	0	949	0
Software maintenance	0	8440	0
Total	58007	70105	61194

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604822A - General Fund Enterprise Business System (GFEBS)**	**GF5**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	0	71119	61764
Current BES/President's Budget (FY 2007)	58007	70105	61194
Total Adjustments	58007	-1014	-570
Congressional Program Reductions		-307	
Congressional Rescissions		-707	
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			

Change Summary Explanation: Funding: FY 05 Increase of $57306 due to Congressional reprogramming action, approved April 2005, transferring funds from Army PE 655013316/OSDPE 0605013A(316)

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 655013MO5	748	0	0	0	0	0	0	0	748
OPA, BE4168000	0	0	78403	117079	0	0	0	0	195482
OMA, 432612000	0	6900	29600	43000	88700	89300	97600	0	355100

Comment:

D. Acquisition Strategy GFEBS was being procured as a performance-based acquisition to encourage innovative and creative solutions and to avoid hampering, dictating, or prescribing how the work must be performed. Therefore, the focus of the Statement of Objectives (SOO) was on "what" the Army is trying to achieve instead of how it must be achieved. The use of a SOO is an emerging method that transforms the acquisition process by requiring each of the competing contractors to develop their unique proposed technical approach, work breakdown schedule, project plan and schedule, schedule of deliverable items, performance metrics, performance measurement plan, and quality assurance plan. To achieve its GFEBS project objectives, the Army used an existing Blanket Purchase Agreement (BPA) to select a System Integrator (SI). The contract period of performance is 1 base year with 9 option years. DoD through the Department of the Navy has established enterprise agreements for ERP System Integration Services with five qualified SI(s) that are General Services Administration (GSA) Federal Supply Service (FSS) Schedule holders under the Enterprise Software Initiative (ESI). The Army has selected the SI; all contractor work will be performed under the selected SI's ESI-SI BPA through the award of one task order with several options. Multiple options are anticipated to support each project objective. The products and services described in task orders will be grouped and referenced as Contract Line Item Numbers (CLIN). All CLINs will be awarded on a Fixed Price basis with performance based incentives and disincentives. The task order and all options exercised will be performance based,

containing financial incentive and disincentive provisions. Offerors were provided performance based metrics and were required to propose performance incentive and disincentive provisions by CLIN in their Quality Assurance Surveillance Plan (QASP) submitted in response to the Request for Quote (RFQ). The QASP elements were evaluated as part of the evaluation of the Offerors' proposals.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604822A - General Fund Enterprise Business System (GFEBS)

PROJECT
GF5

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
Concept Exploration	FFP	Accenture Springfield, Va.	0	19612	4Q	781	1-4Q	1196	1-4Q	Continue	0	0
Development	FFP	Accenture Springfield Va.	0	0		9778	1-4Q	22172	1-4Q	Continue	Continue	0
Subtotal:			0	19612		10559		23368		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program Management	FFP	Accenture Springfield Va.	0	38395	4Q	22207	1-4Q	37826	1-4Q	Continue	0	0
Subtotal:			0	38395		22207		37826		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
System Initiation and Implementation	FFP	Accenture Springfield Va.	0	0		4664	1-4Q	0		Continue	0	0
System Procurement	FFP	Accenture Springfield Va.	0	0		15389	1-4Q	0		Continue	0	0
System Maintanence/Item Management	FFP	Accenture Springfield Va.	0	0		7897	1-4Q	0		Continue	0	0
Hardware Maintanence	FFP	Accenture Sprinfield Va.	0	0		949	1-4Q	0		Continue	0	0
Software Maintanence	FFP	Accenture Sprinfield Va.	0	0		8440		0		Continue	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604822A - General Fund Enterprise Business System (GFEBS)**	**GF5**

Subtotal:			0	0		37339		0		Continue	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:			0									
Project Total Cost:			**0**	**58007**		**70105**		**61194**		**0**	**0**	**0**

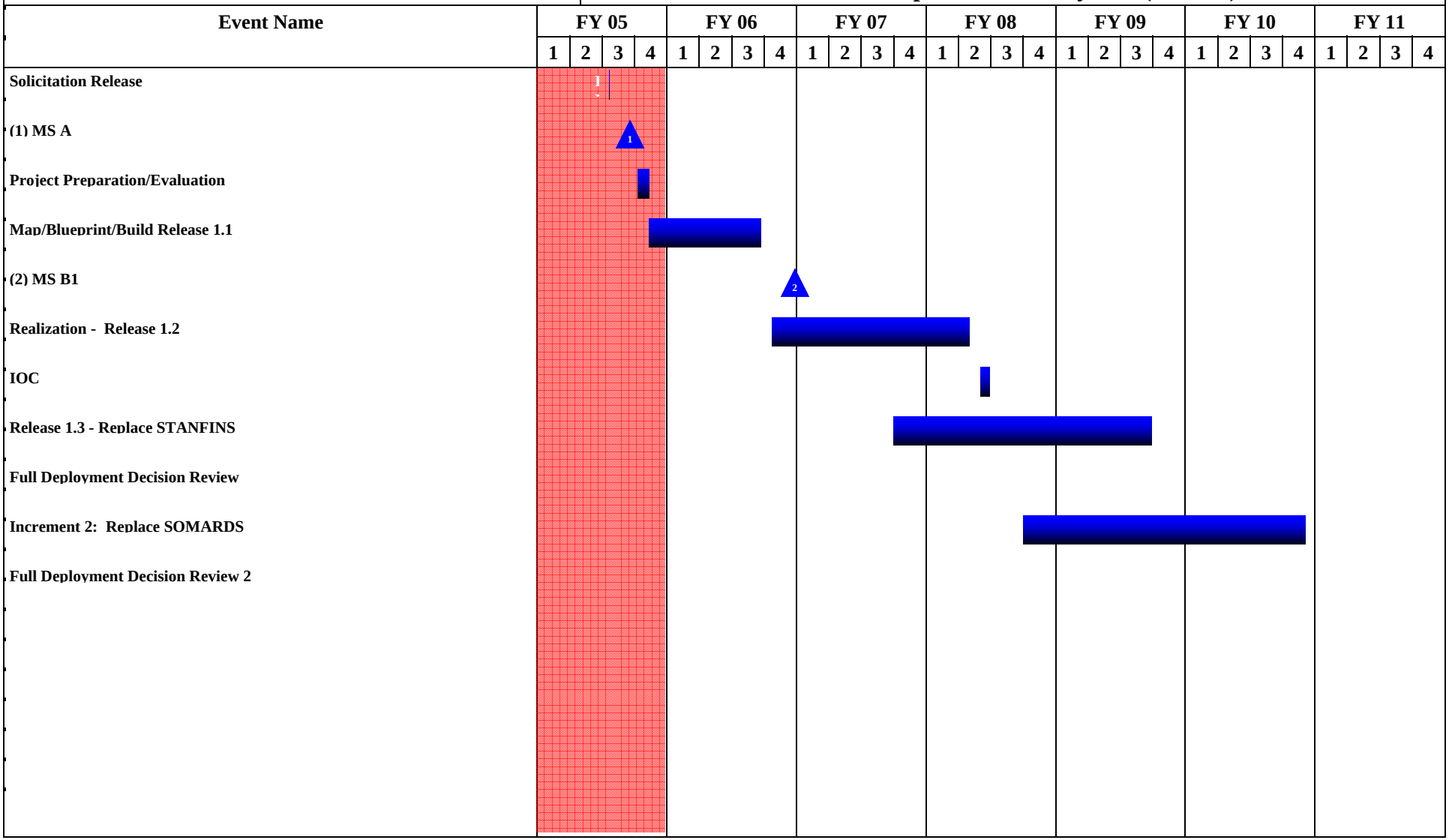
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604822A - General Fund Enterprise Business System (GFEBS)

PROJECT
GF5



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604822A - General Fund Enterprise Business System (GFEBS)

PROJECT
GF5

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Contract Solicitation Release	2Q						
MS A - Milestone	3Q						
Contract Award	3Q						
Project Preparation/Evaluation	4Q						
Map/Blueprint/Build Release 1.1	4Q	1-3Q					
MS B1			1Q				
Realization Release 1.2		4Q	1-4Q	1-2Q			
IOC				2Q			
Release 1.3 - Replace STANFINS			4Q	1-4Q	1-3Q		
IOT&E				4Q			
Full Deployment Decision Review				3Q			
Increment 2 Replace SOMARDS				4Q	1-4Q	1-4Q	
OTA					2-3Q		
Full Deployment Decision Review 2						1Q	
Hardware Fielding				2-4Q	1-4Q	1-2Q	

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)		February 2006
BUDGET ACTIVITY **5 - System Development and Demonstration**	PE NUMBER AND TITLE **0604822A - General Fund Enterprise Business System (GFEBS)**	PROJECT **GF5**

Funding in $000

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
GFEBS							
Total Termination Liability Funding:							

Remarks:
The GFEBS contract period of performance for the System Integrator (Accenture) will have 1 base year with 9 option years. At this time, the government is only liable for the base year (Release 1.1) portion of the contract. The government if need be can opt not to execute the 9 option years without liability. Funding is available in case Release 1.1 is terminated prior to completion date.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604823A - FIREFINDER

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		10332	45405	70151	62256	52527	9860	103	0	414096
L85	PHOENIX BATTLEFIELD SENSOR SYS AN/TPQ-47	10332	0	0	0	0	0	0	0	65216
L86	LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)	0	23537	16934	7988	0	0	0	0	48459
L87	LONG RANGE COUNTERFIRE RADAR	0	0	0	11	101	109	86	0	108885
L88	ENHANCED AN/TPQ 36	0	21868	53217	54257	52426	9751	17	0	191536

A. Mission Description and Budget Item Justification: This Program funds design, development and test of primary target acquisition and counterfire radars to automatically detect, locate and classify hostile indirect fire weapons (mortars, artillery, rockets, and missiles). This PE directly supports the prioritization, tracking, and locating of targets, and dissemination of that information for simultaneous attack of multiple threats. It provides the Warfighter with continuous and responsive counterfire target acquisition systems for all types and phases of military operations. Project L85, Phoenix Battlefield Sensor System AN/TPQ-47, was re-structured in FY05 to an alternate contract conclusion due to technical challenges and competing near term radar performance shortfalls identified in Operation Iraqi Freedom (OIF). Project L86, Advanced Lightweight Counter Mortar Radar (A-LCMR), will provide 360 degree coverage and be used to detect, locate and report hostile locations of enemy indirect firing systems out to a range of 10 kilometers. Project L88, Enhanced AN/TPQ-36 (EQ-36), is a highly mobile radar system that will leverage the latest in technology design to accelerate technology infusion and increase range while improving False Alarm Rate, reducing obsolescence and increasing reliability. EQ-36 will provide 90 degree coverage and extended range, with an incremental development to increase detection capability to 360 degrees. The EQ-36 will be interoperable with Firefinder and future Battle Command Systems.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604823A - FIREFINDER

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	21764	46061	69085
Current BES/President's Budget (FY 2007)	10332	45405	70151
Total Adjustments	-11432	-656	1066
Congressional Program Reductions		-199	
Congressional Rescissions		-457	
Congressional Increases			1066
Reprogrammings	-10832		
SBIR/STTR Transfer	-600		
Adjustments to Budget Years			

Change Summary Explanation: Funding FY2005 funding was redirected to higher priority Army efforts.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604823A - FIREFINDER**	**L86**

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
L86	LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)	0	23537	16934	7988	0	0	0	0	48459

A. Mission Description and Budget Item Justification: The Advanced Lightweight Counter Mortar Radar (A-LCMR) will provide 360 degrees of azimuth coverage and be used to detect, locate, and report hostile locations of enemy indirect firing systems. It will cover a range of 500 meters to 10 kilometers and provide observed fires from friendly units. A-LCMR shall be a digitally connected, day/night mortar, cannon, and rocket locating system. The A-LCMR will be a spiral enhancement to the existing LCMR. The LCMR was originally designed to operate as a stand alone capability for Special Forces and is man portable when disassembled. This capability has been fielded to Operation Iraqi Freedom (OIF) as a Limited Procurement Urgent (LPU) capability. The RDTE program will transition in FY 2006 from Budget Activity 3, Advanced Technology Development, PE 0603772A to an Army 6.4 program of record.

FY2007 funds the continuation of primary development of seven A-LCMR test articles.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Primary development of seven (7) A-LCMR test articles to include non recurring engineering and Program Management support.	0	17278	12131
Develop/build Radar Environmental Simulator (RES) to simulate system hardware/software and emulate the radar performance.	0	5190	0
Activities to support Development Test/Operational Test. Efforts include conduct of Live Ammunition Test at Yuma Proving Ground (YPG), Limited User Test, ammunition and manpower to support system test.	0	1069	4803
Total	0	23537	16934

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE: 0603772 Advanced Tactical Computer Science & Sensor Tech (Congressional Plus Up)	2500	0	0	0	0	0	0	0	2500
SSN: B05201 Lightweight Counter Mortar Radar	0	4938	16326	44193	44603	34556	35111	0	179727

C. Acquisition Strategy The Lightweight Counter Mortar Radar (LCMR) prototype was developed as a Special Operations Command (SOCOM) program under the Office of Special Technology, Broad Agency Announcement (BAA). The LCMR Engineering Development Program was also SOCOM funded which resulted into a functional system. The Advanced LCMR (A-LCMR) will leverage the SOCOM developed program and serve as a spiral development effort to provide greater range, accuracy, interoperability and

transportability to support Army's requirements. Based on the results of a Request For Information released Nov 2005, the current acquisition strategy is to award a contract in 3QFY06 and spiral the existing system into the Army's objective system. A Milestone decision is planned for 3QFY06.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604823A - FIREFINDER

PROJECT
L86

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
Primary Hardware Dev	TBD	TBD	0	0		13011	3Q	8514	1Q	Continue	Continue	0
Radar Environmental Simulators (RES)	TBD	TBD	0	0		5190	3Q	0		5190	5190	0
Systems Engineering Contractor	SS/T&M	Various	0	0		1044	1-3Q	1060	1-3Q	Continue	Continue	0
Systems Engineering Government	MIPR	CERDEC, Fort Monmouth, NJ	0	0		613	2Q	308	1Q	Continue	Continue	0
Subtotal:			0	0		19858		9882		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Development Support (Government)	MIPR	Various	0	0		176	1-4Q	159	1-4Q	Continue	Continue	0
Subtotal:			0	0		176		159		Continue	Continue	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 (Contractor)	MIPR	TBD	0	0		0		530	2-3Q	Continue	Continue	0
Developmental Test & Evaluation/LUT	MIPR	Yuma, AZ/WSMR, NM	0	0		519	3Q	3418	1-2Q	Continue	Continue	0
Test Support	MIPR	Various	0	0		240	2Q	248	1-2Q	Continue	Continue	0
Subtotal:			0	0		759		4196		Continue	Continue	0

IV. Management Services	Contract	Performing Activity &	Total	FY 2005	FY 2005	FY 2006	FY 2006	FY 2007	FY 2007	Cost To	Total	Target

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604823A - FIREFINDER

PROJECT
L86

	Method & Type	Location	PYs Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Complete	Cost	Value of Contract
Program Management (Contractor)	C/FP	Various	0	0		995	1-3Q	1011	1-3Q	Continue	Continue	0
Program Management	In House	PM NV/RSTA, Fort Monmouth, NJ	0	0		972	1-4Q	987	1-4Q	Continue	Continue	0
Program Management (Government Matrix)	MIPR	Various	0	0		777	1-2Q	699	1-2Q	Continue	Continue	0
Subtotal:			0	0		2744		2697		Continue	Continue	0
Project Total Cost:			**0**	**0**		**23537**		**16934**		**Continue**	**Continue**	**0**

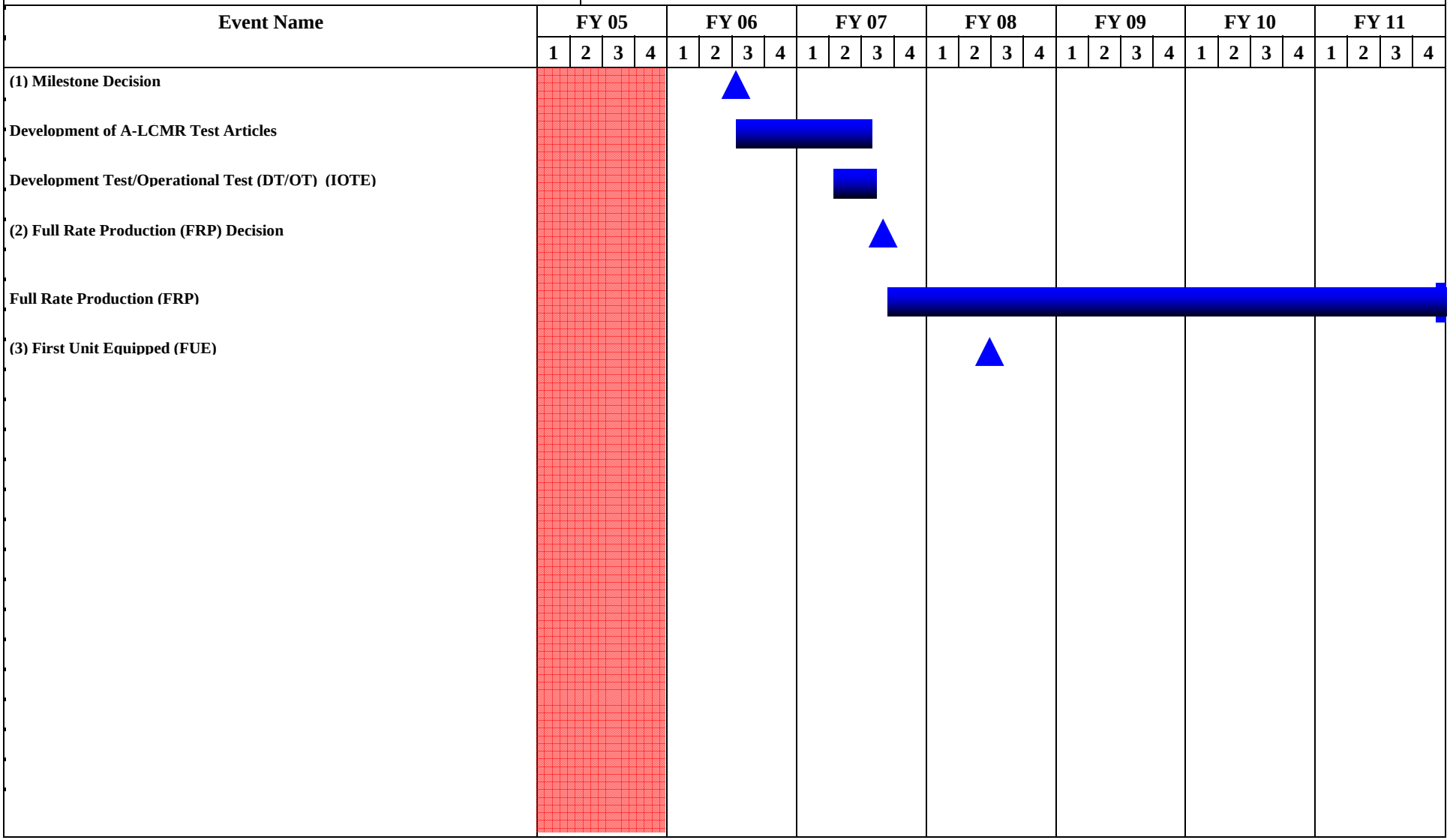
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604823A - FIREFINDER

PROJECT
L86



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604823A - FIREFINDER

PROJECT
L86

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Milestone Decision		3Q					
Development of A-LCMR Test Articles		3-4Q	1-3Q				
Developmental Test/Operational Test (DT/OT) (IOTE)			2-3Q				
Full Rate Production (FRP) Decision			3Q				
Full Rate Production (FRP)			3-4Q	1-4Q	1-4Q	1-4Q	1-4Q
First Unit Equipped (FUE)				3Q			

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604823A - FIREFINDER**	**L88**

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
L88	ENHANCED AN/TPQ 36	0	21868	53217	54257	52426	9751	17	0	191536

A. Mission Description and Budget Item Justification: The Enhanced AN/TPQ-36 (EQ-36) is a highly mobile radar system designed to classify targets for automatic first-round location of mortar, cannon and rocket enemy fires and to provide observed fires from friendly units. The EQ-36 will provide 90 degree coverage and extended range, with a shorter range 360 degree coverage for mortars. The EQ-36 will provide 32KM range coverage for mortars/cannon and 60KM for rockets. This program will leverage the latest in technology design to provide increased range as well as increased reliability, availability, and maintainability. The EQ-36 will provide digital communications and be interoperable with Firefinder and future Battle Command Systems. The system will be capable of drive-on/drive off C-130 and will be mounted on standard Army vehicles.

FY2007 funds prototype manufacturing, development engineering of five (5) Low Rate Initial Production (LRIP) Increment I systems.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Primary Development of five (5) Enhanced AN/TPQ-36 Low Rate Initial Production (LRIP) (Increment 1) systems, increased capabilities (Increment 2), and associated Program Management support to meet the Army's counterfire requirements.	0	17508	53217
Develop/Build Radar Environmental Simulator (RES) to simulate system hardware/software and emulate the radar performance.	0	4360	0
Total	0	21868	53217

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
B05310 Enhanced AN/TPQ-36	0	0	0	15624	86750	103827	82422	0	288623

C. Acquisition Strategy The Enhanced AN/TPQ-36 (EQ-36) leverages technology developed in the Multi-Mission Radar Advanced Technology Objective (ATO) program incorporating the latest antenna technology into the AN/TPQ-36. A Request For Information (RFI) was released in 2QFY05 with a follow up RFI in 1QFY06 to assess technology readiness and viability of competition in industry. A competitive LRIP contract award is planned for 3QFY06 following a Special In Process Review (IPR) also planned for 3QFY06. In order to field the EQ-36 capability to the Warfighter in the most expeditious manner, the EQ-36 will be produced in two increments based on two tiers of technical threshold requirements. Increment 1 capabilities are planned to be fielded as a replacement to the AN/TPQ-36 radar system. Increment 2 capabilities, which will provide increased performance over Increment 1, during non-recurring engineering efforts and inserted to the Full Rate Production (FRP) line after being fully tested and approved. LRIP 1 units will be utilized for test and evaluation.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604823A - FIREFINDER

PROJECT
L88

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
Primary Hardware Development	TBD	TBD	0	0		12960	3Q	48501	1Q	Continue	Continue	0
Radar Environmental Simulators (RES)	TBD	TBD	0	0		4360	3Q	0		0	4360	0
Systems Engineering (Contractor)	SS/T&M	Various	0	0		900	1-3Q	927	1-3Q	Continue	Continue	0
Systems Engineering (Government)	MIPR	CERDEC, Fort Monmouth, NJ	0	0		300	2Q	309	1Q	Continue	Continue	0
Subtotal:			0	0		18520		49737		Continue	Continue	0

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Development Support (Government)	MIPR	Various	0	0		125	1-4Q	129	1-4Q	Continue	Continue	0
Subtotal:			0	0		125		129		Continue	Continue	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	Various	0	0		225	1-2Q	232	1-2Q	Continue	Continue	0
Subtotal:			0	0		225		232		Continue	Continue	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
Program Management (Contractor)	C/FP	Various	0	0		1029	1-3Q	1060	1-3Q	Continue	Continue	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604823A - FIREFINDER

PROJECT
L88

Program Management (Government)	In House	PM NV/RSTA, Fort Monmouth, NJ	0	0		1555	1-4Q	1633	1-4Q	Continue	Continue	0
Program Management (Matrix)	MIPR	Various	0	0		414	1-2Q	426	1-2Q	Continue	Continue	0
Subtotal:			0	0		2998		3119		Continue	Continue	0
Project Total Cost:			**0**	**0**		**21868**		**53217**		**Continue**	**Continue**	**0**

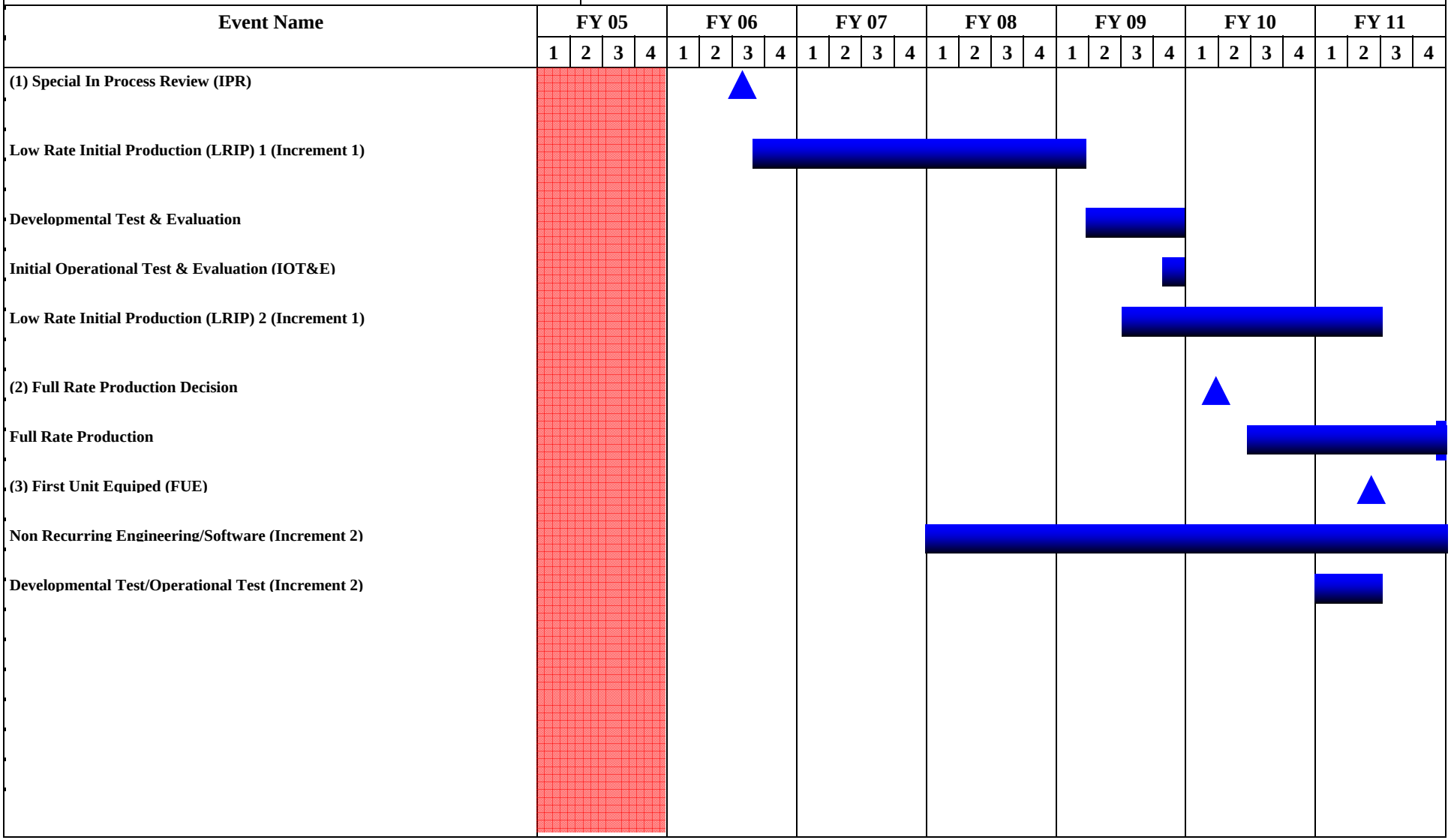
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604823A - FIREFINDER

PROJECT
L88



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604823A - FIREFINDER

PROJECT
L88

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Special In Process Review (IPR)		3Q					
Low Rate Initial Production (LRIP) 1 (Increment 1)		3-4Q	1-4Q	1-4Q	1Q		
Developmental Test & Evaluation					2-4Q		
Initial Operational Test & Evaluation (IOT&E)					4Q		
Low Rate Initial Production (LRIP) 2 (Increment 1)					3-4Q	1-4Q	1-2Q
Full Rate Production (FRP) Decision						2Q	
Full Rate Production (FRP)						3-4Q	1-4Q
First Unit Equipped (FUE)							2Q
Non Recurring Engineering/Software (Increment 2)				1-4Q	1-4Q	1-4Q	1-4Q
Development Test/Operational Test (Increment 2)							1-2Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604827A - Soldier Systems - Warrior Dem/Val

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	0	58473	27498	30393	30407	42568	47642	0	236981
S56	MOUNTED WARRIOR	0	8971	0	0	0	0	0	0	8971
S57	LAND WARRIOR	0	49502	27498	30393	30407	42568	47642	0	228010

A. Mission Description and Budget Item Justification: This program element is composed of two projects: Project S56 for Mounted Warrior Soldier System (MWSS) and Project S57 for Land Warrior (LW). MWSS provides combat crewmembers and vehicle commanders in the Current and Future force with increased mission effectiveness on the network centric battlefield in the areas of lethality, command and control, communications, survivability, mobility, and sustainability. MWSS provides the dismounted and mounted combat crewmembers increased capabilities to conduct offensive and defensive operations by providing uninterrupted viewing of their platform and dismounted Soldiers. MWSS Helmet Mounted Display extends fire control information to vehicle crewmembers while they are standing up in, or viewing out of the hatch allowing them to maintain immediate situational awareness of their direct battle space, while simultaneously controlling inter-netted fires, vehicle, or dismounted Soldiers. MWSS will provide remote digital connectivity to the Force XXI Battle Command Brigade and Below (FBCB2) information system via the vehicle's C4I capabilities. Project S57 supports the LW concept, a first generation, modular, integrated fighting system focused on the needs of the individual infantry Soldier and Soldiers in support of the close fight. Newly demonstrated reliability and advanced lethality capabilities for the individual Soldier has led the Army to perform a Doctrine, Organization, Training, Materiel, Leadership, and Education, Personnel and Facilities (DOTMLPF) assessment to determine the capability gaps that LW and MWSS can fulfill. As such, an Army Stryker Battalion will be equipped with LW for evaluation purposes in FY06. This evaluation will be used to support a milestone C decision by the Army Acquisition Executive (AAE) in FY07.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604827A - Soldier Systems - Warrior Dem/Val

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	0	57818	27086
Current BES/President's Budget (FY 2007)	0	58473	27498
Total Adjustments	0	655	412
Congressional Program Reductions		-256	
Congressional Rescissions		-589	
Congressional Increases		1500	
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			412

Change Summary Explanation: Funding - FY 2006 Congressional increase for $1.5M for Mounted Warrior Command and Control Heads Up Display.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604827A - Soldier Systems - Warrior Dem/Val**	**S56**

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
S56 MOUNTED WARRIOR	0	8971	0	0	0	0	0	0	8971

A. Mission Description and Budget Item Justification: Mounted Warrior Soldier System (MWSS) provides combat crew members and vehicle commanders in the Current and Future force with increased mission effectiveness on the network centric battlefield in the areas of lethality, command and control, communications, survivability, mobility, and sustainability. MWSS will provide the dismounted and mounted combat crewmembers increased capabilities to conduct offensive and defensive operations by providing uninterrupted viewing of their immediate surroundings while remaining connected to on-board platform C4I capabilities, thereby providing crews with continuous situational awareness and communications with platform and dismounted Soldiers. MWSS Helmet Mounted Display extends fire control information to vehicle crewmembers while they are standing up in or viewing out of the hatch allowing them to maintain immediate situational awareness of the their direct battle space, while simultaneously controlling inter-netted fires, vehicle, or dismounted Soldiers. MWSS will provide remote digital connectivity to the Force XXI Battle Command Brigade and Below (FBCB2) information system via the vehicle's C4I capabilities. FY06 Congressional plus-up of $1.5 million funds development of command and control heads up display (see-through, daylight readable, retinaly scanning helmet mounted displays).

Prior to FY06 this funding was under PE 0604713A, Project 680.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY06: Planned Program: Continues developmental engineering, prototyping, manufacturing, and systems engineering, assessment, limited test and evaluation, and program management support for Battalion quantity of Mounted Warrior Soldier System.	0	7471	0
Congressional Plus-up funds development of command and control heads up display (see-through, daylight readable, retinaly scanning helmet mounted displays).	0	1500	0
Total	0	8971	0

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0604713A, D680, Mounted Warrior	9022	0	0	0	0	0	0	0	9022
OPA 3, M80600, Mounted Warrior	0	8287	0	0	0	0	0	0	8287

C. Acquisition Strategy The MWSS program provides the spiral fielding of mature technologies and advanced capabilities to meet the needs of the Combat Vehicle Crewman (CVC). The first spiral will equip a Stryker battalion with mature/existing technologies to be used to develop tactics, techniques and procedures (TTPs) during a Doctrine,

Organization, Training, Materiel, Leadership, and Education, Personnel and Facilities (DOTMLPF) assessment, which will be used to define the requirements for future spirals.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604827A - Soldier Systems - Warrior Dem/Val

PROJECT
S56

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
Develop Mounted Warrior Soldier System technologies	CPFF	GDC4S, Scottsdale, AZ	0	0		4494	2-3Q	0		0	0	0
Develop Mounted Warrior Soldier System technologies	MIPR	PM Stryker, Detroit, MI	0	0		1000	2Q	0		0	0	0
Develop Command and Control Heads up Display	TBD	TBD	0	0		1500	3Q	0		0	0	0
Subtotal:			0	0		6994		0		0	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
PM Mounted Warrior Program Soldier System Support	OGA, MIPR	Various	0	0		270	1-4Q	0		0	0	0
Subtotal:			0	0		270		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
Various Testing Organizations	OGA, MIPR	ATEC, TTC/YPG/DTC/EPG/ARL-SLAD, etc.	0	0		1000	1-3Q	0		0	0	0
Subtotal:			0	0		1000		0		0	0	0

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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604827A - Soldier Systems - Warrior Dem/Val**	**S56**

	Type				Date		Date		Date			Contract
PM Soldier Warrior oversight of MWSS program	In-House/Task Order	PM Soldier Warrior, Ft. Belvoir, VA	0	0		707	1-4Q	0		0	0	0
Subtotal:			0	0		707		0		0	0	0
Project Total Cost:			**0**	**0**		**8971**		**0**		**0**	**0**	**0**

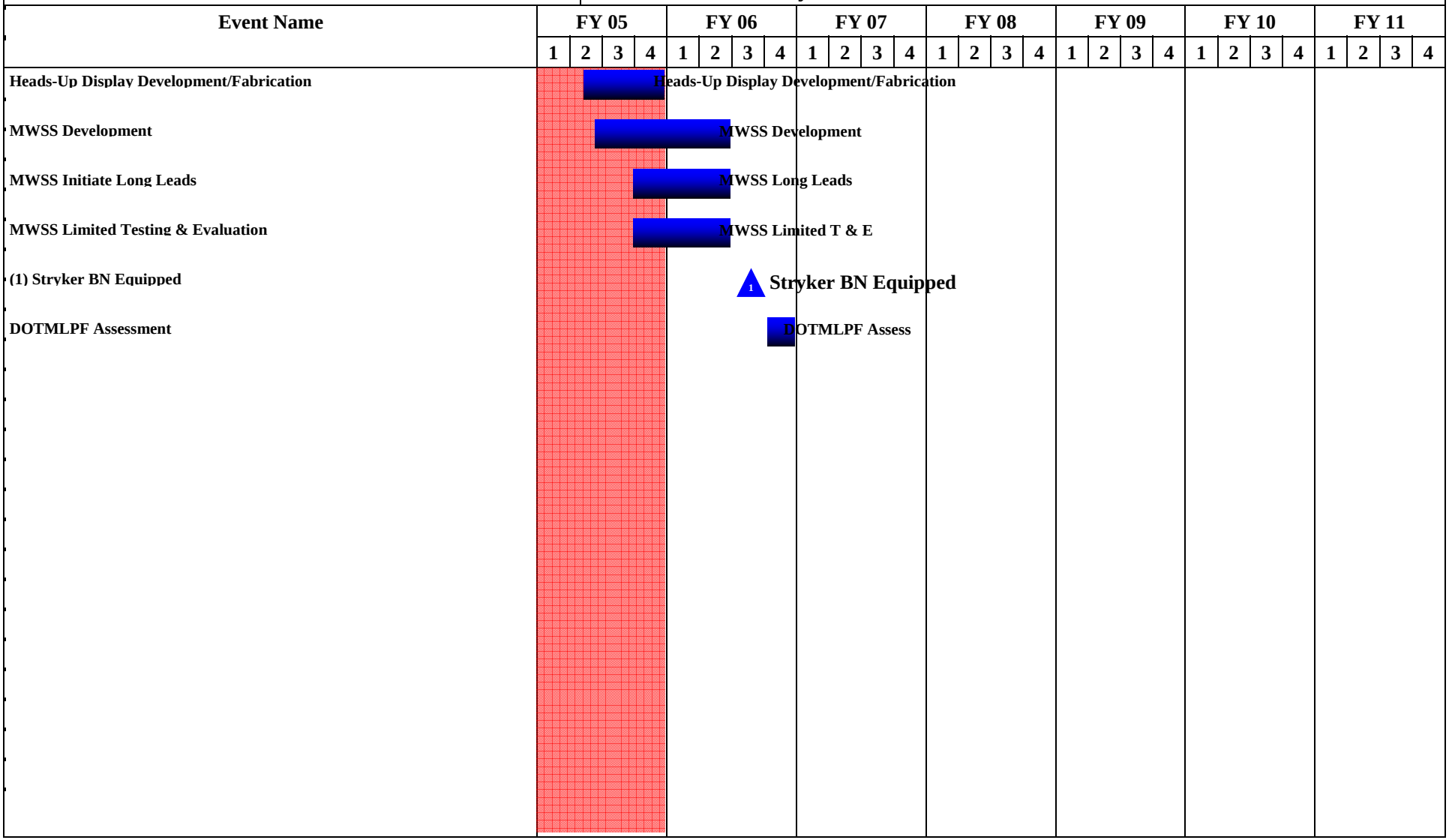
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604827A - Soldier Systems - Warrior Dem/Val

PROJECT
S56



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604827A - Soldier Systems - Warrior Dem/Val

PROJECT
S56

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Heads-up Display Development/Fabrication	2-4Q						
MWSS Development	2-4Q	1-2Q					
MWSS Initiate Long Leads	3-4Q	1-2Q					
MWSS Limited T & E	3-4Q	1-3Q					
(1) Stryker BN equipped		3Q					
DOTMLPF Assessment		4Q					

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604827A - Soldier Systems - Warrior Dem/Val**	**S57**

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
S57 LAND WARRIOR	0	49502	27498	30393	30407	42568	47642	0	228010

A. Mission Description and Budget Item Justification: Prior to Fiscal Year 2006 (FY06) this funding was under PE 0604713A, Project 667. This project supports the Land Warrior (LW) concept, a first generation, modular, integrated fighting system focused on the needs of the individual infantry Soldier and Soldiers in support of the close fight. Newly demonstrated reliability and advanced lethality capabilities of the LW integrated ensemble to the individual Soldier has led the Army to perform a Doctrine, Organization, Training, Materiel, Leadership, and Education, Personnel and Facilities (DOTMLPF) assessment to determine the capability gaps that LW can fulfill. As such, an Army Stryker Battalion will be equipped with LW for evaluation purposes in FY06. This evaluation will be used to support a milestone C decision by the Army Acquisition Executive (AAE) in FY07.

The LW program and FFW Advanced Technology Demonstration (ATD) have consolidated in accordance with the FY05 Appropriations Language and a report has been submitted to Congress. The Ground Soldier System (GSS) will leverage the technological advancements transitioned from the Science and Technology (S&T) community including Future Force Warrior (FFW) to develop the Ground Soldier capability.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
FY06-FY07: Prime contractor continues development engineering efforts for the LW integrated ensemble systems for the Stryker Battalion.	0	24993	13540
FY06-FY07: Continues testing for LW integration ensemble systems capability efforts. Continues to train and support the LW integrated ensemble systems for the Stryker Battalion DOTMLPF assessment.	0	10908	7455
FY06-FY07: Funds continue to support program management and systems engineering for overall program efforts.	0	13601	6503
Total	0	49502	27498

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
RDTE, 0604713A, D667, Land Warrior	76114	0	0	0	0	0	0	0	76114
OPA 3, M80500, Land Warrior	10613	35277	19226	47350	68921	26066	527	CONT	CONT
OPA 4, MS3610, Land Warrior Initial Spares	710	492	1938	2072	2073	1033	1035	CONT	CONT
RDTE, 0603001, DJ50, Future Warrior Technology Insertion	49121	56034	38250	40951	40611	36188	37981	CONT	CONT

C. Acquisition Strategy Prior to Fiscal Year 2006 (FY06) this funding was under PE 0604713A, Project 667. This project supports the Land Warrior (LW) concept, a first generation, modular, integrated fighting system focused on the needs of the individual infantry Soldier and Soldiers in support of the close fight. Newly demonstrated reliability and advanced lethality capabilities of the LW integrated ensemble to the individual Soldier has led the Army to perform a Doctrine, Organization, Training, Materiel, Leadership, and Education, Personnel and Facilities (DOTMLPF) assessment to determine the capability gaps that LW can fulfill. As such, an Army Stryker Battalion will be equipped with LW for evaluation purposes in FY06. This evaluation will be used to support a milestone C decision by the Army Acquisition Executive (AAE) in FY07.

The LW program and FFW Advanced Technology Demonstration (ATD) have consolidated in accordance with the FY05 Appropriations Language and a report was submitted to Congress in February 2005.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604827A - Soldier Systems - Warrior Dem/Val

PROJECT
S57

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
Develop LW integrated ensemble systems, and GSS capability	CPFF	GDC4S, Scottsdale, Arizona	0	0		24993	1-4Q	13540	1-4Q	Continue	0	0
Subtotal:			0	0		24993		13540		Continue	0	0

Remarks: Award dates covering multiple quarters reflect multiple awards.

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
Modern Tech Inc - Support Contractors	Task Order	Modern Tech Inc, Springfield, VA	0	0		3401	1-4Q	2500	1-4Q	0	0	0
TSM, PM Land Warrior Ft. Monmouth Support, and others	OGA, MIPR, Task Order	various	0	0		3058	1-4Q	1000	1-4Q	0	0	0
Subtotal:			0	0		6459		3500		0	0	0

Remarks: Buys government and contract engineering and logistical support for overall program support.

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
Various Testing Organizations	OGA, MIPR	ATEC, TTC/YPG/DTC/EPG/ARL-SLAD, etc	0	0		9408	1-4Q	7455	1-4Q	0	0	0
Training and Doctrine Command DOTMLPF Assessment	MIPR	TRADOC Systems Manager, Ft. Benning, GA	0	0		1500	1-4Q	0		0	0	0
Subtotal:			0	0		10908		7455		0	0	0

IV. Management Services	Contract	Performing Activity &	Total	FY 2005	FY 2005	FY 2006	FY 2006	FY 2007	FY 2007	Cost To	Total	Target

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604827A - Soldier Systems - Warrior Dem/Val

PROJECT
S57

	Method & Type	Location	PYs Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Complete	Cost	Value of Contract
PM Soldier Warrior - oversight of LW program	In-House Task Order	Various	0	0		7142	1-4Q	3003	1-4Q	0	0	0
Subtotal:			0	0		7142		3003		0	0	0
Project Total Cost:			**0**	**0**		**49502**		**27498**		**0**	**0**	**0**

Remarks: Award dates covering multiple quarters reflect multiple awards.

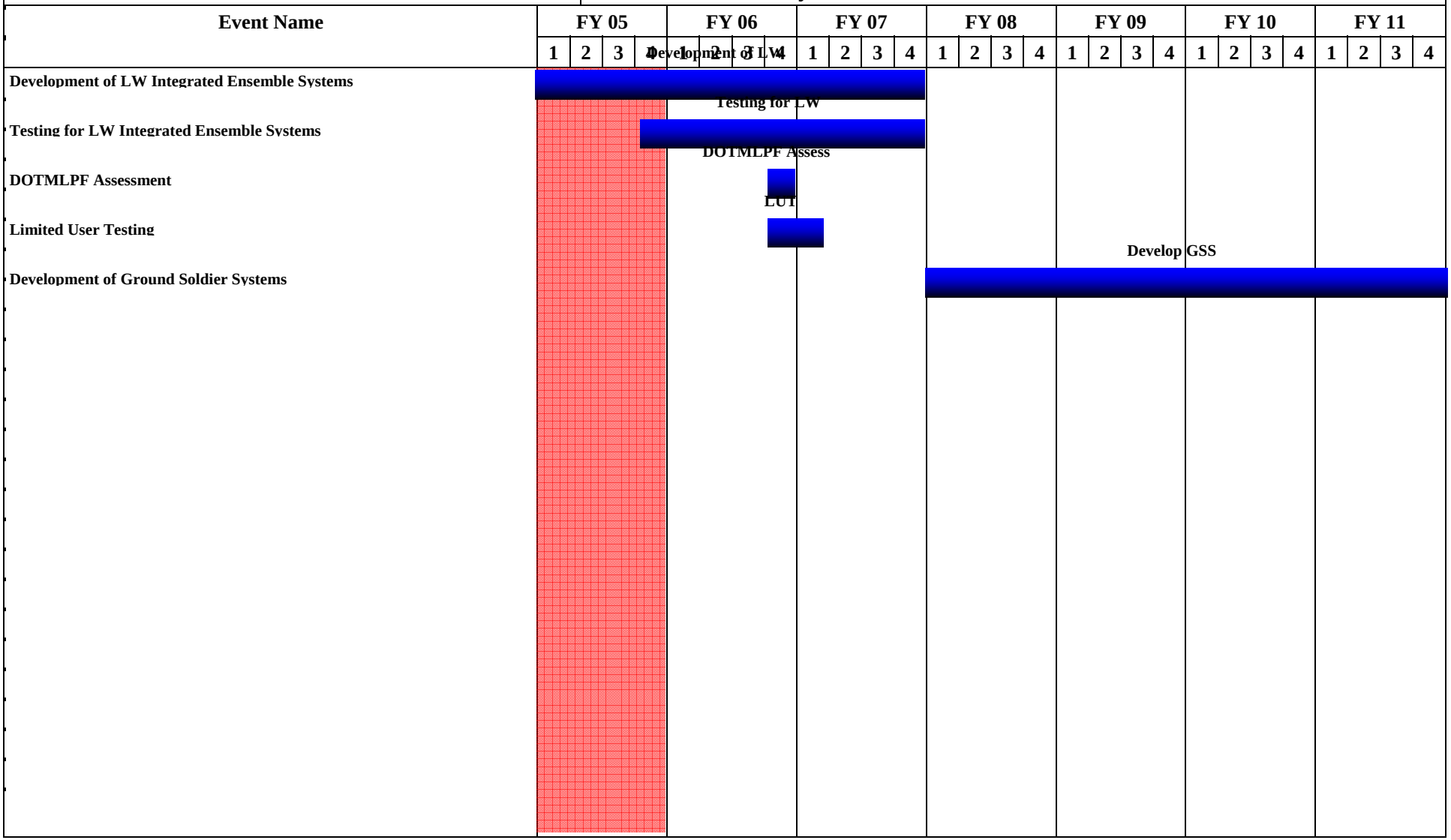
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604827A - Soldier Systems - Warrior Dem/Val

PROJECT
S57



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604827A - Soldier Systems - Warrior Dem/Val

PROJECT
S57

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Development of LW Integrated ensemble systems	1-4Q	1-4Q	1-4Q				
Testing for LW integrated ensemble systems	4Q	1-4Q	1-4Q				
DOTMLPF Assessment		4Q					
Limited User Testing		4Q	1Q				
Development of Ground Soldier Systems				1-4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604854A - Artillery Systems - EMD

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	12016	5397	1650	6009	5616	5778	0	0	99068
509	LIGHTWEIGHT 155M HOWITZER	8397	667	0	6009	5616	5778	0	0	82295
516	PALADIN/FAASV	3619	4730	1650	0	0	0	0	0	16773

A. Mission Description and Budget Item Justification: This program element supports the Joint Light Weight 155mm Howitzer (LW155) and the Paladin/FAASV Improvement programs.

The LW155, a joint program with the Marine Corps, provides the replacement for the current 1970's vintage M198, 155mm Towed Howitzer. The LW155 provides significant improvement in strategic and tactical mobility over the M198. The Army portion of the joint development is the Towed Artillery Digitization (TAD). TAD is the digital fire control system for the LW155. TAD provides increased accuracy, survivability, and lethality for Army and USMC 155mm Towed Artillery. The LW155 will be the first towed platform capable of firing the Excalibur precision munition, which will provide precision strike capability out to ranges of 40 kilometers with 10 meter accuracy.

The Paladin/FAASV project integrates several system improvements that provide for: stowage and automated dispensing of M231/M232, Modular Artillery Charge System (MACS) that is displacing the current propelling charges; the Graphical User Interface (GUI) software; the Defense Advanced GPS Receiver (DAGR); and upgrading components of the Paladin Digital Fire Control System (PDFCS) to avoid obsolescence, as well as develop and integrate XM982 Extended Range Projectile requirements in the PDFCS. In addition, other system improvements include the battlefield digitization trainer, the direct drive generator, and development of the Paladin Operations Center Vehicle (Pal OCV). The system improvements provide significantly improved mission effectiveness, increased reliability, maintainability, supportability, and Battle Command on-the-move, as well as reduced life cycle costs.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604854A - Artillery Systems - EMD

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	12022	5476	1625
Current BES/President's Budget (FY 2007)	12016	5397	1650
Total Adjustments	-6	-79	25
Congressional Program Reductions			
Congressional Rescissions		-79	
Congressional Increases			
Reprogrammings	-6		
SBIR/STTR Transfer			
Adjustments to Budget Years			25

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604854A - Artillery Systems - EMD**	**516**

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
516 PALADIN/FAASV	3619	4730	1650	0	0	0	0	0	16773

A. Mission Description and Budget Item Justification: The Paladin/Field Artillery Ammunition Support Vehicle (FAASV) project allows for integration of several system improvements which will provide for: development of Battlefield Digitization Trainer software, and development and integration of the EXCALIBUR (XM982) extended Range Projectile requirements into the Paladin Digital Fire Control System (PDFCS). These system improvements provide significantly improved mission effectiveness, increased reliability, maintainability and supportability, as well as reduced life cycle costs and obsolescence (e.g. Battlefield Digitization Trainer software development will modernize the training system to match the current fielded vehicle's fire control system, and Integration of EXCALIBUR (XM982) requirements into the PDFCS allows the Paladin to accept EXCALIBUR (XM982) fire missions.)

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Develop and integrate the EXCALIBUR (XM982) Extended Range Projectile requirements into the Paladin Digital Fire Control System	2800	4319	1544
Program management of Paladin/FAASV program	221	41	106
Research and investigate Power Management requirements.	0	370	0
Develop Battlefield Digitization Trainer software which combines the current Paladin Fire Control PC trainer with the Force XX1 Battle Command Brigade and Below (FBCB2) Digitization trainer. This combined package will allow for realistic classroom training for the First Digitized Corps and the Counter Attack Corps.	598	0	0
Total	3619	4730	1650

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PA, WTCV, GA0400 Paladin	18859	14603	28714	33558	44087	26704	17283	43800	227608
PA, WTCV, GA8010 FAASV PIP	6766	6353	0	0	0	0	0	0	13119
OMA, FAASV Recap, MDEP RR17	13960	15090	0	0	0	0	0	0	43298
OMA, FAASV SDO, MDEP RR17	149	150	0	0	0	0	0	0	620

C. Acquisition Strategy The Paladin/FAASV project will leverage both Government and Contractor capabilities to accomplish the development of the Paladin/FAASV system improvement projects. Government in-house engineering will perform some component level design and system integration. Final System Level Testing will be performed by

Other Government Agencies (OGA). Competitive contracts will be used for many of the component level design and hardware fabrication. To the extent possible, maximum use of existing commercial off-the-shelf hardware and software will be utilized.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604854A - Artillery Systems - EMD

PROJECT
516

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
Component Design and Software Development	STS/CPFF	Northrop Grumman, Carson, CA	4825	202	3Q	879	2Q	344	1Q	0	6250	6250
System Integration	STS/CPFF	BAE Systems, York, Pa	4304	0		3000	2Q	0		0	7304	7304
TDP Development	MIPR	Other Gov't Agencies	452	0		0		0		0	452	452
Software Development & System Integration	MIPR	TACOM-ARDEC, Picatinny, NJ	0	3196	2Q	440	2Q	500	1Q	0	4136	4136
Misc Other Gov't Agencies	MIPR	Other Gov't Agencies	0	0		0		0		0	0	0
Generator Power Management	STS/CPFF	BAE Systems, York, PA	0	0		370	3Q	0		0	370	370
Subtotal:			9581	3398		4689		844		0	18512	18512

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
Logistics	MIPR	TACOM-ACALA, Moline, IL	229	0		0		0		0	229	370
Subtotal:			229	0		0		0		0	229	370

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
Component Level Testing	MIPR	TACOM-ARDEC, Picatinny, NJ	953	0		0		0		0	953	1158
System Level Testing	MIPR	Various OGAs	930	0		0		700	1Q	0	1630	4022
Subtotal:			1883	0		0		700		0	2583	5180

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604854A - Artillery Systems - EMD

PROJECT
516

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
PMO Support	NA	PM Paladin/FAASV, Picatinny, NJ	627	221	1Q	41	2Q	106	1Q	0	995	995
Subtotal:			627	221		41		106		0	995	995
Project Total Cost:			**12320**	**3619**		**4730**		**1650**		**0**	**22319**	**25057**

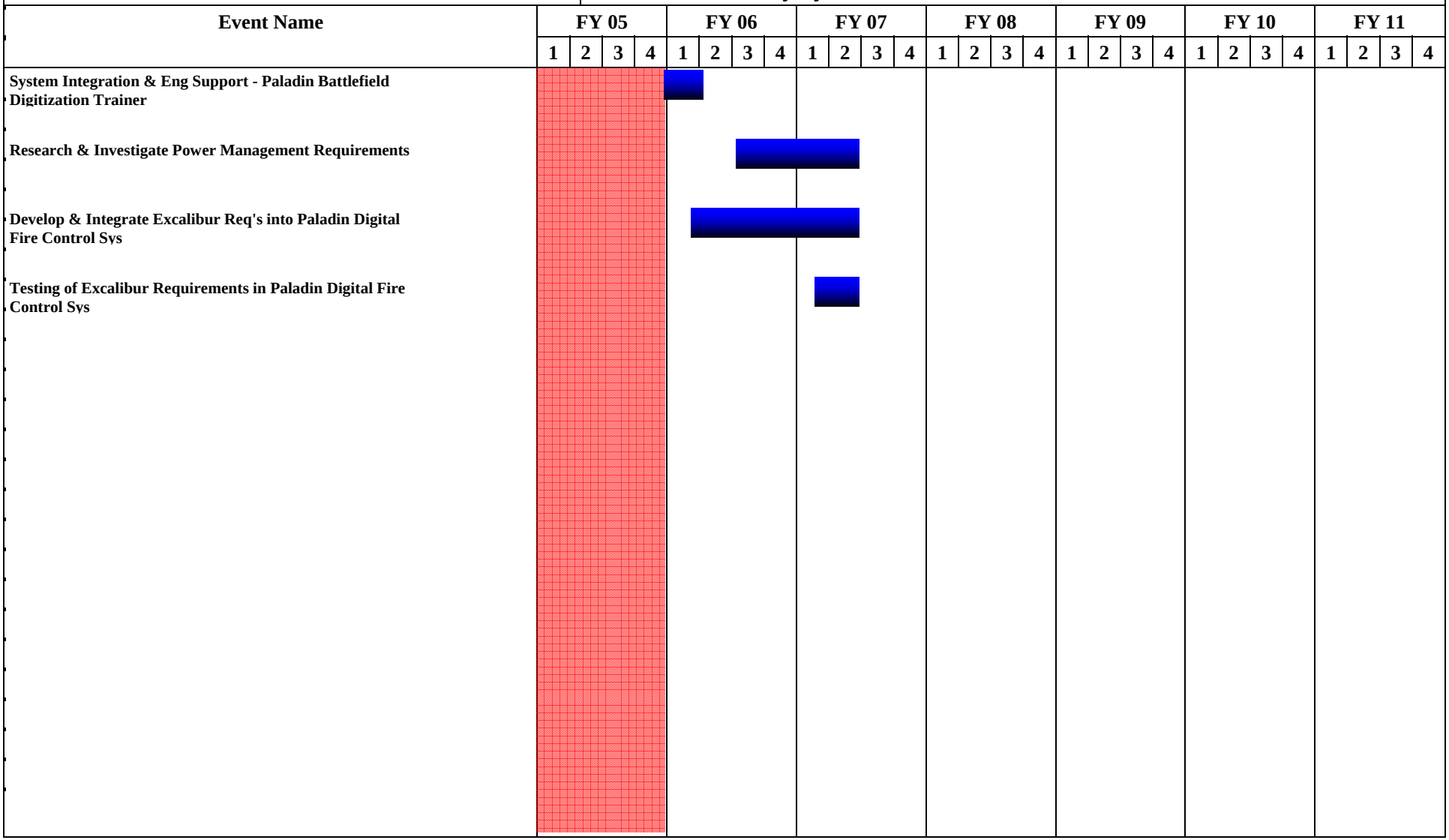
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604854A - Artillery Systems - EMD

PROJECT
516



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604854A - Artillery Systems - EMD

PROJECT
516

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Award OGA for sys integration of Paladin Battlefield Digitization Trainer and Excalibur SW	4Q						
Perform sys integr & engr support of the Paladin Battlefield Digitization Trainer & Excalibur SW	4Q	1-2Q					
Award OGA for Software Dev of XM982 requirements into the Paladin Digital Fire Control System	2Q						
Award Contract to Develop and Integrate the XM982 rqmts into the Paladin Digital Fire Control Sys	3Q						
Perform Development and Integration of XM982 requirements into the Paladin Digital Fire Control Sys.	2-4Q	1-2Q					
Award OGA for Software Dev of XM982 rqmts into the Paladin Digital Fire Control System.		2Q					
Award Contract to Develop and Integrate XM982 rqmts into Paladin Digital Fire Control System.		2Q					
Perform Development and Integration of XM982 reqmts into Paladin Digital Fire Control System.		2-4Q	1Q				
Award OGA for Software Integration of XM982 requirements in the Paladin Digital Fire Control System.			1Q				
Award Contract for Integration of XM982 rqmts into the Paladin Digital Fire Control System.			1Q				
Perform Integration of XM982 rqmts into the Paladin Digital Fire Control System.			1-2Q				
Award OGA for Testing of XM982 rqmts in the Paladin Digital Fire Control System.			1Q				
Perform Testing of XM982 rqmts in the Paladin Digital Fire Control System.			1-2Q				
Award contract to research & investigate Power Management Requirements.		3Q					
Perform reserach & investigate Power Management Requirements.		2-4Q	1-2Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604865A - Patriot PAC-3 Theater Missile Defense Acq - EMD**	**01C**

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
01C	PATRIOT ADVANCED CAPABILITY (PAC) - 3	60408	0	0	0	0	0	0	0	211726

A. Mission Description and Budget Item Justification: Patriot is a mobile, Unit of Employment air defense system which uses guided missiles to simultaneously engage and destroy multiple target types at varying ranges. The Patriot Advanced Capability 3 (PAC-3) Upgrade Program is the last evolution of the phased materiel change improvement program to Patriot. The materiel changes will provide improved performance across the spectrum for system and threat intercept performance. In addition to modernization of the ground support equipment, funding resources the PAC-3 and Missile Segment Enhancement (MSE) missile design providing a high velocity, hit to kill, surface to air missile with the range, accuracy, and lethality necessary to effectively intercept and destroy tactical missiles with Nuclear Biological Chemical/High Explosive (NBC/HE) warheads and air breathing threats. The full capability will provide defense against short to medium range theater ballistic missiles (TBMs), cruise missiles (CMs), and unmanned aerial vehicles (UAVs) as part of the Ballistic Missile Defense (BMD) systems, a multi-layered Theater Air and Missile Defense Architecture. In support of achieving full air and missile defense capability, this PE funds the improvement of connectivity and situational awareness within the Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) through interaction and cooperation with the Air Defense Command and Control System to enable functionality with MEADS and other air defense systems. This PE is an integral part of the Program Executive Office (PEO) Missile and Space (MS) Integrated Air and Missile Defense (IAMD) Program.

Note: The FY06/07 budget combines the PAC-3/MEADS program based on a Milestone B decision 1 July 2004. The Army revised the MEADS acquisition strategy to combine management, development, and fielding of both the MEADS and Patriot systems. The Patriot/MEADS Combined Aggregate Program (CAP) will provide for the evolution of the Patriot/PAC-3 system to the MEADS objective system through the early incremental introduction of selected MEADS Major End Items. This approach provides for earlier fielding of enhanced air and missile defense capabilities across the currently fielded force to counter the evolving threat and leverage the knowledge gained in the development and fielding of the Patriot System into the MEADS program. The PAC-3 missile is the baseline missile for the MEADS system. The MSE missile, which provides for greater ranges, will be the objective missile for the system. PAC-3 RDTE funding has been combined with MEADS RDTE funding under PE 0604869A for FY 06 and beyond.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Follow-on Block test program.	12533	0	0
Evolutionary Development.	21900	0	0
Missile System Enhancement (MSE) Development	25975	0	0
Total	60408	0	0

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604865A - Patriot PAC-3 Theater Missile Defense Acq - EMD**	**01C**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	61482	0	0
Current BES/President's Budget (FY 2007)	60408	0	0
Total Adjustments	-1074	0	0
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings	-1074		
SBIR/STTR Transfer			
Adjustments to Budget Years			

FY06/07 funds transferred to the Patriot/MEADS Combined Aggregate Program (CAP), PE 0604869A.

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
0603869, Project 01B MEADS	251298	0	0	0	0	0	0	0	251298
0604869, Project M06 Patriot/MEADS Combined Aggregate Program (CAP)	0	284695	329583	459684	517049	592013	422005	0	2605029
0203801, Project 036 Patriot Product Improvement	32067	15957	10770	11051	11297	12227	12734	CONT	CONT
MSLS PROC C49100, Patriot System	496990	483260	489067	472907	478795	0	0	0	2421019
MSLS PROC C50001, Patriot/MEADS CAP	0	0	0	89735	65296	429735	674386	CONT	CONT
0102419, Project E55 JLENS	79279	105888	264491	465214	353856	335490	301143	0	1905361
OPA BZ0525, JLENS Production	0	0	0	0	0	30471	476728	0	507199
0604802, Project S23 SLAMRAAM	63084	35587	26961	10132	0	0	0	0	135764
MSLS PROC C81001, SLAMRAAM	2438	19061	22039	59314	82656	82143	60979	0	328630
0604820, Project SENTINEL	5848	5008	2527	2622	0	0	0	0	16005
OPA WK5057, SENTINEL Production	10566	8289	15125	20914	33394	33239	25314	0	146841
0603327, Project S23, Integrated Fire Control AMD	19984	24480	41746	47995	50096	0	0	0	184301

Comment: This PE is an integral part of the PEO, Missiles and Space Integrated Air and Missile Defense (IAMD) Program including Integrated Fire Control, JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, JTAGS, SENTINEL, and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

D. Acquisition Strategy The design objective of the Patriot system is to provide an element of an integrated Ballistic Missile Defense system capable of being modified to cope with the evolving threat. This strategy minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. The Patriot program consists of two interrelated acquisition programs - the Patriot PAC-3 Growth Program and the PAC-3 Missile Program. Growth Program modifications are grouped into configurations which are fielded in the same time frame as they technically mature to address emerging threats. However, incremental increases in performance are determined for each configuration in order to provide benchmarks for configuration testing and for the development of user doctrine and tactics. This incremental approach to fielding will continue through the CAP as Patriot is evolved to MEADS. The PAC-3 Missile Program focuses on developing, fabricating and testing the high velocity, hit to kill, surface to air missile and associated ground support equipment to provide essential increases in battle space, accuracy, lethality and firepower to counter and destroy evolving air defense threats. The missile performance is demonstrated through a series of flight tests and modeling and simulation activities. PAC-3 Block Evolutionary development efforts will further improve system interoperability, commonality, and capabilities against emerging and reactive threats. The Army has revised the MEADS acquisition strategy to combine management, development, and fielding of both the MEADS and Patriot systems. The Patriot/MEADS combined aggregate program will provide for the evolution of the Patriot/PAC-3 system to the MEADS objective system through the early introduction of the MEADS Major End Items (MEI). This approach provides for earlier fielding of enhanced air and missile defense capabilities across the currently fielded force to counter the evolving threat and allow for the knowledge that was gained in the development and fielding of the Patriot System to be fused into the MEADS program. The PAC-3 missile is the baseline missile for the MEADS system. The Missile Segment Enhancement (MSE) missile, which provides for greater ranges, will be the objective missile for the system.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604869A - Patriot/MEADS Combined Aggregate Program (CAP)**	**M06**

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
M06	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)	0	284695	329583	459684	517049	592013	422005	0	2605029

A. Mission Description and Budget Item Justification: With the approval of the Defense Acquisition Executive (DAE), the Army has combined the management, development, and fielding of the PATRIOT and MEADS programs. On Jul 1, 2004, the Defense Acquisition Board (DAB) approved Milestone B for MEADS and all three increments of the Patriot/MEADS CAP with a MEADS First Unit Equipped date of FY2015. The Acquisition Program Baseline (APB) and Acquisition Strategy were also approved for System Development and Demonstration (SDD). The PAC-3/MEADS CAP is an integral element in the DoD Ballistic Missile Defense System (BMDS) and is based on the concept that the MEADS objective capability will be achieved through an evolutionary approach by incrementally inserting MEADS Major End Items (MEIs) into the current PATRIOT System, thereby providing increased capability to the field in a timelier manner. This approach allows for earlier modernization and fielding of enhanced capabilities to the currently fielded PATRIOT forces in conjunction with re-capitalization efforts. Also, the CAP ensures that the required AMD capabilities are fielded to dominate in all areas outlined in the DoD "Protection Joint Functional Concept" construct: detect, assess, warn, defend, recover.
MEADS is a tri-national co-development program among the U.S., Germany, and Italy to replace the U.S. Patriot air defense systems, Patriot and HAWK systems in Germany, and NIKE Hercules systems in Italy. Participating countries will sign a MOU for each successive program phase. The NATO MEADS Management Agency (NAMEADSMA) is the NATO contract authority providing management of the MEADS program on behalf of the participating nations and is responsible for managing the system acquisition. The U.S. and Italy signed the Design and Development (D&D) MOU on Sept 24, 2004, and Sept 27, 2004, respectively. The NAMEADSMA awarded the MEADS D&D letter contract to MEADS International on Sept 28, 2004, initiating the MEADS D&D phase. The D&D letter contract definitization process was completed in Feb 2005. The MOU was amended in Mar 05 by the U.S. and Italy to allow the German Parliament additional time for their signature decision and on Apr 22, 2005 Germany signed the MOU. NAMEADSMA, the NATO contracting authority, awarded a $3.4B D&D definitized contract to MEADS International on May 31, 2005. Within the CAP there are two synergistic efforts: an international MEADS development effort managed by NAMEADSMA, and a U.S. effort to inject US-specific capability requirements into the MEADS Major End Items.

MEADS will provide joint and coalition force, critical asset and defended area protection against multiple and simultaneous attacks by short to medium range ballistic missiles, cruise missiles, unmanned aerial vehicles (UAVs) and tactical air-to-surface missiles (TASMs). MEADS will have a netted and distributed architecture with modular components to increase survivability and flexibility of employment in a number of operational configurations. The objective MEADS battery, which will be scalable and tailorable to operational requirements, will consist of: a Battle Management Command, Control, Communication, Computers and Intelligence (BMC4I) tactical operations center (TOC) that is capable of integrating into Integrated Air and Missile Defense (IAMD) Program BMC4I architectures, enabling distributed system operations and Beyond-Line-of-Site (BLOS) engagements for maximum protection of supported forces by engaging at longer ranges; a near-vertical launcher capable of transporting and launching up to eight missiles; a launcher reloader; the PAC-3 missile; an ultra-high frequency (UHF) Surveillance Radar (SR) that provides 360-degree coverage and near-range to long-range detection of low radar cross-section targets; and two X-band Multifunction Fire Control Radars (MFCR) that provide 360-degree coverage and are designed for high-precision handover to the in-flight missile, discrimination capabilities, and short-range target detection and horizon search.
In addition, MEADS will provide significant improvements in strategic deployability, transportability, mobility and maneuverability. Its substantially reduced lift requirements enable MEADS to be deployed rapidly with essential combat loads via inter/intra-theater land, sea, and airlift anywhere in the world. MEADS will provide Combatant Commanders with an AMD system that is fully transportable by C-130 aircraft, thus increasing strategic and tactical mobility. Further, its decreased size/weight and ability to conduct rapid march order and system emplacement will enhance maneuverability, thereby providing better AMD protection to maneuvering forces.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604869A - Patriot/MEADS Combined Aggregate Program (CAP)**	**M06**

While the PAC-3 missile is the baseline missile for MEADS, the Missile Segment Enhancement (MSE) missile is being developed by the U.S. for PATRIOT to meet U.S. operational requirements. MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and potentially the MEADS systems. The PAC-3 MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded guidance software, and insensitive munitions improvements.

The CAP increments will improve the current PATRIOT capability to protect forces during the transformation to MEADS. MEADS MEIs will be developed and fielded in three acquisition increments in support of an Integrated Air and Missile Defense (IAMD) capabilities: CAP 1 (FY09): Will re-host the current BMC4I capability resident on the PATRIOT system on new processors in single shelters to gain C-130 transportability, and add a capability enhancement that enables beyond-line-of-sight (BLOS) engagements for SLAMRAAM using PATRIOT fire control data. The BMC4I begins initial production in FY08 and serves as the basis for further incremental development. CAP 2 (FY11): Includes the MSE missile in a single canister configuration, the MEADS near-vertical launcher, and the MEADS BMC4I All three of these components, when integrated into the SoS architecture with JLENS, will significantly increase the defended area of PAC-3 systems by enabling Engage-on-Remote (EOR) engagements of incoming threats (the ability of PATRIOT to engage an incoming target using fire control data from another system's sensor). EOR capability will enable units to take advantage of the significant improvements (range) of the MSE missile. CAP 3 (FY15): Will begin integrating the objective MEADS configuration. An updated BMC4I will include a communications backbone and software functionality to enable rapid transition of elements within the architecture to support tactical mobility requirements; integrates the new SR and two MFCRs into the fire unit/Battery. The associated surveillance, fire control, classification discrimination and identification (CDI) and battle management functionality will offset current capability gaps in the areas of sectored systems, stressing threats, strategic and tactical mobility and combat identification (CID). Enhancements in CID will significantly contribute to fratricide prevention by incorporating the capability to non-cooperatively classify targets by type/specific platform, thereby contributing to the identification of unknown targets that may have non-functional IFF transponders.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational and management budgets to manage the Design and Development (D&D) Phase contract to design, develop, build, test and evaluate the production representative MEADS hardware. FY05 and FY06 efforts will develop the BMC4I to support Increment 1 testing in FY07 with initial production in FY08 and subsequent fielding to be completed in FY10.	0	151079	165525
Implement program integration efforts that will examine Department of Defense (DOD) Joint Integrating Concept and Army Transformation Future Force mix and integration issues; support Patriot / MEADS CAP in the test and evaluation of Air and Missile Defense (AMD) task force interoperability and Army Integrated Air and Missile Defense (IAMD) Program(in a netted and distributed architecture); support development and maintenance of Joint Data Network interface requirements; and appropriate planning of MEADS manpower, training, human factors, safety issues, cost reduction initiatives, and protection of U.S. background technology.	0	77296	69058
Continue management, support and salaries for the national and international program offices.	0	6120	7100
Continue single canister and engage on remote development. Includes US only efforts to support Missile Segment Enhancement.	0	50200	87900
Total	0	284695	329583

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604869A - Patriot/MEADS Combined Aggregate Program (CAP)**	**M06**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	0	288785	326352
Current BES/President's Budget (FY 2007)	0	284695	329583
Total Adjustments	0	-4090	3231
Congressional program reductions		-1220	
Congressional rescissions		-2870	
Congressional increases			
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			3231

FY 2005 funding displayed in PE 0603869A MEADS.

C. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
PE 0604865A, PAC-3	60408	0	0	0	0	0	0	0	60408
PE 0203801, Patriot Product Improvement	32067	15957	10770	11051	11297	12227	12734	CONT	CONT
SSN C49100, PAC-3 Missile	496990	483260	489067	472907	478795	0	0	0	2421019
SSN C50001, Patriot/MEADS CAP	0	0	0	89735	65296	429735	674386	CONT	CONT
PE 0102419, JLENS	79279	105888	264491	465214	353856	335490	301143	0	1905361
SSN BZ0525, OPA, JLENS	0	0	0	0	0	30471	476728	0	507199
PE 0604082, Project S23 SLAMRAAM	63084	35587	26961	10132	0	0	0	0	135764
SSN C81001, SLAMRAAM	2438	19061	22039	59314	82656	82143	60979	0	328630
PE 0604820, SENTINEL	5848	5008	2527	2622	0	0	0	0	16005
SSN WK5057, OPA, SENTINEL	10566	8289	15125	20914	33394	33239	25314	0	146841
PE 0603327, Project E88, Integrated Fire	19984	24480	41746	47995	50096	0	0	0	184301

Comment: PAC-3 / MEADS CAP RDTE funding are combined and under PE0604869A in FY06 and beyond. This PE is an integral part of the Air, Integrated Air and Missile Defense (IAMD) Program including Integrated Fire Control (IFC), JLENS, Patriot/MEADS Combined Aggregate Program (CAP), SLAMRAAM, JTAGS, SENTINEL and on-going initiatives to achieve Single Integrated Air Picture (SIAP).

D. Acquisition Strategy On 1 July 2004, the Defense Acquisition Board approved the Acquisition Strategy (AS) for milestone B. The AS incrementally evolves the tri-national MEADS program into the fielded PATRIOT force in three increments with a with a First Unit Equipped date of FY2015. Increment 1 will re-host the current BMC4I capabilities of the PATRIOT into a smaller TOC. Increment 2 provides a MEADS Lightweight/Near Vertical Launcher (reducing airlift requirements), improved BMC4I, and the MSE missile (increasing the battlespace). The objective system (Increment 3) will begin fielding in FY15 with a network centric BMC4I and the surveillance and fire control radars (providing full 360 degree coverage and further reducing airlift requirement). Milestone C reviews will be conducted for each increment as they mature. This PE funds the consolidated development program.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604869A - Patriot/MEADS Combined Aggregate Program (CAP)

PROJECT
M06

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
Design and Development	CPIF	NAMEADSMA, Huntsviile, AL	0	0		113500	2-3Q	138600	2-3Q	Continue	0	0
Missile Segment Enhancement - LMMFC	SS-CPIF	LMMFC, Dallas, TX	0	0		18000	1-2Q	32000	1-2Q	Continue	0	0
Missile Segment Enhancement - Raytheon	SS-FP	Raytheon, Boston, MA	0	0		10400	1-2Q	11050	1-2Q	Continue	0	0
Program Integration	Various	Various, Huntsville, AL	0	0		42695	1-3Q	33218	1Q	Continue	0	0
U.S. Only Security / Exciter	MIPR	Lockheed Martin, Sycracuse, NY, Dallas, TX & Orlando, FL	0	0		7650	1-2Q	15400	1-2Q	Continue	0	0
U. S. OGA's	MIPR	Various, Huntsville, AL	0	0		7830	2-3Q	5840	2-3Q	Continue	0	0
In-House	Program Office	PO, Huntsville, AL	0	0		8880	1-2Q	9500	2-3Q	Continue	0	0
U.S. Only Combined Aggregate Program (CAP)	Various	Various, Huntsville, AL & Dallas, TX	0	0		29725	2-3Q	18480	2-3Q	Continue	0	0
D&D GFE Procurement Efforts	MIPR	TACOM, Warren, MI	0	0		4844	2-3Q	4315	2-3Q	0	0	0
Subtotal:			0	0		243524		268403		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
Int'l Program Office	Program Office	NAMEADSMA, Huntsville, AL	0	0		3010	2Q	4130	2Q	Continue	0	0
U.S. Contracts	Various	CAS, Huntsville, AL	0	0		12043	2Q	12500	2Q	Continue	0	0
Systems Engineering	MIPR	MRDEC, Huntsville, AL	0	0		5698	2Q	8000	2Q	Continue	0	0
Subtotal:			0	0		20751		24630		Continue	0	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604869A - Patriot/MEADS Combined Aggregate Program (CAP)

PROJECT
M06

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
Range Support	MIPR	WSMR, White Sands, NM	0	0		1800	1-3Q	7000	1Q	Continue	0	0
Targets	MIPR	SMDC, Huntsville, AL	0	0		9000	1-3Q	15450	1Q	Continue	0	0
Mod & Sim	MIPR	Huntsville, AL	0	0		3500	1-3Q	7000	1Q	Continue	0	0
Subtotal:			0	0		14300		29450		Continue	0	0

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Internal Operating	LOE	NAMEADSMA, Huntsville, AL	0	0		6120	2-3Q	7100	2-3Q	Continue	0	0
Subtotal:			0	0		6120		7100		Continue	0	0
Project Total Cost:			**0**	**0**		**284695**		**329583**		**Continue**	**0**	**0**

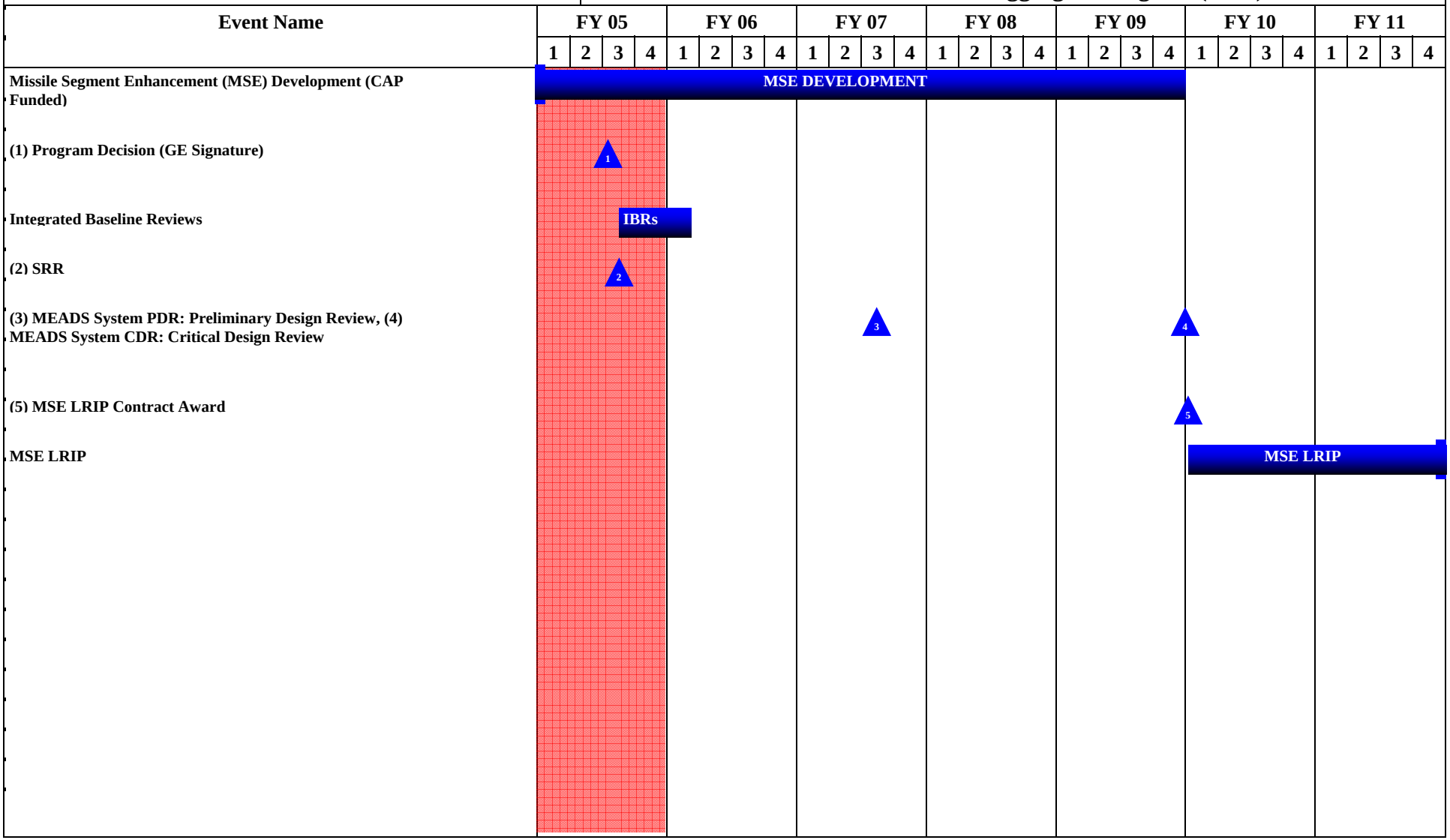
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604869A - Patriot/MEADS Combined Aggregate Program (CAP)

PROJECT
M06



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604869A - Patriot/MEADS Combined Aggregate Program (CAP)

PROJECT
M06

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Program Decision (Germany Signature)	3Q						
System Requirement Review	3Q						
Integrated Baseline Reviews	3-4Q	1Q					
System Preliminary Design Review (PDR)			3Q				
System Critical Design Review (CDR)						1Q	
MSE LRIP Contract Award						1Q	
MSE LRIP						1-4Q	1-4Q

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)	February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604869A - Patriot/MEADS Combined Aggregate Program (CAP)**	**M06**

Funding in $000

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Patriot/MEADS CAP		136259	242864	301272	315566	319461	245699
Total Termination Liability Funding:		136259	242864	301272	315566	319461	245699

Remarks:
Termination Liability in K$'s and for each year shall not exceed limits shown. FY05 Termination Liability shown in PE0603869A.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604870A - Nuclear Arms Control Monitoring Sensor Network**	**SE1**

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
SE1	NACT SENSOR ENGINEERING	0	0	7428	0	0	0	0	0	7428

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 Weapons of Mass Destruction (WMD) 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 US 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 US and international agencies. This project also supports the warfighting capability area of combating Weapons of Mass Destruction (WMD).

The Department of Defense transferred the Nuclear Arms Control Technology Program from the Defense Threat Reduction Agency (DTRA) to the Army under PBD 289 to be executed by the US Army Space and Missile Defense Command. For FY04 the RDT&E funding request was placed in PE 0603782A Warfighter Information Network-Tactical-Dem/Val under Project F98 Nuclear Arms Control Tech-Sensor & Network Monitoring. For FY05 and FY06 the funding request was placed in PE 0604805A Command, Control, Communications Systems-Eng Dev under Project F99 Nuclear Arms Control Technology-Sensor Network Monitoring. Congress directed the Secretary of Defense to create a stand alone PE for this effort - not a new start. PE 0604870A is the new PE.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Conduct analyses as required to support the OSD treaty manager.	0	0	450
Continue development of a prototype sensor.	0	0	1400
Continue development of radionuclide particle and noble gas detectors	0	0	200
Continue Information management systems enhancements	0	0	1300
Continue the R&D support system	0	0	600
Continue on-location research of calibration for infrasound events	0	0	128
Continue development of techniques to identify signals from sensor systems	0	0	1900
Continue development of nuclear detection and measurement systems	0	0	1450
Total	0	0	7428

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604870A - Nuclear Arms Control Monitoring Sensor Network**	**SE1**

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	0	0	0
Current BES/President's Budget (FY 2007)	0	0	7428
Total Adjustments	0	0	7428
Congressional Program Reductions			
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer			
Adjustments to Budget Years			7428

Change Summary Explanation: Funding - FY 2007: This project is not a new start. It has transitioned from PE 0604805A Project F99 in FY06 to PE 0604870A - Nuclear Arms Control Monitoring Sensor Network in FY07.

D. Acquisition Strategy Not applicable for this item.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604870A - Nuclear Arms Control Monitoring Sensor Network

PROJECT
SE1

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
Product Development	Various	MS, HI	0	0		0		1731	1-3Q	0	1731	0
Subtotal:			0	0		0		1731		0	1731	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
Monitoring Sensor Systems, Program Data Analysis, Verification Systems Concept Demo	Various	SAIC, General Dynamics, VA	0	0		0		2697	1-4Q	0	2697	0
Support Contracts & Government Support	Various	FL, NM, VA, AL	0	0		0		1500	1-4Q	0	1500	0
SMDC Support	Various	Huntsville, AL	0	0		0		500	1-4Q	0	500	0
Subtotal:			0	0		0		4697		0	4697	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 and Evaluation	Various	Huntsville, AL	0	0		0		500	2-3Q	0	500	0
Subtotal:			0	0		0		500		0	500	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
SMDC Support	Various	Huntsville, AL	0	0		0		500	1-4Q	0	500	0

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0604870A - Nuclear Arms Control Monitoring Sensor Network**	**SE1**

Subtotal:	0	0		0		500		0	500	0
Project Total Cost:	**0**	**0**		**0**		**7428**		**0**	**7428**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604870A - Nuclear Arms Control Monitoring Sensor Network

PROJECT
SE1

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Conduct exp & calibrations for seis, hydroacoustic, infrasound, & radionuclide																												
Baseline system software & analytical tools for event det & identification																												
Develop a prototype sensor																												
Information Management Systems enhancements																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0604870A - Nuclear Arms Control Monitoring Sensor Network

PROJECT
SE1

Schedule Detail	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				
Baseline system software and analytical tools for event detection and identification			1-4Q				
Develop a prototype sensor			1-4Q				
Information management systems enhancements			1-4Q				

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

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	68893	66106	70185	64022	60327	47677	30023	Continuing	Continuing
087	Distributed Learning System (DLS)	207	4770	1292	403	403	403	403	Continuing	10681
099	Army Human Resource System (AHRS)	7179	6660	3226	1551	1506	1533	1560	Continuing	35692
137	TRANS COORDINATORS' AUTO INFO FOR MOVEMENT SYS II	17915	17570	22586	19434	22159	19203	1370	0	145280
184	INSTALLATION SUPPORT MODULES (ISM)	1880	998	1072	1098	1118	1136	1146	0	11023
193	MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE	11765	8184	10644	9258	8295	7327	7563	0	75372
196	Chief Information Office (CIO)	8966	0	0	0	0	0	0	0	15458
252	TACMIS	5135	0	0	0	0	0	0	Continuing	Continuing
316	STACOMP	8017	9297	14013	9566	6658	4060	4147	0	79541
474	ENTERPRISE TRANSMISSION SYSTEMS	4629	5400	3059	1012	1004	3045	4580	0	22729
738	Future Business Systems (FBS)	0	13227	14293	21700	19184	10970	9254	0	88628
M05	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	47	0	0	0	0	0	0	Continuing	Continuing
T03	INFORMATION TECH DEVELOPMENT - ROCK ISLAND ARSENAL	1907	0	0	0	0	0	0	0	1907
T04	USMEPCOM TRANSFORMTION - IT MODERNIZATION	1246	0	0	0	0	0	0	0	1264

A. Mission Description and Budget Item Justification: Supports efforts to plan, design, develop, and test information technology solutions to fulfill the Army's Warfighter Support Mission and accommodate changing Army requirements while fulfilling future Army needs. Provides for development and acquisition of Combat Service Support (CSS) and business information technology solutions to help arm, sustain, fix, move, train and man the force. Completed development/acquisition efforts will also enhance sustaining base functions and power projection capabilities and facilitate global messaging and electronic data interchange (EDI). Ongoing development efforts support multiple functional areas including logistics, personnel, transportation, training, medical/health protection, and sustaining base.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

B. Program Change Summary	FY 2005	FY 2006	FY 2007
Previous President's Budget (FY 2006)	95836	63662	71523
Current BES/President's Budget (FY 2007)	68893	66106	70185
Total Adjustments	-26943	2444	-1338
Congressional Program Reductions		-290	
Congressional Rescissions		-666	
Congressional Increases		3400	
Reprogrammings	-26943		
SBIR/STTR Transfer			
Adjustments to Budget Years			-1338

FY05 decrease due to Congressional reprogramming action, approved April 2005, transferring funds from Army PE 655013316/OSDPE 0605013A(316) to 654822GF5/OSDPE 0604822A(GF5) for the General Funds Enterprise Business Systems (GFEBS); FY06 increase due to Congressional adds for eHRS & ARDEC Knowledge Base, and internal HQDA adjustments; FY07 decrease reflects HQDA adjustments.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**087**

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
087 Distributed Learning System (DLS)	207	4770	1292	403	403	403	403	Continuing	10681

A. Mission Description and Budget Item Justification: The Distributed Learning System (DLS) is an Army Acquisition Category 1 Army Component (ACAT 1AC) major automated information system that will modernize training delivery in the Army training and education system by leveraging information technology (IT). DLS is an integral component of the Department of Defense Advanced Distributed Learning Initiative (ADLI), and Strategic Plan for Transforming DOD Training, which calls for the full exploitation of technologies to support quality education and training. DLS supports the E-Government strategy by using the Web to provide training materials, by enabling the intra-agency sharing of training data, and by adopting commercial practices and products to reduce operating costs. DLS supports the President's Management Agenda by making use of e-Learning to leverage scarce training funds and to provide greater agency access to training materials. DLS provides standard automation and supporting infrastructure to improve Army's ability to train service members and supporting civilian workforce in all Army components by introducing proven distance learning enhancements into the Army training inventory.

FY2007 funding procures post-production support of operational test & evaluation (OTE) of Increment 4 (DDTC) system design, specification and development (SSD), developmental testing and evaluation (DT&E), and operational test and evaluation (OT&E).

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Increment 4 (DDTC) - System Design, Specification, and Development (SSD)	0	3197	0
Increment 4 (DDTC) - System Test & Evaluation (DTE & OTE)	207	1073	1292
Increment 3 (ALMS) - Post-production support test & evaluation (OTE)	0	500	0
Total	207	4770	1292

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OMA APEs 432615/432612/432126	36514	35606	40998	36366	41495	42565	44250	CONT	CONT
OPA SSN BE4173 THE ARMY DISTANCE LEARNING PROGRAM	3094	11789	6670	8570	8522	13517	7821	CONT	CONT

C. Acquisition Strategy Distributed Learning System (DLS) follows an evolutionary acquisition strategy using a spiral development process based on the following rationale: (1) cost savings can be realized immediately upon implementation of even a limited set of facilities, courseware, and media types; (2) requirements for future increments are

dependent upon technology maturation. DLS will be executed using four discrete increments narrow in scope and as brief in duration as practical to deliver a measurable net benefit independent of future segments. Each increment satisfies a set of requirements identified in the Capabilities Production Document (CPD) and provides a militarily useful and operationally supportable function, which permits additional increments to be added over time without having to completely re-design and redevelop those portions of the system already fielded. New capabilities requirements will be integrated with the existing functional baseline system as technologies and capabilities mature using system releases where feasible. A rigid configuration management program is established to maintain the integrity of each functional and technical baseline. The approved DLS acquisition strategy identifies four increments for implementation. Two previously identified capability requirements (Video-to-the-Desktop and Simulations) are best satisfied by changes to the existing Increment 2 (Networked DLS) platform as future system releases.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
087

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 Design & Development (SSD) Deployed Digital Training Campus (DDTC) - Increment 4	C/CPIF	TBD	0	0		3197	1Q	0		Continue	0	Continue
Subtotal:			0	0		3197		0		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
Program Management Support	C/FP	L3 Communications Titan Corporation, Newport News, VA	762	0		0		0		762	762	0
Subtotal:			762	0		0		0		762	762	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
Developmental Test & Evaluation (DT&E), Increment 4	C/CPIF	TBD	0	0		798	4Q	0		Continue	Continue	Continue
Operational Test & Evaluation [OT&E], Increment 4	MIPR	ATEC: ATC, Washington, DC;OTC, Ft. Hood, TX	792	207	1Q	275	1Q	792	1Q	Continue	Continue	Continue
Post Production Operational Test & Evaluation (OTE), Increment 3	MIPR	ATEC: ATC, Washington, DC;OTC, Ft. Hood, TX	0	0		500	1Q	500	1Q	Continue	Continue	Continue
Subtotal:			792	207		1573		1292		Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
087

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
Program Managment Operations	N/A	Project Management Office (PMO) DLS, Newport News, VA	707	0		0		0		707	707	0
Subtotal:			707	0		0		0		707	707	0

Remarks: Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc.

Project Total Cost:	**2261**	**207**		**4770**		**1292**		**1469**	**1469**	**0**

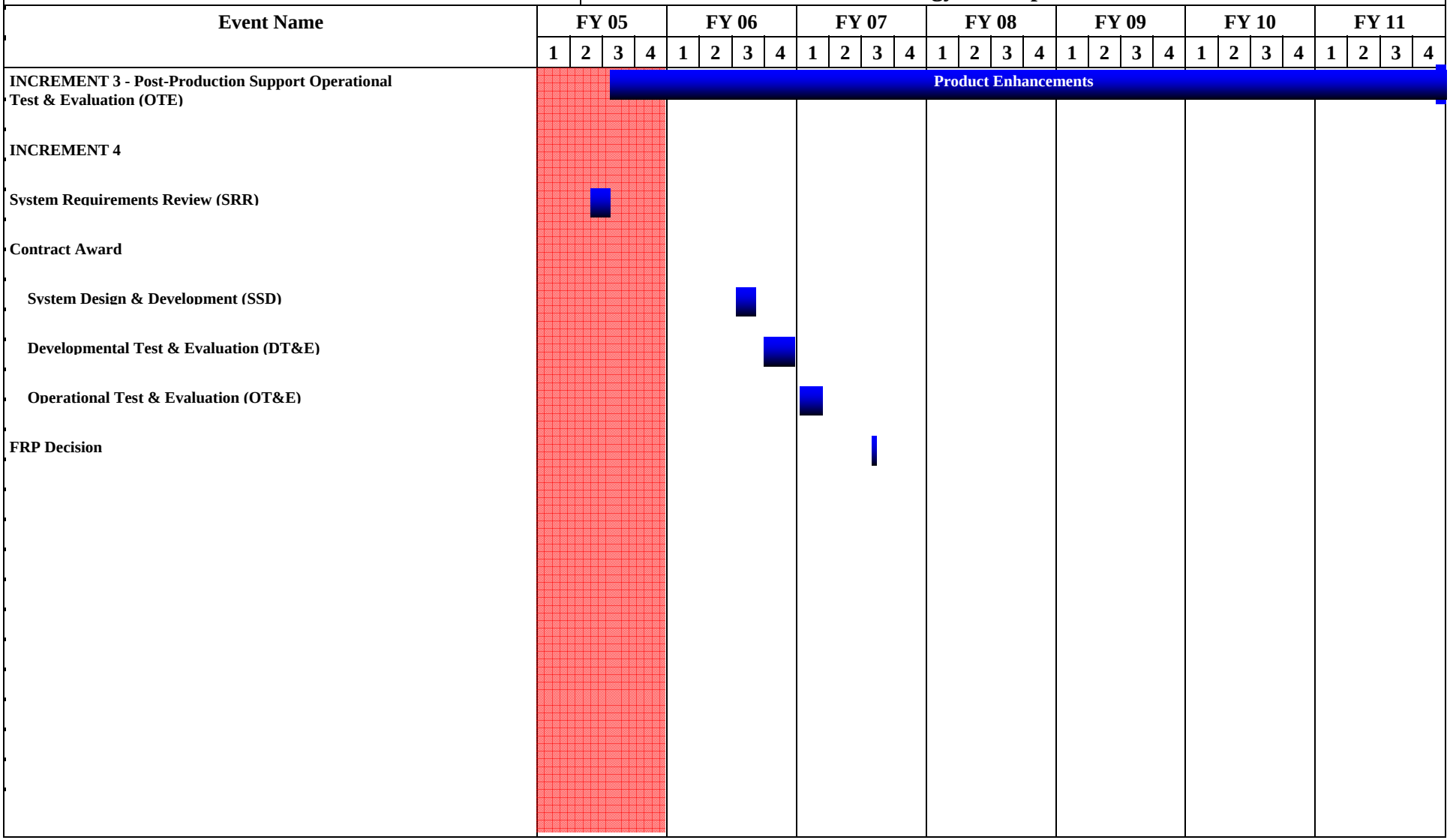
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
087



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
087

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Increment 3 [ALMS] Post-Production Support (Product Enhancements)	3-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Increment 4 [DTTC] System Requirements Review (SRR)	2-3Q						
Increment 4 [DDTC] Contract Award		2Q					
Increment 4 [DDTC] System Design & Development (SSD)		3Q					
Increment 4 [DDTC] Developmental Test & Evaluation (DT&E)		4Q					
Increment 4 [DDTC] Operational Test & Evaluation (OT&E)		4Q					
Full Rate Production (FRP) Decision			3Q				

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)	February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**087**

Funding in $000

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total Termination Liability Funding:							

Remarks:
The DLS Increment 4, Deployed Digital Training Campus (DDTC), System Design & Development (SSD) contractor is currently unknown and to be determined no later than 31 March 2006. This contract action will accommodate termination liability funding as applicable.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**099**

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
099	Army Human Resource System (AHRS)	7179	6660	3226	1551	1506	1533	1560	Continuing	35692

A. Mission Description and Budget Item Justification: Army Human Resource System (AHRS)is the Army's system of systems that provides commanders the necessary personnel information to make informed decisions on mobilized military personnel resources (both Active Duty and Reserve Component). The implementation of AHRS requires the development of an authoritative Army Corporate database to support the eventual migration to the Defense Integrated Military Human Resource System (DIMHRS). However, major elements of AHRS are not planned to be subsumed into DIMHRS. AHRS consists of three major components:

- Electronic Military Personnel Office (eMILPO) is a web-based, multi-tiered application, accessed via the AKO portal. eMILPO provides the U.S. Army with a reliable, timely, and efficient mechanism for performing personnel actions and managing strength accountability. The application is vital in determining the strength and capability of the Army and subordinate commands. It delivers enhanced performance to the Soldier, providing superior data accuracy, and a more intuitive web-based approach resulting in increased productivity, quality, timeliness, security, and user satisfaction. It re-hosted the USC Title 10 functionality, formerly resident in the Standard Installation Division Personnel System-3 (SIDPERS-3) application, for the migration to DIMHRS. Select elements of eMILPO will need to be operated in parallel with DIMHRS until/unless DIMHRS is able to absorb all eMILPO functionality.
- Deployed Theater Accountability System (DTAS) is a web-enabled system residing on the Secret Internet Protocol Router (SIPRNet) that accounts for military and civilian personnel in a deployed theater by unit, day and location supporting force tracking and deployed Operations Tempo (OPTEMPO) tracking. DTAS will continue to exist after DIMHRS migration and will be interfaced to DIMHRS in order to provide this accountability function, which is not present within DIMHRS.
- The Tactical Personnel System (TPS) is a stand-alone application for task organization/manifests and jump manifests used by tactical units. The system interfaces with DTAS, allowing soldiers to be loaded into DTAS en mass upon arrival in theater. TPS will need to operate for some time after DIMHRS migration, and will eventually be subsumed into DIMHRS or the Army Enterprise Human Resource System (eHRS).

Personnel Transformation (PT)-Army Enterprise Human Resource System (eHRS)- The eHRS Human Resources community's mission is to simultaneously provide relevant and reliable personnel management while modernizing or retiring aging processes and technologies, now during the transition to the Defense Integrated Military Human Resources System (DIMHRS), and into the future. The Army eHRS was initially intended to compliment DIMHRS by developing a parallel, PeopleSoft based system to provide the Army's human resources functionality which is not being subsumed by DIMHRS. That initial vision has evolved from building another system, to a vision of providing a data integration service in which data can be extracted from the current human resource systems and transferred to DIMHRS. This service will be provided through an integration layer, which is a middleware application that will be the one interface to and from DIMHRS and the Army Current Systems. This integration layer will provide the infrastructure for the integration of new and existing applications by allowing systems and applications to easily exchange information across different environments and platforms. It will also form the information bridge between DIMHRS, the Army Legacy Systems and external systems.

FY 07 procures eHRS initial development of and integration of technology that retains the human resources functionality necessary to fulfill Army personnel management requirements.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007

AHRS - Post Deployment Software Support (PDSS) - Engineering Change Packages (ECPs)/System Change Packages (SCPs) Interim Change Packages(ICPs)in support of eMILPO and DTAS	858	1254	852
AHRS - Development	1019	1445	923
AHRS - Enterprise Datastore	805	1103	0
Personnel Transformation - eHRS Development	4497	2858	1451
Total	7179	6660	3226

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
AHRS, OPA, SSN W00800, STACOMP	3797	4851	5061	10001	10579	10781	10987	CONT	CONT
AHRS, OMA, 432612/432615	3916	4332	4480	5570	5586	5736	5888	CONT	CONT
Personnel Transformation- eHRS, OPA, BE4164000	0	2826	3025	3043	3243	3305	3368	CONT	CONT
Personnel Transformation-eHRS OPA, SSN W00800	4675	0	0	0	0	0	0	CONT	CONT
Personnel Transformation-eHRS, OMA, 432612	19543	23556	18120	25155	22320	22870	23433	CONT	CONT

C. Acquisition Strategy Army Human Resource System (AHRS)- The program manager makes extensive use of Integrated Product Teams (IPTs). Sub-elements of the acquisition (engineering and design, logistics planning, testing, etc.) are intensively managed by integrated teams of government and contractor personnel. Task performance is tracked against the Work Breakdown Structure (WBS) and resources allocated to each task are adjusted based on performance against the WBS. AHRS contractual efforts are acquired on a time and materials basis through GSA schedule and existing contractual vehicles. The Title 10 functionality has transferred to AHRS. Additionally, as the Personnel community manages their migration to the Defense Integrated Military Human Resource System (DIMHRS), the functionality resident in the 320+ external interface current systems will migrate to AHRS. This migration began in FY03, and will ensure the personnel community retains functionality necessary to meet operational requirements while addressing Transformation requirements.

Personnel Transformation - The eHRS program management approach is to use Integrated Product Teams comprised of government and contractor personnel. Contractor selection will be accomplished through open competition, administered by a federal certified contracting agency. Program Management is accomplished by combining a "best practices" approach coupled with standard tools such as electronic knowledge sharing tools and the Work Breakdown Structure tools.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
099

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
AHRS - PDSS ECPs/SCPs/ICPs	C/FP	Electronic Data Systems, Herndon, VA	7880	858	1Q	1331	2Q	852	1Q	Continue	Continue	Continue
AHRS - Software Development		Electronic Data Systems, Herndon, VA	22272	1824	1Q	2471	2Q	923	1Q	Continue	Continue	Continue
eHRS Development	TBD	TBD	0	0		0		0		Continue	Continue	Continue
Subtotal:			30152	2682		3802		1775		Continue	Continue	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
Personnel Transformation eHRS - Research/Development PT Impacts on Objective Force	C/FP	Science Applications International Corp (SAIC) , San Diego, CA	0	4497	2Q	2858	2Q	1451	3Q	Continue	Continue	Continue
Subtotal:			0	4497		2858		1451		Continue	Continue	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
Subtotal:			0									

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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**099**

Project Total Cost:	**30152**	**7179**		**6660**		**3226**		**0**	**0**	**0**

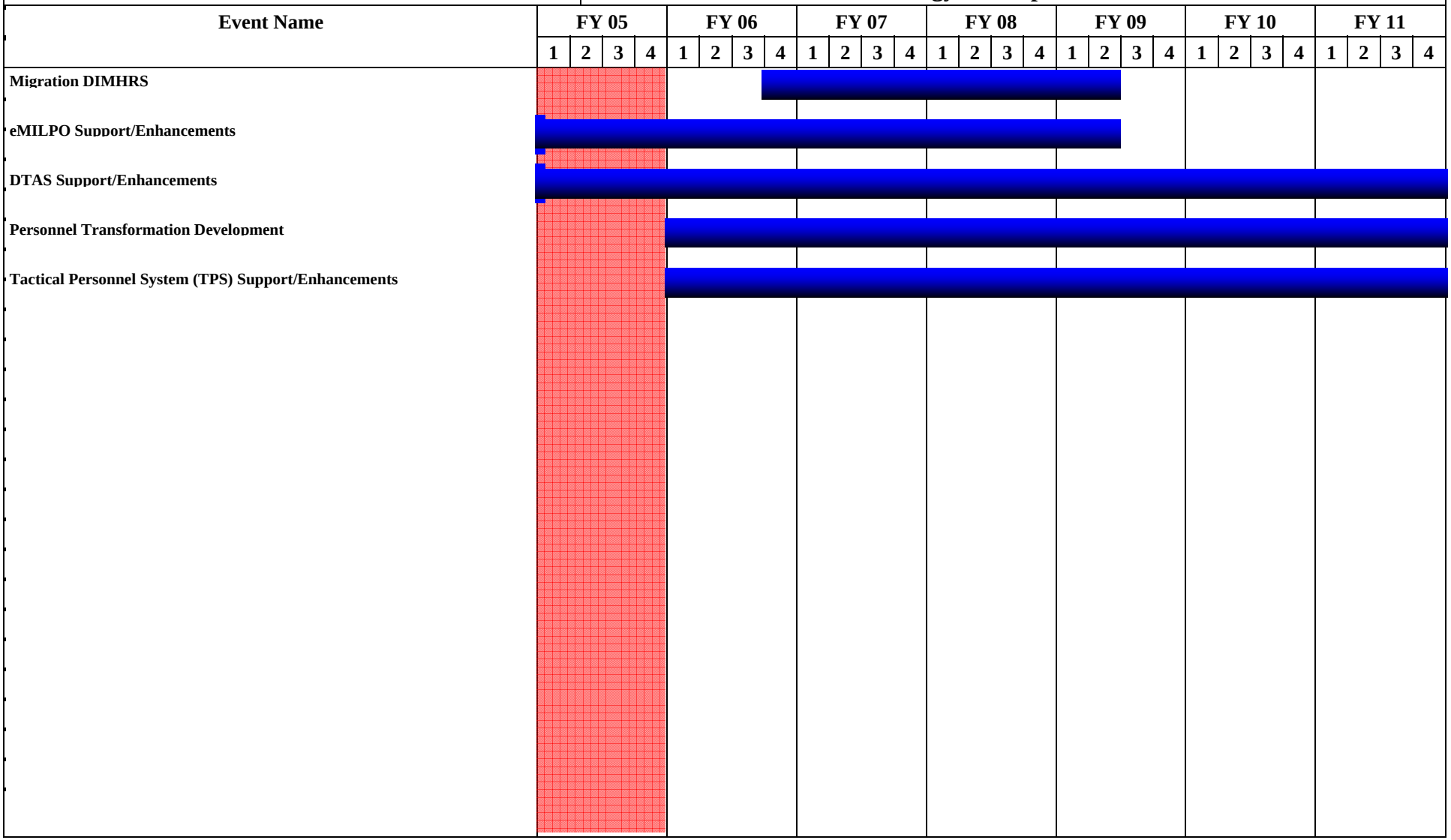
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
099



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
099

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
eMILPO Support/Enhancements	1-4Q	1-4Q	1-4Q	1-4Q	1-2Q		
Migration DIMHRS		3-4Q	1-4Q	1-4Q			
Personnel Transformation		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Deployed Theater Accountability Software (DTAS) SUpport/Enhancements	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Tactical Personnel System (TPS) Support/Enhancements	1-4Q	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
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**137**

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
137	TRANS COORDINATORS' AUTO INFO FOR MOVEMENT SYS II	17915	17570	22586	19434	22159	19203	1370	0	145280

A. Mission Description and Budget Item Justification: Transportation Information Systems (TIS) Project Office funding supports design, development, testing, and program management functions for the Transportation Coordinators' - Automated Information for Movement System II (TC-AIMS II).

TC-AIMS II--

o Provides standard Department of Defense (DoD) integrated information transportation system capability for deployment, sustainment, and redeployment operations during both war and peacetime operations for the active and reserve forces.

o Consolidates the management of unit/installation-level transportation functions of Unit Movement, Load Planning and Installation Transportation Office/Traffic Management Office (ITO/TMO) operations, and facilitates the movement and support of personnel and cargo during all phases of military operations in all environments, including sustainment; reception, staging, onward movement and integration (RSO&I); and battlefield operations.

o Supports routine and surge requirements and automates shipping/receiving, and deployment; sustainment and redeployment processes; produces movement documentation, unit move data; and furnishes timely transportation information to major commands, transportation component commands, United States Transportation Command, and the Joint deployment community.

o Provides In-Transit Visibility data and control over cargo and passenger movement, as a DoD source movement information system.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Joint Project Management Office (JPMO) Contractor Support	6358	5443	6767
JPMO Operations	2846	2661	3196
Facility Lease/Service Management	2627	2280	2921
Block 3 (Movements Control & Planning; Map Graphics) System Development	6084	6334	0
Block 3 (Movements control & Planning; Map Graphics) System Test and Evaluation	0	852	0
Block 4 (Theater Operations) System Development	0	0	9702
Total	17915	17570	22586

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA - SSN: BZ8900 TC AIMS II	15876	16154	29919	29337	25811	20638	27012	CONT	CONT
OMA - APE: 432612	13377	13242	27207	23411	23439	33640	33774	CONT	CONT
OPA - SSN: BE4166	193	0	0	0	0	0	0	539	732

C. Acquisition Strategy Transportation Information Systems (TIS) Project Office for the Transportation Coordinators' - Automated Information for Movement System II (TC-AIMS II) uses an Integrated Support Cost Plus Award Fee contract to develop, maintain, and field (including training) the software. A separate contract provides program management support. TC-AIMS II system development is following a multi-block, phased development and fielding strategy to reduce technical, program, and user acceptance risks. TC-AIMS II system capability is broken into five separate, software blocks including: Block 1 - Unit Move, Block 2 - Enhanced Unit Move (Web), Block 3 - Reception, Staging, Onward Movement and Integration (RSOI), Block 4 - Theater Operations, and Block 5 - Installation Transportation Office/Traffic Management Office (ITO/TMO). Infrastructure requirements are being satisfied by the establishment of an Enterprise Architecture composed of a Central Management Facility supporting Multiple Regional Access Nodes. Additional infrastructure requirements include the acquisition and deployment of Commercial-Off-The-Shelf (COTS) hardware to provide a breakaway client-server capability which will function in isolated workgroups or in stand-alone modes. Funding supports the operations of a Central Management Facility (CMF) with a minimum of three Regional Access nodes. This Enterprise Management System operating at the CMF supports central software distribution to remote sites. Funding for Army hardware is included in the TIS program.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
137

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	C/CPAF	Computer Sciences Corporation (CSC), Springfield, VA	21975	6084	3Q	6334	3Q	9702	3Q	Continue	Continue	Continue
Subtotal:			21975	6084		6334		9702		Continue	Continue	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
Facility Lease/Service Management	T&M	SMART TECH, Springfield, VA	5859	2627	1Q	2280	1Q	2921	1Q	Continue	Continue	Continue
Joint Project Management Office (JPMO) Contractor Support	T&M	Titan	14832	6358	1-4Q	5443	1-4Q	6767	1-4Q	Continue	Continue	Continue
JPMO Operations	NA	JPMO, Springfield, VA	7033	2846	1-4Q	2661	1-4Q	3196	1-4Q	Continue	Continue	Continue
Subtotal:			27724	11831		10384		12884		Continue	Continue	Continue

Remarks: JPMO Operations includes direct pay of government employees, TDY, training, supplies, etc.

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
OT & DT	MIPR	Various	5264	0		852		0		Continue	Continue	Continue
Subtotal:			5264	0		852		0		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

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**137**

Subtotal:	0									
Project Total Cost:	**54963**	**17915**		**17570**		**22586**		**0**	**0**	**0**

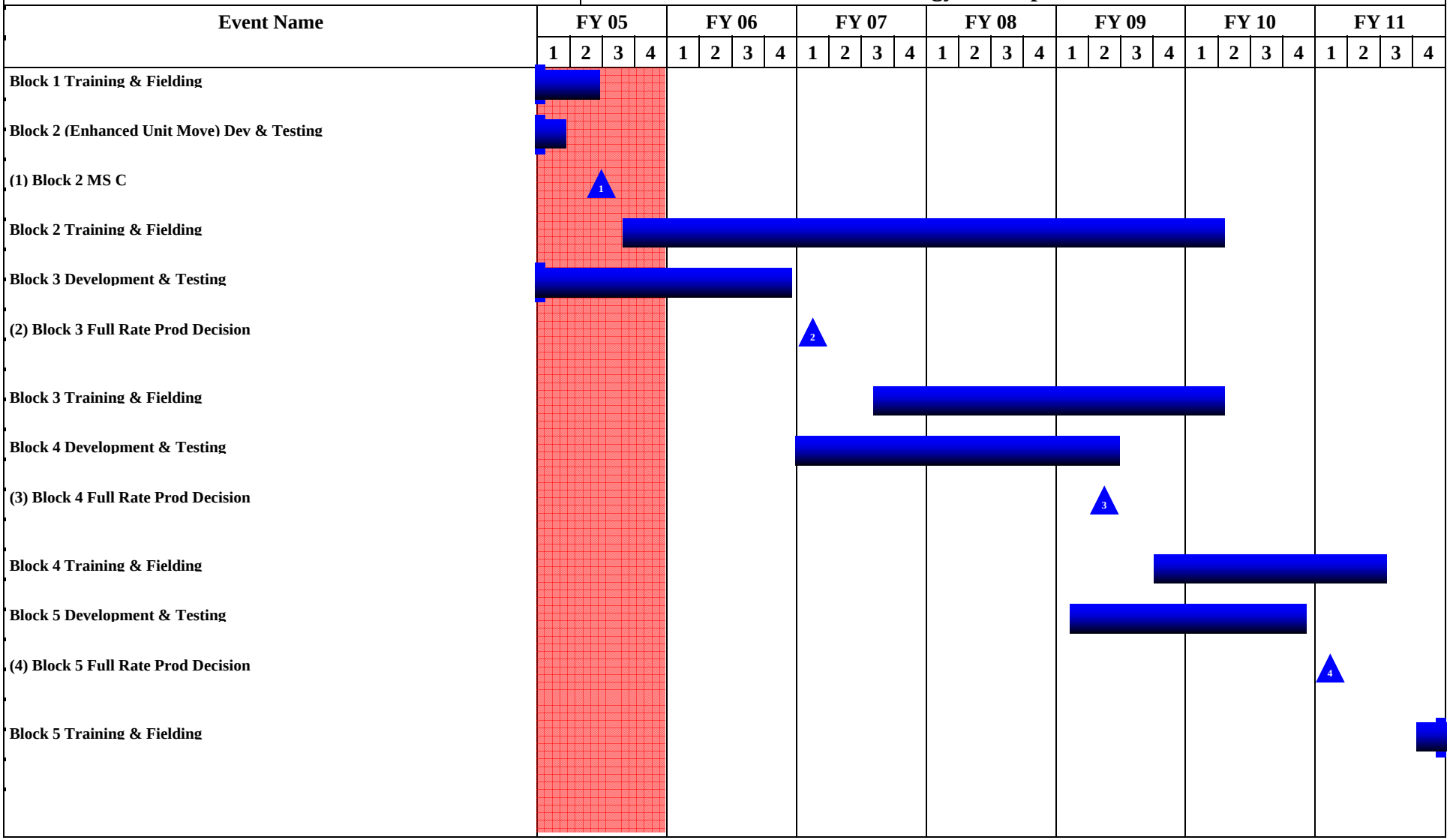
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
137



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Block 3-Reception, Staging, Onward Movement and Integration (RSO&I) Development and Testing	1-4Q	1-4Q					
Block 3 (RSO&I) Full Rate Production Decision			1Q				
Block 4 (Theater Operations) Development and Testing			1-4Q	1-4Q	1-2Q		
Block 4 (Theater Operations) Full Rate Production Decision					3Q		
Block 5- Installation Transportation Office/Traffic Management Office (ITO/TMO) Development and Test					1-4Q	1-4Q	1Q
Block 5 (ITO/TMO) Full Rate Production Decision							1-2Q

Termination Liability Funding For Major Defense Acquisition Programs, RDT&E Funding (R5)	February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**137**

Funding in $000

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total Termination Liability Funding:							

Remarks:
There is no termination liability to contractor because all products used for TC-AIMS II are purchased by the government.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**184**

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
184	INSTALLATION SUPPORT MODULES (ISM)	1880	998	1072	1098	1118	1136	1146	0	11023

A. Mission Description and Budget Item Justification: Completes the migration of the fielded Installation Support Modules (ISM) software (DOS character based) applications to a more modern graphical user interface in a web based environment. Additional functionality will be fielded in FY07. ISM is currently deployed to Army sites worldwide. ISMs are software applications that have been developed and standardized to perform business functions at the Installation or Garrison level. These modules are based upon the functional processes accomplished by the installation staff. The ISM system was recently migrated to a web environment that utilizes a single, centralized, replicated database to store data for the entire Army. The web server architecture supports a graphical user interface, web-based user access, and a consolidated infostructure in accordance with the Army Knowledge Management (AKM) Strategic Plan. This modernized system enables the Army Installation Management community to provide simple web-enabled software applications for soldier processing; ready and relevant information to the commander; while transparently integrating multiple complex processes for soldiers, commanders and top of the system managers. ISM consists of five discrete modules focusing on activities including in/out processing of soldiers, personnel locator services, soldier transition processing, management of soldier educational records, and management of organizational clothing and individual equipment. The Theater Network Operations and Security Center (TNOSC), located in Ft. Huachuca, AZ manages the ISM network, performs the Network and Systems Management (NSM) functions, provides general system configuration control, operates a 24/7 Helpdesk, provides user account management, and performs automated backups for ISM devices located at Army installations. ISM is currently being used in Kuwait

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Independent Verification and Validation (IV&V) Testing	32	50	60
Post-Deployment Software Support (PDSS) - Engineering Change Packagess (ECPs)/System Change Packages (SCPs)	240	278	327
Coalition Warfighter Interoperability Demonstration (CWID)	659	670	685
Define requirements and assess needs for a Rock Island Arsenal operations center and install force protection equipment and software	949	0	0
Total	1880	998	1072

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OMA APE: 432612/432100	11072	12352	12694	13094	12152	12460	12775	CONT	CONT
BE4162 MACOM AUTOMATION SYSTEMS	765	762	476	804	824	841	859	CONT	CONT

C. Acquisition Strategy This system is in Post Deployment Software Support (PDSS). The present concept calls for the use of full and open competition to implement enhancements as defined by the Functional Proponent, Army Chief Information Officer (CIO)/G-6.

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
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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
PDSS ECPs/SCPs/ICPs	C/FP	Systems Research & Applications, Fairfax, VA	8640	240	2Q	278	2Q	327	2Q	Continue	Continue	Continue
JWID Development - Army	MIPR	OSD	638	659	1Q	670	1Q	685	1Q	Continue	Continue	Continue
Rock Island Ops Center	C/FP	Intergraph, Huntsville, AL	0	949		0		0		0	949	0
Subtotal:			9278	1848		948		1012		Continue	Continue	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
PM Support	MIPR	AMRDEC, Redstone Arsenal, AL	0	0		0		0		0	0	0
Subtotal:			0	0		0		0		0	0	0

Remarks: AMRDEC - Aviation and Missile Research, Development and Engineering Center (US Army Aviation and Missile Command)

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
Independent Verification and Validation (IVV) Testing	C/FP	ANTEON Corp, Fairfax, VA	1548	32	1Q	50	1Q	60	1Q	Continue	Continue	Continue
Subtotal:			1548	32		50		60		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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**184**

Subtotal:	0									
Project Total Cost:	**10826**	**1880**		**998**		**1072**		**0**	**949**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
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Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ISM Hardware Fielding																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**184**

Schedule Detail	**FY 2005**	**FY 2006**	**FY 2007**	**FY 2008**	**FY 2009**	**FY 2010**	**FY 2011**
Post Deployment Software Support	1-4Q	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
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**193**

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
193	MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE	11765	8184	10644	9258	8295	7327	7563	0	75372

A. Mission Description and Budget Item Justification: The Medical Communications for Combat Casualty Care (MC4) System provides multipliers to the medical force structure through the acquisition of digital communications and information technology solutions for the deployable medical forces. The MC4 System will also fulfill the requirements highlighted in United States Code; Title 10; Subtitle A; Part II; Chapter 55; Section 1074f; mandating the proper documentation of deployed service members to include pre and post deployment screening and its associated medical surveillance. The MC4 System will also interface Force Health Protection and medical surveillance information with Army Battle Command and Combat Service Support information technology systems as they evolve to support the Army Transformation. Current MC4 Program efforts are focused on system engineering, testing and integration, and fielding automation infrastructure for Army users of the Joint Theater Medical Information Program (TMIP) suite of software. FY 2007 funding provides support system engineering, integration and developmental testing of information management/information technology to better support Force Health Protection in the Army Campaign Plan and Global War On Terrorism units as well as overall MC4 Project Management. This funding will also support the integration of the Future Force Warrior and Future Combat System.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Program Management	3422	2513	3513
Logistics Support Planning for Block I	1256	0	0
Logistics Support Planning for P3I and System Upgrades	0	493	709
Engineering and Technical Support for Block I	1269	0	0
Engineering and Technical Support for P3I and System Upgrades	1269	1538	2538
MC4 Testing for P3I and System Upgrades	2428	967	1567
MC4/TMIP Integration and Testing for P3I and System Upgrades	2121	2673	2317
Total	11765	8184	10644

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA SSN MA8046 (MC4)	34175	36335	10548	9306	3329	8882	5665	CONT	CONT
OMA APE 432612	2011	6052	6870	7789	8988	9288	9625	CONT	CONT

Comment: FY05/FY06 OPA funding includes supplemental funding to support OIF/OEF and GWOT requirements.

C. Acquisition Strategy The MC4 Program supports a number of Army Medical Information Technology/Communications initiatives. The near and mid-term focus of the MC4 program is to engineer, design, test, acquire and field the Army specific automation/communications infrastructure capabilities supporting the Joint Theater Medical Information Program (TMIP) integrated software application suite and other Army requirements. The hardware being procured is Commercial-off-the-Shelf (COTS). Since TMIP software is a major component of the MC4 System, the MC4 Program will deliver capabilities in increments, recognizing the need for future system upgrades and Preplanned Product Improvements (P3Is). The MC4 Program will continue to work with the user community to continually define and refine additional requirements and match them with available technologies to provide the user enhanced capabilities. These enhanced capabilities will be provided to the user at the earliest possible date. This approach yields the most operationally useful and supportable capability in the shortest time possible with Cost As an Independent Variable. Moreover, this approach provides an initial capability with the explicit intent of delivering improved and updated capability in subsequent upgrades and P3Is. This spiral development approach will be accomplished through a rapid prototyping process that will progress the system from its current functional capabilities to fully integrated objective capabilities. Appropriate commercial technology enhancements (e.g. advances in operating systems, voice activated technology, etc) will be incorporated into MC4 products and systems as they become available. Each MC4 System component will undergo a full range of developmental testing to include software unit testing, integration testing, interoperability testing and software qualification testing. The MC4 system upgrades and improvements will continue to undergo follow-on operational testing.

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

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
Subtotal:			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
PMO Support	C/CPFF	Anteon Inc., Fairfax, VA	0	708	3Q	538	1Q	636	1Q	Continue	Continue	Continue
PMO Support	C/CPFF	CACI Inc-Federal, Arlington, VA	1975	300	1Q	0	1Q	0	1Q	Continue	Continue	Continue
Logistics Planning	In House	PMO, Ft. Detrick, MD	979	736	1-4Q	191	1-4Q	407	1-4Q	Continue	Continue	Continue
Logistics Planning Spt	C/CPFF	Anteon Inc., Fairfax, VA	0	0	3Q	200	1Q	200	1Q	Continue	Continue	Continue
Logistics Planning Spt	C/CPFF	CACI Inc-Federal, Arlington, VA	1381	100	1Q	0	1Q	0	1Q	Continue	Continue	Continue
Engineering & Technical Spt	In House	PMO, Ft. Detrick, MD	803	533	1-4Q	473	1-4Q	575	1-4Q	Continue	Continue	Continue
Engineering & Tech Spt	C/CPFF	Titan, Reston, VA	2431	2005	1Q	1065	1Q	2065	1Q	Continue	Continue	Continue
Subtotal:			7569	4382		2467		3883		Continue	Continue	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
MC4 Integration and Testing	C/CPFF	Titan, Reston, VA	3012	1335	1Q	1659	1Q	1412	1Q	Continue	Continue	Continue
PMO Testing Spt	MIPR	ATEC/AMEDD Board	1621	200	1-4Q	100	1-4Q	100	1-4Q	Continue	Continue	Continue
MC4/TMIP System Engineering	C/CPFF	John Hopkins University (JHU) Applied Physics Lab, Laurel, MD	4672	3200	1Q	1881	1Q	2372	1Q	Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**193**

Subtotal:			9305	4735		3640		3884		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
Prog Mgmt Operations	In House	PMO, Ft Detrick, MD	3042	2648	1-4Q	2077	1-4Q	2877	1-4Q	Continue	Continue	Continue
Subtotal:			3042	2648		2077		2877		Continue	Continue	Continue

Remarks: Funding in Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc.

Project Total Cost:	**19916**	**11765**		**8184**		**10644**		**Continue**	**Continue**	**Continue**

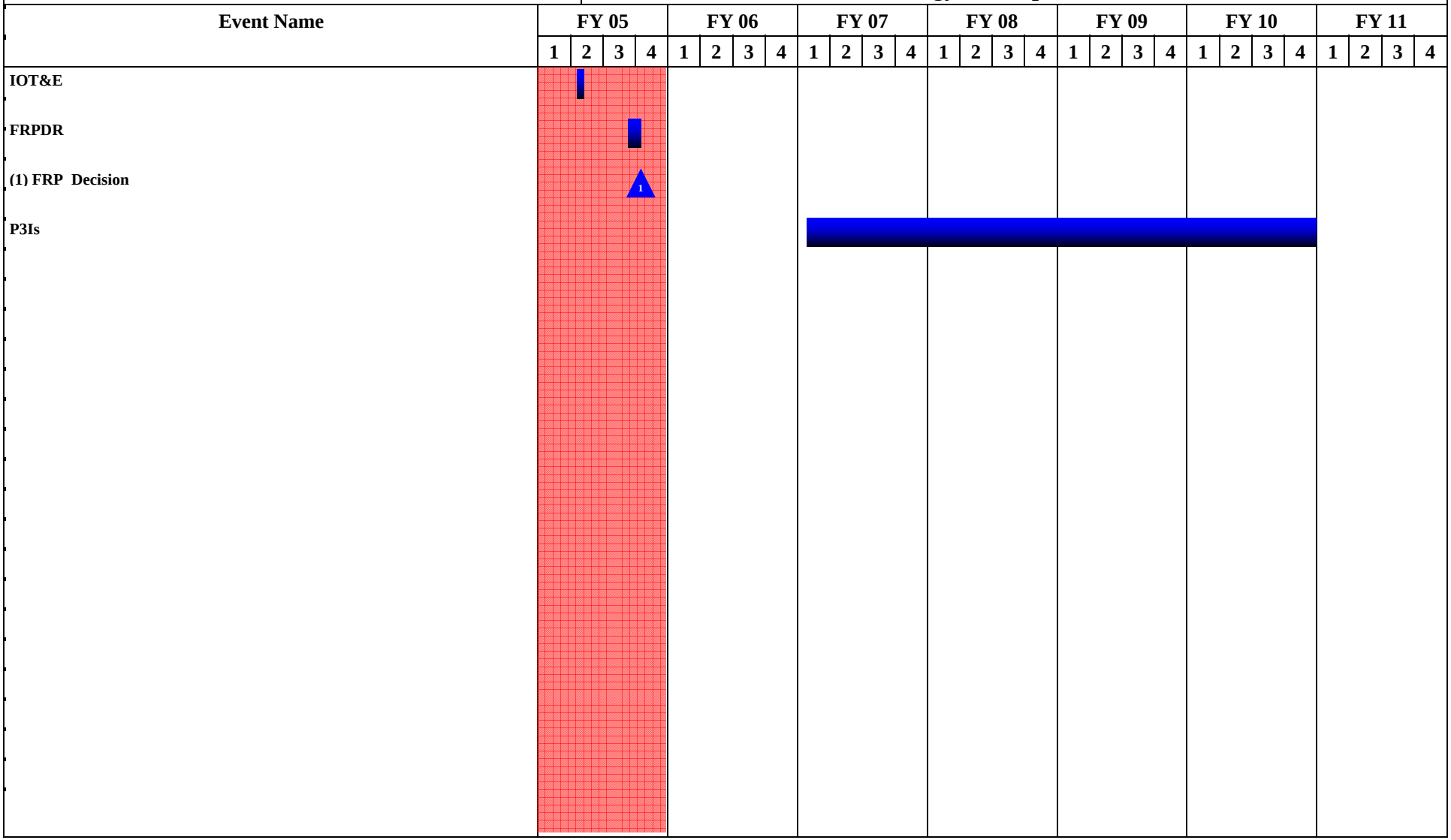
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
193



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
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Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
MC4 Block I IOT&E	2Q						
MC4 Block I Full Rate Production Decision Review (FRPDR)	4Q						
MC4 P3Is development, test, and integration			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
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**316**

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
316 STACOMP	8017	9297	14013	9566	6658	4060	4147	0	79541

A. Mission Description and Budget Item Justification: The Standard Army Management Information System (STAMIS) Tactical Computers (STACOMP) program provides acquisition, logistics, and integration support to numerous tactical logistics programs (i.e., Global Combat Support System (GCSS-Army), Tactical Logistics Data Digitization (TLDD), etc) through in-house matrix and contract support. This support includes managing the Program Executive Office (PEO) warranty program for hardware and software products; developing and managing the PEO Integrated Logistics System (ILS) program for all systems; serving as the policy advisor on related matters, and maintaining liaison with the Headquarters, Department of the Army (HQDA) Logistics Studies Steering Committee (LCSS) and other members of the Acquisition Logistics community across the Army and Department of Defense (DoD). Support also includes managing contract negotiations and legal reviews; software/hardware evaluation testing; and contractor customer support for 24 hour hotline, technical upgrades, order processing/tracking reports, and World Wide Web (WWW) site.

The Tactical Logistics Data Digitization (TLDD) program will provide Army equipment operators with rapid digital access to technical data on the battlefield, at the motor pool, and at the school house; reduce operator ordering errors; allow the right materiel to be delivered at the right place and the right time; and to provide an Integrated Parts Selection (IPS) ("point and click") capability to the operators and maintainers. TLDD software includes the Electronic Technical Manual Interface (ETM-I), Digital Log Book (DLB) and Digital Preventive Maintenance Checks and Services (DPMCS) applications. TLDD supports all deployable forces including the "Stryker Force".

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Project Office Operations	278	0	0
Continue providing sustained support in the areas of Integrated Logistics, configuration management, and test and evaluation.	536	0	0
Continue system engineering to meet the requirements for standard combat service support (CSS) automation information systems	2206	0	0
Tactical Logistics Data Digitization (TLDD) - Developed Software. Applies the systematic use of technical knowledge and programming skills to meet specific TLDD performance and functional requirements through developmental software.	1245	2997	5438
TLDD - Government Project Management. The business and administrative planning, organizing, directing, coordinating, controlling and approval actions designated to accomplish the overall TLDD program objectives during the development phase.	1251	1100	1194
TLDD - Contractor Support. System Engineering Technical Analysis contractors augment the TLDD program by supporting the accomplishment of technical, functional, and programmatic analyses and documentation. FY04 Congressional funds will cover FY05 contractor support.	0	3500	4881
TLDD - Army Test and Evaluation Command	0	0	2500
Knowledge Management System consolidating diverging armament development and sustainment knowledge bases into an integrated data environment	2501	1700	0
Total	8017	9297	14013

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**316**

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA, W00800, STACOMP (STAMIS)	6740	2000	2049	3693	3800	3803	3807	CONT	CONT
OPA, W00800, TLDD	3933	3000	4066	10787	14126	19010	19160	CONT	CONT
OMA, 432612, TLDD	986	2475	3825	5400	7200	7200	7200	CONT	CONT
OMA, 432612, TLAIS (STACOMP)	0	4599	5350	5346	5402	5402	5402	CONT	CONT

C. Acquisition Strategy The Standard Army Management Information System (STAMIS) Tactical Computer (STACOMP) supports acquisition and deployment of Program Executive Office (PEO) logistics personnel systems.

The strategy to acquire the Tactical Logistics Data Digitization (TLDD) solution will be accomplished via full and open competition through the evolutionary acquisition of time-phased requirements consisting of an initial block of capability, and some number of subsequent blocks necessary to provide the full capability required. Each block will enhance capability by building on its predecessor.

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

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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
TLDD - Developed Software	C/FFP	TBD	5827	1245	2Q	3038	1Q	5438	1Q	Continue	Continue	Continue
Knowledge System Management	C/FFP	Applied Ordnance Technology, INC, Johnstown, PA	2600	2511	2Q	1700	1Q	0		Continue	Continue	Continue
Subtotal:			8427	3756		4738		5438		Continue	Continue	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
Technical services	C/FP	Bearing Point (formerly KPMG), McLean, VA	9686	2206	2Q	0		0		Continue	8790	Continue
Logistics/Contract Support	MIPR	CECOM, Fort Monmouth, NJ	1640	536	1-4Q	0		0		Continue	1600	Continue
SCC II Support	C/FP	GTSI, Chantilly, VA	800	0		0		0		0	800	0
Software Executive Center - Belvoir	MIPR	SEC-B, Fort Belvoir, VA	911	0		0		0		0	911	0
TLDD - Technical Services	C/FFP	Titan Corporation, Colonial Heights, VA	1000	0		700	1Q	1100	1Q	Continue	Continue	Continue
TLDD - Engineering and Technical Services	C/FFP	Bearing Point (formerly KPMG), Ft. Monmouth, NJ	1600	0		1259	1-4Q	1300	1-2Q	Continue	Continue	Continue
TLDD - Engineering , Technical & Logistics Services	C/FP	CHM/TLC, Virginia Beach VA	0	0		1406	1-4Q	2500	1-2Q	Continue	0	Continue
TLDD - Engineering and Technical Services	C/FP	Pacific Northwest National Lab (PNNG), Ft. Lewis, WA	1600	0		0		0		0	1600	0
Subtotal:			17237	2742		3365		4900		Continue	Continue	Continue

ARMY RDT&E COST ANALYSIS (R3)

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BUDGET ACTIVITY
5 - System Development and Demonstration

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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
TLDD - Testing and Evaluation	MIPR	ATEC, Ft Hood, TX	1500	0		0		2500	1-2Q	Continue	Continue	Continue
Subtotal:			1500	0		0		2500		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
Project Office Operations	In House	PM, Ft. Belvoir, VA	1137	278	1-4Q	0		0		Continue	Continue	Continue
TLDD - Project Office Operations	In House	PM, Ft. Monmouth, NJ	1600	1241	1-4Q	1194	1-4Q	1175	1-4Q	Continue	Continue	Continue
Subtotal:			2737	1519		1194		1175		Continue	Continue	Continue
Project Total Cost:			**29901**	**8017**		**9297**		**14013**		**Continue**	**Continue**	**Continue**

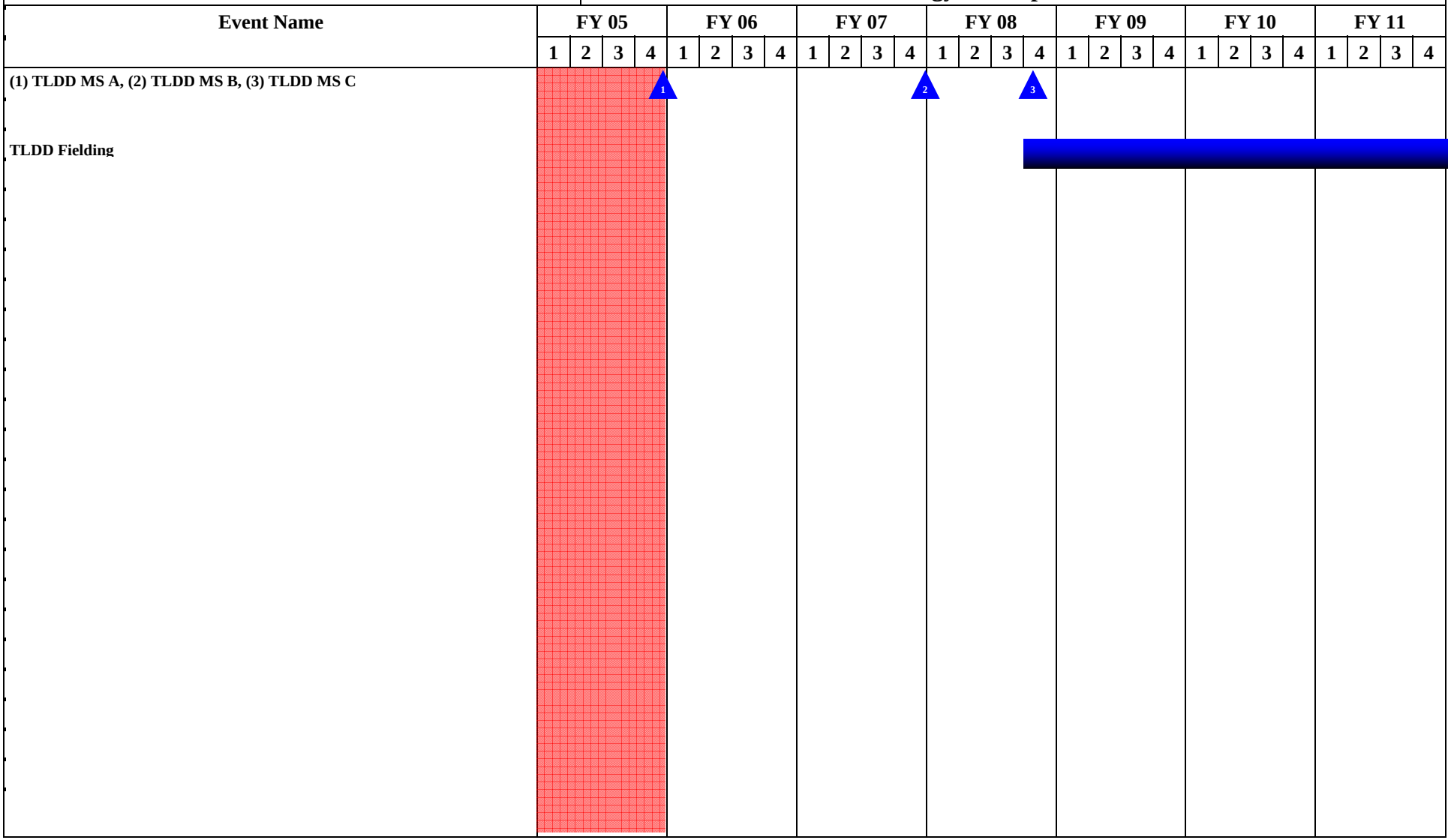
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
316



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
316

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Acquisition Support	1-4Q						
TLDD - MS A		1Q					
TLDD - MS B				1Q			
TLDD - MS C				4Q			
TLDD - Fielding				4Q	1-4Q	1-4Q	1-4Q

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**474**

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
474 ENTERPRISE TRANSMISSION SYSTEMS	4629	5400	3059	1012	1004	3045	4580	0	22729

A. Mission Description and Budget Item Justification: Combat Service Support (CSS) Automated Information System Interface (CAISI) is a high-data-rate wireless system that provides sensitive but unclassified (SBU) data and is the backbone for logistics connectivity down to each Combat Service Support (CSS) computer systems located within the tactical battlespace. The CAISI design effort focuses on integrating Commercial Off-The-Shelf (COTS) equipment from various manufacturers to create a standard deployable set of communications equipment. Current CAISI equipment is being fielded with new equipment training to logistics units Army-wide. Maintenance support is provided at a depot level with additional support at forward repair activities. Computer based training and on-line refresher training and technical support is also provided for CAISI users. A standard set of CAISI equipment currently provides network communications to up to 40 tents, vans, or shelters within a 7 x 7 kilometer area using wireless bridging between tents. CAISI design is developed from a lifecycle perspective to ensure reliability and supportability in real world conditions. Ongoing design efforts are being focused in three areas: 1) updating security accreditation for compliance with new communications security regulations, 2) improving the distance and range capabilities, 3) designing a lifecycle replacement version of CAISI scheduled for fielding starting FY 2007.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Research Test and evaluate COTS equipment to develop a new version of CAISI with improved capabilities ready to field in FY07 as a life-cycle replacement.	4629	5400	3059
Total	4629	5400	3059

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OPA, BD7000	5404	6338	0	0	0	0	0	0	11742
OPA, BD3512	0	0	9926	10089	10244	10273	10307	0	50839
OMA 463612	2596	2709	3563	3622	3684	3684	3684	0	23542

C. Acquisition Strategy Acquisition strategy will be to obtain engineering support, satellite air time as well as various hardware and software to augment and enhance CAISI capabilities. FY07 funds the development of prototypes, test and select of most promising lifecycle replacement equipment, and develops additional components for the new CAISI to fulfill unforeseen emerging regulatory requirements.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
474

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
Subtotal:			0									

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

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Test satellite links and associated equipment	C/FFP	ISEC, Ft Huachuca, AZ	0	4629	2Q	5400		3059		Continue	0	Continue
Subtotal:			0	4629		5400		3059		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
Subtotal:			0									

Project Total Cost:			**0**	**4629**		**5400**		**3059**		**0**	**0**	**0**

Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
474

Event Name	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Test and Evaluation																												

Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**474**

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Test and Evaluation	1-4Q	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
5 - System Development and Demonstration	**0605013A - Information Technology Development**	**738**

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
738 Future Business Systems (FBS)	0	13227	14293	21700	19184	10970	9254	0	88628

A. Mission Description and Budget Item Justification: Advanced Collaborative Environment (ACE), renamed Future Business Systems (FBS), will establish an integrated life cycle management environment with a common toolkit and will operate through a Net-Centric Enterprise Services (NCES) Environment. FBS will optimize the effectiveness of Acquisition Community resources throughout the Army acquisition life cycle to act as integrated service-oriented "business units" within the larger Army system acquisition process. Characteristics of the FBS environment will be common acquisition community-wide Information Technology (IT) capabilities, processes and standards; and accessible acquisition community-wide data sources. FBS will be comprised of common IT capabilities and shared data. FBS will provide an evolutionary capability to electronically and seamlessly transact the business of acquisition through secure, authorized, two-way information channels associated with well-defined Acquisition Communities-of-Interest (COI). FBS will be the system that binds the acquisition community and communities supporting war fighters system life cycle management from conception to disposal into integrated COIs and would not fundamentally replace any support communities resources. Fully deployed, FBS will reduce, and likely eliminate, the proliferation of stovepipe Acquisition Life cycle Management (ALM) systems, so that manpower, management resources and funding can be more effectively and efficiently channeled to acquisition end items and the warfighter rather than to the acquisition management process.

Accomplishments/Planned Program	FY 2005	FY 2006	FY 2007
Analysis and Design, Development and Integration of FBS. Document the As-Is Army acquisition architecture and develop a To-Be Army acquisition architecture that supports the Army's vision of a net-centric, web-based enterprise program management system or suite of capabilities.	0	7648	9492
Training (Hub, New user, Node, Documentation)	0	71	77
Application Licenses for FBS, Virtual Insight, and ASA(ALT) S&T.	0	5158	3005
Program Management	0	350	1719
Total	0	13227	14293

B. Other Program Funding Summary	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	To Compl	Total Cost
OMA APE 432612	0	10182	8577	7636	13238	11948	10587	0	62168

C. Acquisition Strategy Advanced Collaborative Environment (ACE), renamed Future Business Systems (FBS) will have an evolutionary acquisition strategy that will facilitate capabilities to electronically and seamlessly collaborate through secure, authorized two-way information channels externally with Industry, across Business Enterprise

Architecture defined Domains and within the associated Acquisition Domain Framework. FBS' acquisition strategy will make extensive use of Integrated Product Teams (IPTs) consisting of in-house matrix and contract support accomplished via performance-based acquisition procurement efforts. Program acquisition strategy employs spiral development through evolutionary acquisition. Time phasing requirements through capability blocks built on preceding blocks while ongoing to full; interoperable capability mitigates change management risk. Future Business Systems (FBS) will support the near term needs of the acquisition community while achieving the long-term goal of an integrated lifecycle management business enterprise environment. Phased implementation and incremental development will align with the War Fighter Systems Life Cycle Management Architecture. Implementation of maturing technology and commercial off-the-shelf software and Government Owned Technologies will provide the necessary flexibility for building an Information Technology environment to sustain an integrated life cycle management business environment and achieve the prescribed mandates and goals. A prescribed goal is the President Management Agenda for Budget and Performance Integration, ensuring that performance is routinely considered in funding and management decisions and that programs achieve expected results and work toward continual improvement.

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
738

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
Analysis and Design, Development , Integration and Testing	C & T&M	Northrup Grumman, McClean, VA	0	0		7223	1-4Q	7750	1-4Q	Continue	Continue	Continue
Application Licenses	SS & FP	Mythics, Virginia Beach, VA	0	0		4420	1Q	0		Continue	Continue	Continue
Application Licenses	TBD		0	0		738	3-4Q	3005	1-4Q	Continue	Continue	Continue
Subtotal:			0	0		12381		10755		Continue	Continue	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
Training Development	TBD	TBD	0	0		71	3Q	77	1Q	Continue	Continue	Continue
Subtotal:			0	0		71		77		Continue	Continue	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
Test and Evaluation	MIPRs to Various Agencies		0	0		425	2-4Q	1742	1-4Q	Continue	Continue	Continue
Subtotal:			0	0		425		1742		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

ARMY RDT&E COST ANALYSIS (R3)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

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738

Program Management Administration	TBD	TBD	0	0		350	2Q	1719	1-4Q	Continue	Continue	Continue
Subtotal:			0	0		350		1719		Continue	Continue	Continue
Project Total Cost:			**0**	**0**		**13227**		**14293**		**Continue**	**Continue**	**Continue**

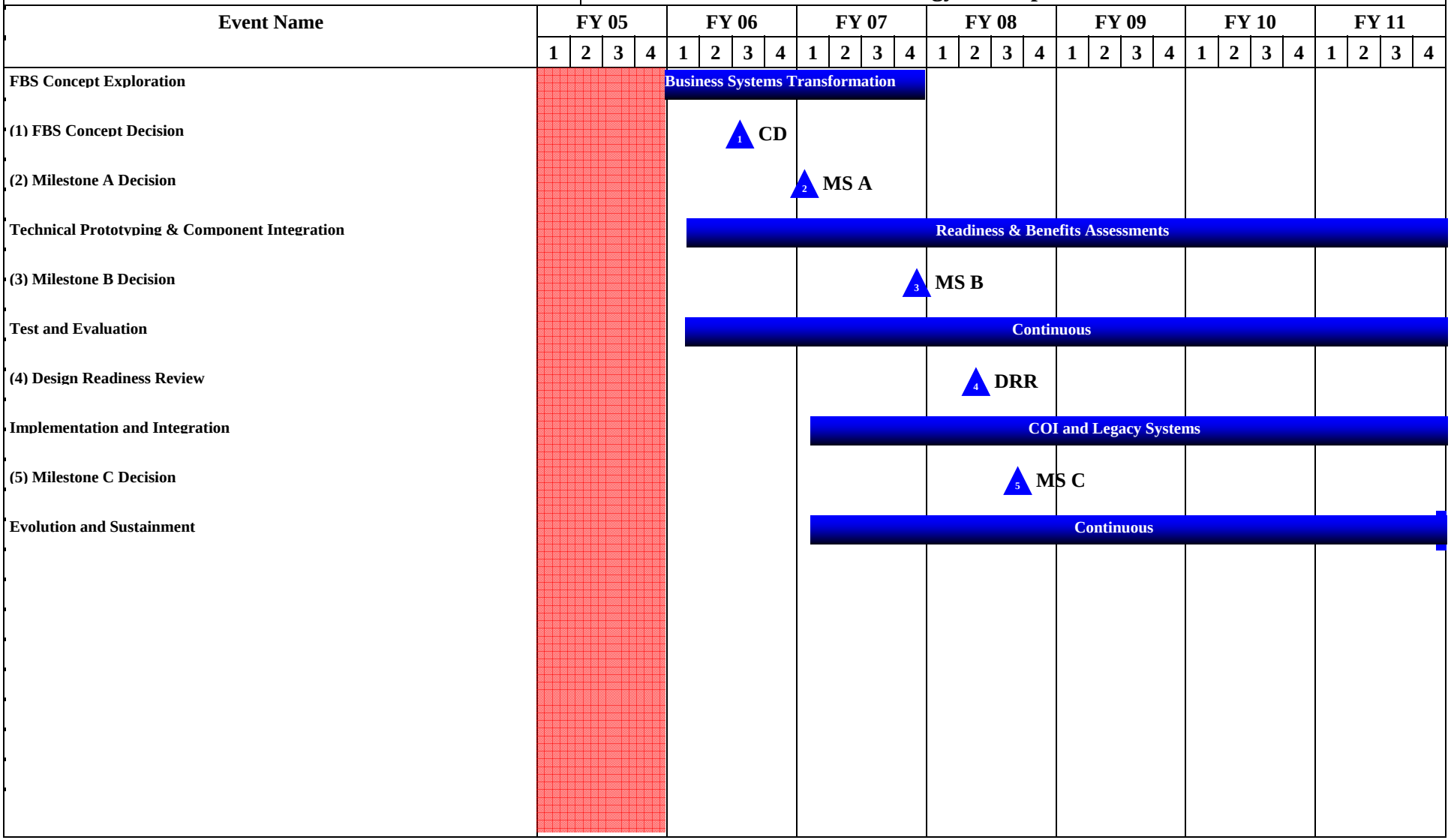
Schedule Profile (R4 Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
738



Schedule Detail (R4a Exhibit)

February 2006

BUDGET ACTIVITY
5 - System Development and Demonstration

PE NUMBER AND TITLE
0605013A - Information Technology Development

PROJECT
738

Schedule Detail	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
FBS - Concept Exploration		1-4Q	1-4Q				
FBS Concept Decision		2Q					
Milestone A Decision			1Q				
Tech Prototyping & Component Integration Readiness and Benefits Assessments		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Milestone B Decision			4Q				
Test and Evaluation		1-4Q	1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Design Readiness Review				2Q			
Implementation and Integration with Communities of Interest and Legacy Systems			1-4Q	1-4Q	1-4Q	1-4Q	1-4Q
Milestone C Decision				3Q			
Evolution and Sustainment			1-4Q	1-4Q	1-4Q	1-4Q	1-4Q