Department of Defense
Fiscal Year (FY) 2012 Budget Estimates

February 2011

Army

Justification Book Volume 4

Research, Development, Test & Evaluation, Army

Volume 4 Table of Contents

FY 2012 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 Detail) and R-5 (Termination Liability Funding for MDAPs) Exhibits, which provide narrative information on all RDT&E program elements and projects through FY 2012.

2. Relationship of the FY 2012 Budget Submitted to Congress to the FY 2011 Budget Submitted to Congress. This paragraph provides a list of program elements/projects that are major new starts, restructures, developmental transitions, newly established, terminated or for which funding existed in the FY 11 budget but no longer exists in the FY 12 budget. Explanations for these changes can be found in the narrative sections of the Program Element R-2A Exhibits.

A. New Start Programs:

PE/PROJECT	PE TITLE	PROJECT TITLE
0604115/DS3	Technology Maturation Initiatives	Technology Maturation Initiatives
0203735/DS5	Combat Vehicle Improvement Program	Armored Multi Purpose Vehicle (AMPV)
0604808/434	Close Combat Capabilities Eng Dev	Anti-Personnel Landmine Alternatives
0603820/D20	UAS Modifications/Product Imp Prg	VTOL MODS/PIP
0603807/VS7	Medical Systems Advanced Dev	MEDEVAC Mission Equipment Package
0603817/S52	Soldier Systems – Adv Dev	Soldier Support Equipment – AD
0604270/VS6	EW Development	Integrated Electronic Warfare Sys
0604818/JN1	Army Tac Comm & Cont Hardware And Software	*Joint Network Node (JNN) Testing
0604820/E10	Radar Development	Sentinel
0203726/33C	Advanced Field Artillery Tactical Data System	Improved Position Azimuth Determining System (IPADs)
0303141/VU2	Global Combat Support System	Installation Fixed Base (IFB)

*Program Re-start

B. Program Element/Project Restructures:

Old PE/Project	New Project Title	New PE/Project
0601104/J22	Network Science and Technology Research Center	0601104/H50
0602787/878	Warfighter Health Prot and Perf Stds	0602787/869
0602787/879	Warfighter Health Prot and Perf Stds	0602787/869
0603005/C66	Tractor Nail	0603130/DS8
0603006/DF7	Tractor Eggs	0603131/DS9
0603308/978	Tractor Jute	0604131/DT1
0604270/L20	Common Missile Warning System (CMWS)	0604270/VU7
	Common Infrared Counter Measure (CIRCM)	0604270/VU8
0604805/589	Army Sys Engineering & Warfighting	0604805/593
0305204/114	RQ-7 Shadow UAV	0305233/RQ7
0305204/D10	RQ-11 Raven (MIP)	0305232/RA7
0604710/L76	Dismounted Fire Support Laser Targeting System	0604710/L79
0604817/482	Ground Combat ID	0604284/VU4
0605605/E97	DOD HELSTF	0605601/F30
0605857/061	Material Sustainment Support AD	0603804/K42
0203759/122	Joint Battle Command – Platform	0604805/593
0203801/DF8	Tractor Barn	0203808/DS1
0203801/DF9	Tractor PUMA	0203808/DS2

C. Developmental Transitions:

Old PE/Project	New Project Title	New PE/PROJECT
0603804/L04	Joint Light Tactical Vehicles (JLTV) – SD	0604804/L50
0603827/S49	Ground Soldier Ensemble	0604827/S75

D. Establishment of new FY 2012 Program Elements/Projects. (Does not include any major new starts)

TITLE	PE/PROJECT
Surface Science Research	0601102/VR9
Center for Advanced Research	0601104/VS2
Expeditionary Mobile Base Camp Technology	0602786/VT4
Expeditionary Mobile Base Camp Demonstration	0603001/VT5
Tractor Nails	0603130/DS8

Tractor Eggs	0603131/DS9
*High Performance Computing Modernization Program	0603461/DS7
Tractor Jute	0604131/DT1
Soldier Protective Equipment	0603827/VS4
Combat Service Support Systems – AD	0603804/VR8
Joint Effects Targeting Systems (JETs)	0604710/L79
Combat Service Support Systems	0604804/VR7
TWV Protection Kits	0604622/VR5

*transferred from RDT&E,DW PE 0603755D8Z

E. Program Terminations.

TITLE	PE/PROJECT
Electric Gun Technology	0602618/H75
Aircraft Weapons	0603003/435
BCT Non-Line-of-Sight Launch System	0604646/F72
BCT Reconnaissance (UAV) Platforms	0604662/FC3
Close Combat Capabilities Eng Dev	0604808/016

F. Programs for which funding existed in the FY 11 budget but no longer exists in the FY 12 budget.

PE/PROJECT	TITLE	Brief Explanation
0601104/J22	Network Science & Tech Res	Restructure to 0601104/H50
0602618/H75	Electric Gun Tech	Termination
0602787/878	Hlth Haz Mil Material	Restructure to 0602787/869
0602787/879	Med Fact Enh Sold Eff	Restructure to 0602787/869
0603003/435	Aircraft Weapons	Termination
0603005/C66	DC66	Restructure to 0603130/DS8
0603006/DF7	DF7	Restructure to 0603131/DS9
0603308/978	Space Control	Restructure to 0604131/DT1
0603804/K42	Material Sustainment Support	Transition to Army Supply System
0603804/L04	Jt Light Tact Vehicle (JLTV)-AD	Transition to 0604804/L50
0603827/S49	Ground Soldier System (GSS)	Transition to 0604827/S75
0604270/L20	ATIRCM/CMWS	Restructured to 0604270/VU7 & VU8
0604609/198	Target Defeating System	Completed R&D
0604609/200	Smoke/Obscurant System	Completed R&D
0604622/659	Family of Hvy Tac Veh	Transition to production

0604642/E40	LTV Prototype	Completed R&D
0604646/F72	BCT NLOS Launch Sys	Termination
0604710/L76	Dismounted Fire Support Laser Targeting System	Restructured to 0604710/L79
0604804/L47	Improved Environmental Control Unit	Transition to production
0604805/589	Army Sys Engr & Warfighting	Restructured to 0604805/593
0604808/016	Close Combat Capabilities ED	Termination
0604817/482	Ground Combat ID	Restructured to
0605013/087	Distributed Learning System	Transition to production
0604662/FC3	BCT Reconnaissance (UAV) Platforms	Termination
0605605/E97	DOD HELSTF	Restructured to 0605601/F30
0203759/122	Jt Battle Command Platform	Restructured to 0604805/593
0203801/DF8	DF8	Restructured to 0203808/DS1
0203801/DF9	DF9	Restructured to 0203808/DS2
0305204/114	Tactical Unmanned Aerial Vehicles (MIP)	Restructured to 0305233/RQ7
0305204/D10	SUAV (MIP)	Restructured to 0305233/RA7
0305208/D15	MUSE & TES TADSS (MIP)	Completed R&D

3. **Classification:** This document contains no classified data Appropriately cleared individuals can obtain further information on Classified/Special Access Programs by contacting the Department of the Army (ASA(ALT)) Special Programs Office.

4. **Performance Metrics.** Performance metrics may be found in the Department's Performance Budget Justification Book, dated February 2012.

Department of the Army

FY 2012 RDT&E Program

President's Budget 2012/13

Summary

Exhibit R-1

10-Feb-2011

Thousands of Dollars

Summary Recap of Budget Activities	FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
Basic research	420,190	406,873	436,920	0	436,920
Applied Research	1,321,605	841,364	869,332	0	869,332
Advanced technology development	1,366,194	696,592	976,812	0	976,812
Advanced Component Development and Prototypes	982,111	804,148	753,084	0	753,084
System Development and Demonstration	4,285,025	5,035,046	4,190,788	0	4,190,788
Management support	1,487,815	1,142,383	1,048,671	8,513	1,057,184
Operational system development	1,843,989	1,553,445	1,403,837	0	1,403,837
Total RDT&E, Army	11,706,929	10,479,851	9,679,444	8,513	9,687,957

Appropriation: 2040 A RDT&E, Army

10-Feb-2011

Line No	Program Element Number	Act	Item	Thousands of Dollars FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
			Basic research					
1	0601101A	01	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	19,278	21,780	21,064		21,064
2	0601102A	01	DEFENSE RESEARCH SCIENCES	196,921	195,845	213,942		213,942
3	0601103A	01	UNIVERSITY RESEARCH INITIATIVES	96,409	91,161	80,977		80,977
4	0601104A	01	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	107,582	98,087	120,937		120,937
			Total: Basic research	420,190	406,873	436,920	0	436,920
			Applied Research					
5	0602105A	02	MATERIALS TECHNOLOGY	88,022	29,882	30,258		30,258
6	0602120A	02	SENSORS AND ELECTRONIC SURVIVABILITY	82,449	48,929	43,521		43,521
7	0602122A	02	TRACTOR HIP	13,807	14,624	14,230		14,230
8	0602211A	02	AVIATION TECHNOLOGY	44,810	43,476	44,610		44,610
9	0602270A	02	ELECTRONIC WARFARE TECHNOLOGY	23,581	17,330	15,790		15,790
10	0602303A	02	MISSILE TECHNOLOGY	69,871	49,525	50,685		50,685
11	0602307A	02	ADVANCED WEAPONS TECHNOLOGY	19,906	18,190	20,034		20,034
12	0602308A	02	ADVANCED CONCEPTS AND SIMULATION	22,070	20,582	20,933		20,933
13	0602601A	02	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	79,649	64,740	64,306		64,306
14	0602618A	02	BALLISTICS TECHNOLOGY	73,456	60,342	59,214		59,214
15	0602622A	02	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	8,706	5,324	4,877		4,877
16	0602623A	02	JOINT SERVICE SMALL ARMS PROGRAM	9,001	7,893	8,244		8,244
17	0602624A	02	WEAPONS AND MUNITIONS TECHNOLOGY	140,727	42,645	39,813		39,813
18	0602705A	02	ELECTRONICS AND ELECTRONIC DEVICES	134,946	60,859	62,962		62,962
19	0602709A	02	NIGHT VISION TECHNOLOGY	48,250	40,228	57,203		57,203
20	0602712A	02	COUNTERMINE SYSTEMS	27,892	19,118	20,280		20,280
21	0602716A	02	HUMAN FACTORS ENGINEERING TECHNOLOGY	30,395	21,042	21,801		21,801
22	0602720A	02	ENVIRONMENTAL QUALITY TECHNOLOGY	17,545	18,364	20,837		20,837
23	0602782A	02	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	31,691	25,573	26,116		26,116
24	0602783A	02	COMPUTER AND SOFTWARE TECHNOLOGY	9,896	6,768	8,591		8,591
25	0602784A	02	MILITARY ENGINEERING TECHNOLOGY	60,536	79,189	80,317		80,317

Appropriation: 2040 A RDT&E, Army

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Line No	Program Element Number	Act	Item	Thousands of Dollars FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
26	0602785A	02	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	16,358	22,198	18,946		18,946
27	0602786A	02	WARFIGHTER TECHNOLOGY	37,040	27,746	29,835		29,835
28	0602787A	02	MEDICAL TECHNOLOGY	231,001	96,797	105,929		105,929
	Total:		Applied Research	1,321,605	841,364	869,332	0	869,332
			Advanced technology development					
29	0603001A	03	WARFIGHTER ADVANCED TECHNOLOGY	51,596	37,364	52,979		52,979
30	0603002A	03	MEDICAL ADVANCED TECHNOLOGY	336,741	71,510	68,171		68,171
31	0603003A	03	AVIATION ADVANCED TECHNOLOGY	104,229	57,454	62,193		62,193
32	0603004A	03	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	92,638	64,438	77,077		77,077
33	0603005A	03	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	261,689	89,499	106,145		106,145
34	0603006A	03	COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLOGY	12,074	8,102	5,312		5,312
35	0603007A	03	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	7,220	7,921	10,298		10,298
36	0603008A	03	ELECTRONIC WARFARE ADVANCED TECHNOLOGY	55,903	50,359	57,963		57,963
37	0603009A	03	TRACTOR HIKE	10,945	8,015	8,155		8,155
38	0603015A	03	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	25,895	15,334	17,936		17,936
39	0603020A	03	TRACTOR ROSE	13,997	12,309	12,597		12,597
40	0603105A	03	MILITARY HIV RESEARCH	29,277	6,688	6,796		6,796
41	0603125A	03	COMBATING TERRORISM - TECHNOLOGY DEVELOPMENT	11,366	10,550	12,191		12,191
42	0603130A	03	TRACTOR NAIL			4,278		4,278
43	0603131A	03	TRACTOR EGGS			2,261		2,261
44	0603270A	03	ELECTRONIC WARFARE TECHNOLOGY	23,766	18,350	23,677		23,677
45	0603313A	03	MISSILE AND ROCKET ADVANCED TECHNOLOGY	83,649	84,553	90,602		90,602
46	0603322A	03	TRACTOR CAGE	11,741	9,986	10,315		10,315
47	0603461A	03	HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM			183,150		183,150
48	0603606A	03	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	35,765	26,953	31,541		31,541
49	0603607A	03	JOINT SERVICE SMALL ARMS PROGRAM	8,683	9,151	7,686		7,686
50	0603710A	03	NIGHT VISION ADVANCED TECHNOLOGY	81,157	39,912	42,414		42,414
51	0603728A	03	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	16,584	15,878	15,959		15,959
52	0603734A	03	MILITARY ENGINEERING ADVANCED TECHNOLOGY	40,423	27,393	36,516		36,516

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Line No	Program Element Number	Act	Item	Thousands of Dollars FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
53	0603772A	03	ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECHNOLOGY	50,856	24,873	30,600		30,600
	Total:		Advanced technology development	1,366,194	696,592	976,812	0	976,812
			Advanced Component Development and Prototypes					
54	0603024A	04	UNIQUE ITEM IDENTIFICATION (UID)	1,990				
55	0603305A	04	ARMY MISSLE DEFENSE SYSTEMS INTEGRATION	80,079	11,455	36,009		36,009
56	0603308A	04	ARMY SPACE SYSTEMS INTEGRATION	126,189	27,551	9,612		9,612
57	0603327A	04	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	165,515				
58	0603619A	04	LANDMINE WARFARE AND BARRIER - ADV DEV	29,399	15,596	35,383		35,383
59	0603627A	04	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	5,607	2,425	9,501		9,501
60	0603639A	04	TANK AND MEDIUM CALIBER AMMUNITION	33,202	42,183	39,693		39,693
61	0603653A	04	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	96,269	136,302	101,408		101,408
62	0603747A	04	SOLDIER SUPPORT AND SURVIVABILITY	40,392	76,456	9,747		9,747
63	0603766A	04	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM - ADV DEV	17,023	17,962	5,766		5,766
64	0603774A	04	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	8,000				
65	0603779A	04	ENVIRONMENTAL QUALITY TECHNOLOGY - DEM/VAL	20,203	4,695	4,946		4,946
66	0603782A	04	WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL	164,014	190,903	297,955		297,955
67	0603790A	04	NATO RESEARCH AND DEVELOPMENT	4,848	5,060	4,765		4,765
68	0603801A	04	AVIATION - ADV DEV	13,177	8,355	7,107		7,107
69	0603804A	04	LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV	56,153	80,490	19,509		19,509
70	0603805A	04	COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION AND ANALYSIS	9,898	14,290	5,258		5,258
71	0603807A	04	MEDICAL SYSTEMS - ADV DEV	32,851	28,132	34,997		34,997
72	0603827A	04	SOLDIER SYSTEMS - ADVANCED DEVELOPMENT	75,833	48,323	19,598		19,598
73	0603850A	04	INTEGRATED BROADCAST SERVICE	1,469	970	1,496		1,496
74	0604115A	04	TECHNOLOGY MATURATION INITIATIVES			10,181		10,181
75	0604131A	04	TRACTOR JUTE			15,609		15,609
76	0604284A	04	JOINT COOPERATIVE TARGET IDENTIFICATION - GROUND (JCTI-G) / TECHNOLOG			41,652		41,652
77	0305205A	04	ENDURANCE UAVS		93,000	42,892		42,892
	Total:		Advanced Component Development and Prototypes	982,111	804,148	753,084	0	753,084

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Line No	Program Element Number	Act	Item	Thousands of Dollars FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
			System Development and Demonstration					
78	0604201A	05	AIRCRAFT AVIONICS	76,491	89,210	144,687		144,687
79	0604220A	05	ARMED, DEPLOYABLE HELOS	61,643	72,550	166,132		166,132
80	0604270A	05	ELECTRONIC WARFARE DEVELOPMENT	168,496	177,669	101,265		101,265
81	0604280A	05	JOINT TACTICAL RADIO		784			
82	0604321A	05	ALL SOURCE ANALYSIS SYSTEM	12,562	30,674	17,412		17,412
83	0604328A	05	TRACTOR CAGE	20,564	23,194	26,577		26,577
84	0604601A	05	INFANTRY SUPPORT WEAPONS	64,930	80,337	73,728		73,728
85	0604604A	05	MEDIUM TACTICAL VEHICLES	5,460	3,710	3,961		3,961
86	0604609A	05	SMOKE, OBSCURANT AND TARGET DEFEATING SYS - ENG DEV	939	5,335			
87	0604611A	05	JAVELIN		9,999	17,340		17,340
88	0604622A	05	FAMILY OF HEAVY TACTICAL VEHICLES	8,072	3,519	5,478		5,478
89	0604633A	05	AIR TRAFFIC CONTROL	8,453	9,892	22,922		22,922
90	0604642A	05	LIGHT TACTICAL WHEELED VEHICLES	1,140	1,990			
91	0604646A	05	NON-LINE OF SIGHT LAUNCH SYSTEM	88,205	81,247			
92	0604660A	05	FCS MANNED GRD VEHICLES & COMMON GRD VEHICLE	231,103				
93	0604661A	05	FCS SYSTEMS OF SYSTEMS ENGR & PROGRAM MGMT	847,011	568,711	383,872		383,872
94	0604662A	05	FCS RECONNAISSANCE (UAV) PLATFORMS	92,444	50,304			
95	0604663A	05	FCS UNMANNED GROUND VEHICLES	122,418	249,948	143,840		143,840
96	0604664A	05	FCS UNATTENDED GROUND SENSORS	39,664	7,515	499		499
97	0604665A	05	FCS SUSTAINMENT & TRAINING R&D	685,524	610,389			
98	0604710A	05	NIGHT VISION SYSTEMS - ENG DEV	56,992	52,549	59,265		59,265
99	0604713A	05	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	2,010	2,118	2,075		2,075
100	0604715A	05	NON-SYSTEM TRAINING DEVICES - ENG DEV	29,187	27,756	30,021		30,021
101	0604716A	05	TERRAIN INFORMATION - ENG DEV			1,596		1,596
102	0604741A	05	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE - ENG DEV	32,450	34,209	83,010		83,010
103	0604742A	05	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	32,126	30,291	28,305		28,305
104	0604746A	05	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	11,737	14,041	14,375		14,375
105	0604760A	05	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - ENG DEV	15,184	15,547	15,803		15,803
106	0604778A	05	POSITIONING SYSTEMS DEVELOPMENT (SPACE)	7,275				

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Line No	Program Element Number	Act	Item	Thousands of Dollars FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
107	0604780A	05	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	25,241	27,670	22,226		22,226
108	0604802A	05	WEAPONS AND MUNITIONS - ENG DEV	99,626	24,345	13,828		13,828
109	0604804A	05	LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV	35,046	41,039	251,104		251,104
110	0604805A	05	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - ENG DEV	57,040	90,736	137,811		137,811
111	0604807A	05	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT - ENG DEV	37,572	34,474	27,160		27,160
112	0604808A	05	LANDMINE WARFARE/BARRIER - ENG DEV	89,064	95,577	87,426		87,426
113	0604814A	05	ARTILLERY MUNITIONS - EMD	40,856	26,371	42,627		42,627
114	0604817A	05	COMBAT IDENTIFICATION	7,740	29,884			
115	0604818A	05	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	72,820	60,970	123,935		123,935
116	0604820A	05	RADAR DEVELOPMENT			2,890		2,890
117	0604822A	05	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	23,712	13,576	794		794
118	0604823A	05	FIREFINDER	19,534	24,736	10,358		10,358
119	0604827A	05	SOLDIER SYSTEMS - WARRIOR DEM/VAL	20,602	20,886	48,309		48,309
120	0604854A	05	ARTILLERY SYSTEMS - EMD	152,935	53,624	120,146		120,146
121	0604869A	05	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)	570,831	467,139	406,605		406,605
122	0604870A	05	NUCLEAR ARMS CONTROL MONITORING SENSOR NETWORK	6,860	7,276	7,398		7,398
123	0605013A	05	INFORMATION TECHNOLOGY DEVELOPMENT	108,146	23,957	37,098		37,098
124	0605018A	05	ARMY INTEGRATED MILITARY HUMAN RESOURCES SYSTEM (A-IMHRS)		100,500	68,693		68,693
125	0605450A	05	JOINT AIR-TO-GROUND MISSILE (JAGM)	118,459	130,340	127,095		127,095
126	0605455A	05	SLAMRAAM		23,700	19,931		19,931
127	0605456A	05	PAC-3/MSE MISSILE		62,500	88,993		88,993
128	0605457A	05	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)		251,124	270,607		270,607
129	0605625A	05	MANNED GROUND VEHICLE	76,861	934,366	884,387		884,387
130	0605626A	05	AERIAL COMMON SENSOR		211,500	31,465		31,465
131	0303032A	05	TROJAN - RH12		3,697	3,920		3,920
132	0304270A	05	ELECTRONIC WARFARE DEVELOPMENT		21,571	13,819		13,819
	Total:		System Development and Demonstration	4,285,025	5,035,046	4,190,788	0	4,190,788
			Management support					
133	0604256A	06	THREAT SIMULATOR DEVELOPMENT	23,120	26,158	16,992		16,992

Line No	Program Element Number	Act	Item	Thousands of Dollars FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
134	0604258A	06	TARGET SYSTEMS DEVELOPMENT	13,183	8,614	11,247		11,247
135	0604759A	06	MAJOR T&E INVESTMENT	49,942	42,102	49,437		49,437
136	0605103A	06	RAND ARROYO CENTER	17,257	20,492	20,384		20,384
137	0605301A	06	ARMY KWAJALEIN ATOLL	157,391	163,788	145,606		145,606
138	0605326A	06	CONCEPTS EXPERIMENTATION PROGRAM	26,168	17,704	28,800		28,800
139	0605502A	06	SMALL BUSINESS INNOVATIVE RESEARCH	273,678				
140	0605601A	06	ARMY TEST RANGES AND FACILITIES	346,015	393,937	262,456	8,513	270,969
141	0605602A	06	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	82,054	59,040	70,227		70,227
142	0605604A	06	SURVIVABILITY/LETHALITY ANALYSIS	44,728	41,812	43,483		43,483
143	0605605A	06	DOD HIGH ENERGY LASER TEST FACILITY	7,307	4,710	18		18
144	0605606A	06	AIRCRAFT CERTIFICATION	3,745	5,055	5,630		5,630
145	0605702A	06	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	8,173	7,185	7,182		7,182
146	0605706A	06	MATERIEL SYSTEMS ANALYSIS	20,970	18,078	19,669		19,669
147	0605709A	06	EXPLOITATION OF FOREIGN ITEMS	5,403	5,460	5,445		5,445
148	0605712A	06	SUPPORT OF OPERATIONAL TESTING	78,360	68,191	68,786		68,786
149	0605716A	06	ARMY EVALUATION CENTER	63,961	61,450	63,302		63,302
150	0605718A	06	ARMY MODELING & SIM X-CMD COLLABORATION & INTEG	5,885	3,926	3,420		3,420
151	0605801A	06	PROGRAMWIDE ACTIVITIES	76,503	73,685	83,054		83,054
152	0605803A	06	TECHNICAL INFORMATION ACTIVITIES	77,926	48,309	63,872		63,872
153	0605805A	06	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	84,951	53,338	57,142		57,142
154	0605857A	06	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	4,991	3,195	4,961		4,961
155	0605898A	06	MANAGEMENT HQ - R&D	15,772	16,154	17,558		17,558
156	0909980A	06	JUDGMENT FUND REIMBURSEMENT	226				
157	0909999A	06	FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS	106				
	Total:		Management support	1,487,815	1,142,383	1,048,671	8,513	1,057,184
			Operational system development					
158	0603778A	07	MLRS PRODUCT IMPROVEMENT PROGRAM	26,624	51,619	66,641		66,641
159	0603820A	07	WEAPONS CAPABILITY MODIFICATIONS UAV			24,142		24,142
160	0102419A	07	AEROSTAT JOINT PROJECT OFFICE	317,132	372,493	344,655		344,655

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Line No	Program Element Number	Act	Item	Thousands of Dollars FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
161	0203347A	07	INTELLIGENCE SUPPORT TO CYBER (ISC) MIP		2,360			
162	0203726A	07	ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	29,127	24,622	29,546		29,546
163	0203735A	07	COMBAT VEHICLE IMPROVEMENT PROGRAMS	169,400	204,481	53,307		53,307
164	0203740A	07	MANEUVER CONTROL SYSTEM	36,131	25,540	65,002		65,002
165	0203744A	07	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS	240,321	134,999	163,205		163,205
166	0203752A	07	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	767	710	823		823
167	0203758A	07	DIGITIZATION	8,218	6,329	8,029		8,029
168	0203759A	07	FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW (FBCB2)		3,935			
169	0203801A	07	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	37,731	24,280	44,560		44,560
170	0203802A	07	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	3,979				
171	0203808A	07	TRACTOR CARD	19,249	14,870	42,554		42,554
172	0208053A	07	JOINT TACTICAL GROUND SYSTEM	13,189	12,403	27,630		27,630
173	0208058A	07	JOINT HIGH SPEED VESSEL (JHSV)	2,961	3,153	3,044		3,044
174	0301359A	07	SPECIAL ARMY PROGRAM					
175	0303028A	07	SECURITY AND INTELLIGENCE ACTIVITIES	17,348		2,854		2,854
176	0303140A	07	INFORMATION SYSTEMS SECURITY PROGRAM	61,313	118,090	61,220		61,220
177	0303141A	07	GLOBAL COMBAT SUPPORT SYSTEM	138,764	125,569	100,505		100,505
178	0303142A	07	SATCOM GROUND ENVIRONMENT (SPACE)	32,453	33,694	12,104		12,104
179	0303150A	07	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	13,683	13,024	23,937		23,937
180	0305204A	07	TACTICAL UNMANNED AERIAL VEHICLES	262,655	54,300	40,650		40,650
181	0305208A	07	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	191,253	119,202	44,198		44,198
182	0305219A	07	MQ-1 SKY WARRIOR A UAV		123,156	137,038		137,038
183	0305232A	07	RQ-11 UAV		1,599	1,938		1,938
184	0305233A	07	RQ-7 UAV		7,805	31,940		31,940
185	0307207A	07	AERIAL COMMON SENSOR (ACS)	115,432				
186	0307665A	07	BIOMETRICS ENABLED INTELLIGENCE		14,114	15,018		15,018
187	0708045A	07	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	106,259	61,098	59,297		59,297
	Total:		Operational system development	1,843,989	1,553,445	1,403,837	0	1,403,837

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

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Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
Total:	RDT&E, Army			11,706,929	10,479,851	9,679,444	8,513	9,687,957

Master Program Element Table of Contents (by Budget Activity then Line Item Number)

Budget Activity 04: Advanced Component Development & Prototypes (ACD&P)
Appropriation 2040: Research, Development, Test & Evaluation, Army

Budget Activity 04: Advanced Component Development & Prototypes (ACD&P)
Appropriation 2040: Research, Development, Test & Evaluation, Army

Master Program Element Table of Contents (Alphabetically by Program Element Title)

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Master Exhibit R-1
(Listing by Budget Activity, then Program Element Number)

BA# 04: Advanced Component Development & Prototypes (ACD&P)

				Cost ($ in Millions)				
Line#	**BA#**	**PE#**	**PE Title**	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
55	04	0603305A	Army Missle Defense Systems Integration	80.079	11.455	36.009	-	36.009
56	04	0603308A	Army Space Systems Integration	126.189	27.551	9.612	-	9.612
57	04	0603327A	Air and Missile Defense Systems Engineering	165.515	-	-	-	-
58	04	0603619A	Landmine Warfare and Barrier - Adv Dev	29.399	15.596	35.383	-	35.383
59	04	0603627A	Smoke, Obscurant and Target Defeating Sys-Adv Dev	5.607	2.425	9.501	-	9.501
60	04	0603639A	Tank and Medium Caliber Ammunition	33.202	42.183	39.693	-	39.693
61	04	0603653A	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	96.269	136.302	101.408	-	101.408
62	04	0603747A	Soldier Support and Survivability	40.392	28.456	9.747	-	9.747
63	04	0603766A	Tactical Electronic Surveillance System - Adv Dev	17.023	17.962	5.766	-	5.766
64	04	0603774A	Night Vision Systems Advanced Development	8.000	-	-	-	-
65	04	0603779A	Environmental Quality Technology - Dem/Val	20.203	4.695	4.946	-	4.946
66	04	0603782A	WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/ VAL	164.014	190.903	297.955	-	297.955
67	04	0603790A	NATO Research and Development	4.848	5.060	4.765	-	4.765
68	04	0603801A	Aviation - Adv Dev	8.203	8.355	7.107	-	7.107
69	04	0603804A	Logistics and Engineer Equipment - Adv Dev	56.153	80.490	19.509	-	19.509
70	04	0603805A	Combat Service Support Control System Evaluation and Analysis	9.898	14.290	5.258	-	5.258
71	04	0603807A	Medical Systems - Adv Dev	32.851	28.132	34.997	-	34.997

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(Listing by Budget Activity, then Program Element Number)

BA# 04: Advanced Component Development & Prototypes (ACD&P)

				Cost ($ in Millions)				
Line#	**BA#**	**PE#**	**PE Title**	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
72	04	0603827A	Soldier Systems - Advanced Development	75.833	48.323	19.598	-	19.598
73	04	0603850A	Integrated Broadcast Service	1.469	0.970	1.496	-	1.496
75	04	0604131A	TRACTOR JUTE	-	-	15.609	-	15.609
77	04	0305205A	Long Endurance Multi-Intelligence Vehicle (LEMV)	-	93.000	42.892	-	42.892
Total: Advanced Component Development & Prototypes (ACD&P)				975.147	756.148	701.251	-	701.251

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603305A: *Army Missle Defense Systems Integration*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	80.079	11.455	36.009	-	36.009	83.557	102.962	107.934	157.793	Continuing	Continuing
TR4: *MISSILE DEFENSE INTEGRATION*	60.378	-	-	-	-	-	-	-	-	Continuing	Continuing
TR5: *MISSILE DEFENSE BATTLELAB*	19.701	7.159	14.883	-	14.883	14.435	13.941	14.935	15.055	Continuing	Continuing
TR7: *Indirect Fire Protection Capability 2 - Intercept*	-	4.296	21.126	-	21.126	69.122	89.021	92.999	142.738	Continuing	Continuing

Note

Change Summary Explanation:
Funding
FY2010: Funds realigned to meet critical program requirements for TR5.
FY2012: Funds realigned ($2.700 million) to higher program priorities.

A. Mission Description and Budget Item Justification

This Program Element funds missile defense systems integration efforts for both the US Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT) and the Program Executive Office for Missiles and Space (PEO-MS).

USASMDC/ARSTRAT: Headquarters, Department of the Army General Order 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), the Army integrator for global missile defense, and the Army Service Component Command (ASCC) of the U.S. Strategic Command (USSTRATCOM). Army Regulation (AR) 10-87 Army Commands, Army Service Component Commands, and Direct Reporting Units, dated 4 September 2007 and AR 5-22 The Army Force Modernization Proponent System dated 19 August 2009 designates USASMDC/ARSTRAT as the Army specified proponent for Global Missile Defense and Space/High Altitude capabilities. As the Army proponent for space, high altitude and GMD, USASMDC/ARSTRAT is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organizations, Training, Material, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize the GMD capabilities. As the Army integrator for global missile defense, USASMDC/ARSTRAT is responsible to review programs managed by the Army, other Services, Defense agencies and National agencies to ensure that they are correctly synchronized and will ultimately provide the capabilities required by USSTRATCOM to execute its global missile defense responsibilities.

Project TR4 funds the USASMDC/ARSTRAT to execute its proponency role for Ground-Based Missile Defense, and its role as the integrator for global missile defense. In fiscal year 2011, this project will be rolled into program element 0603308A project 990 in recognition of the increasing interrelationship between space operations, exo-atmospheric ballistic missile defense and global missile defense.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603305A: *Army Missle Defense Systems Integration*

Project TR5 funds United States Army Space and Missile Command/ Army Strategic Command (USASMDC/ARSTRAT) efforts to develop, analyze and mature warfighting concepts, focus military science and technology research, and conduct warfighting experiments for Space, Missile Defense, and High Altitude. Additionally, this project funds the delivery of innovations to the warfighter through prototyping, operational analysis, and experimentation in support of current and future Forces.

Project TR7 funds the Cruise Missile Defense Systems Project Office/ Program Executive Office Missiles and Space efforts to develop Indirect Fire Protection Capability Increment 2 - Intercept capabilities required to execute the US Army's objective Counter-Rockets, Artillery, and Mortar (C-RAM) mission.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	71.788	11.455	38.712	-	38.712
Current President's Budget	80.079	11.455	36.009	-	36.009
Total Adjustments	8.291	-	-2.703	-	-2.703
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	8.291	-	-2.703	-	-2.703

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603305A: *Army Missle Defense Systems Integration*	PROJECT TR4: *MISSILE DEFENSE INTEGRATION*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
TR4: *MISSILE DEFENSE INTEGRATION*	60.378	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Headquarters, Department of the Army General Order Number 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), and the Army integrator for global missile defense. This project funds efforts associated with those roles. As the Army proponent for GMD, USASMDC/ARSTRAT is responsible to develop and validate warfighting concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize GMD capabilities. As the Army integrator for global missile defense, USASMDC/ARSTRAT is responsible to review programs managed by the Army, other Services, Defense agencies and National agencies to ensure that they are correctly synchronized and will ultimately provide the capabilities required by USSTRATCOM to execute its global missile defense responsibilities.

After FY2010, this project is rolled into PE 0603308A, project 990 in recognition of the increasing interrelationship between space operations, exo-atmospheric ballistic missile defense and global missile defense.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Missile Defense and Combat Development ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Continue combat development efforts to define DOTMLPF solutions for capabilities required to execute ground-based midcourse defense operations across the four domains of missile defense (passive defense, active defense, attack operations and battle management). Ensure that the various components of a global missile defense capability remain synchronized with USSTRATCOM's concept of operations.	1.605 0	-	-
Title: Congressional Adds ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:***	58.773 0	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603305A: *Army Missle Defense Systems Integration*	**PROJECT** TR4: *MISSILE DEFENSE INTEGRATION*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Includes FY09/FY10 Congressional Adds for Adaptive Lightweight Materials for Missile Defense, Adaptive Robotics Technology for Space, Air, and Missiles (ART-SAM), Advanced Cavitation Power Technology, Advanced Electronics Rosebud Integration, Advanced Environmental Control System, Advanced Fuel Cell Research Program, Advanced Hypersonic Weapon Technology Demonstration, Advanced Standoff Technologies for National Security, Advanced Strap Down Seeker, Alternative Power Technology (APT) for Missile Defense, Biological Air Filtering System Technology, Compact Pulsed Power Initiative, Composite Structure Design, Continuous Threat Alert Sensins System (CTASS), Deployable Space and Electronic Warfare Analysis Tools, Detection Algorithms and Software for Force Protection, Detection Mitigation and Neutralization of High Explosive, Dielectrically Enhance Sensor System (DESS), Discriminatory Imaging and Network Advancement for Missiles, Aviation, and Space, Future TOC Hardware/Software Integration, Geospatial Airship Research Platform, Heat Dissipation for Electronic Systems & Enclosures, High Detail Architecture Analysis Tool, High Speed Digital Imaging, High Temp Polymers for Missile System Applications, Micro-Systems Nanotechnology for Advanced Technology Development, On-board Hybrid Power Unit (OBHPU), Orion High Altitude Long Loiter UAV, Processing DNA Data Using Classical Discrimination Techniques, Radiation Hardening Initiative (RHI), Remote Explosive Analysis and Detection System (READS), Standoff Hazardous Agent Detection & Evaluation System, Thermal and Electrical Nanoscale Transport (TENT), and Vertical Integration for Missile Defense Surveillance Data.			
Accomplishments/Planned Programs Subtotals	60.378	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

This project employs a mix of government employees and various contractors for different aspects of the combat development process to ensure a degree of independent thought, and to encourage the use of various analytic approaches.

After FY2010, this project is rolled into PE 0603308A, project 990 in recognition of the increasing interrelationship between space operations, exo-atmospheric ballistic missile defense and global missile defense.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603305A: *Army Missle Defense Systems Integration*	PROJECT TR5: *MISSILE DEFENSE BATTLELAB*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
TR5: *MISSILE DEFENSE BATTLELAB*	19.701	7.159	14.883	-	14.883	14.435	13.941	14.935	15.055	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Project TR5 funds United States Army Space and Missile Command/ Army Strategic Command (USASMDC/ARSTRAT) efforts to develop, analyze and mature warfighting concepts, focus military science and technology research, and conduct warfighting experiments for Space, Missile Defense, and High Altitude. Additionally, this project funds the delivery of innovations to the warfighter through prototyping, operational analysis, and experimentation in support of current and future Forces. The concepts, experiments, analyses, and prototypes apply to all of the mission areas assigned to USASMDC/ARSTRAT in its role as an Army Service Component Command (ASCC) to USSTRATCOM: Missile Defense, Space, Information Operations (IO), Global Strike (GS), Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR). USASMDC/ARSTRAT continues to serve as the interim ASCC to USCYBERCOM for FY11 and FY12.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Experiments, Wargames and Prototypes	11.752	4.295	8.929
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: FY10 accomplishments included participation in numerous Integrated Capabilities Development Teams and providing concept development support for the Space Functional Needs Analysis (FNA), the Space Capabilities Integration Map (CIM) and the GMD Concept Capability Plan (CCP). Experimented with advanced prototype components of future operational- and tactical-level command and control (C2) systems to assess their impact on 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 integrating, functional and operational concepts into the Army Campaign Plan (ACP). USASMDC/ARSTRAT participated in several FY10 experiments and wargames. Efforts completed in FY10 to include Unified Quest 10, Schreiver Wargame 2010, Army Space Power Wargame II, Tactical Satellite (TacSat) 3 Joint Military Utility Assessment, High Altitude Assessment Part II, A Day Without Space, Bold Quest, Falcon Virgo, Eagle Resolve, Arctic Edge, Key Resolve, and other space and missile defense related exercises. Each of these experiments and wargames were developed to answer specific technical or operational questions. The questions and the respective answers to these various efforts were documented and reported out to specific sponsors to assist them in making Army investmentdecisions and supporting concept development.			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603305A: *Army Missle Defense Systems Integration*	PROJECT TR5: *MISSILE DEFENSE BATTLELAB*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Develop the space, missile defense and high altitude portions of Army Capstone Operational Concepts and six Functional Concepts; developed two special topic events on Army operations in a degraded space environment and Army operations in a contested cyber environment for the Unified Quest events and; conduct Army directed Organizational-Based Assessment of Missile Defense and Space Brigades. Develop and execute technical and operational demonstrations for five COCOM led Joint Concept Technology Demonstrations in the areas of space, high altitude and Integrated Air and Missile Defense (IAMD) operational capabilities; demonstrated role of future space and high altitude capabilities in Army Warfighting Experiments to support improved LANDWARNET and persistent Intelligence Surveillance and Reconnaissance. Develop and field a homeland operations Joint, Interagency, Intergovernmental, and Multinational information sharing environment (leveraging battle lab prototypes) for the National Guard Joint Headquarters that significantly improves NORTHCOM's ability to push relevant information to on scene military and civil first responders while providing clear Situational Awareness for senior decision makers; began integration with PM Battle Command, develop concept of operations for Army use of nano-Satellites and operationally responsive space systems to include support for recent launch of an Army satellite (SMDC-ONE) to validate Operationally Responsive Space concepts. Develop an Air and Missile Defense distributed planning server to support operational level homeland Air and Missile Defense planning support of ground-based air defense for Operation Noble Eagle. Support rapid integration and fielding of friendly force tracking capabilities to Afghan National Forces. As interim ARCYBER proponent stood up initial ARCYBER force development organization and transitioned to ARCYBER. Plan for the operational utility assessment of the Long Endurance Multi-Int (LEMV) system. Work with the Army Research Lab to expedite the insertion of advanced technologies into space, missile defense systems, and high altitude systems enhancing performance and reducing cost, this is an ongoing effort. ***FY 2012 Plans:*** Participate in and provide support to all Unified Quest wargames and experiments to analyze and mature warfighting concepts focus military science and technology research for integration into Army space, missile defense, and high altitude systems and operations. Additionally, experimentation support necessary to integrate space missile defense and high altitude capabilities into army systems and operational concepts will be strategically provided. The Space and Missile Defense Command will participate and support to biennial rewrites of Army Capstone, Operational and Functional Concepts. Continue to provide operational manager support to STRATCOM, NORTHCOM and SOCOM J CTDs to ensure Army space, missile defense, and high altitude equities are represented in advanced technology developments by demonstrating military utility when applied to military equipment and techniques. Examples include: supporting multi service experiments and capability development of the national-directed Phased Adaptive Approach (PAA) for BMD as it is applied to each of the regional COCOMs; and experimenting with operationally responsive space and high altitude capabilities to ensure the broader Army enterprises can			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603305A: *Army Missle Defense Systems Integration*	PROJECT TR5: *MISSILE DEFENSE BATTLELAB*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
leverage the advantages of these platforms for communications, Intelligence Surveillance and Reconnaissance (ISR), position navigation, missile warning and command and control. Continue to develop mitigation strategies for Army forces to operate effectively in contested space, missile defense and cyber environments. Developing effective Integrated Missile Defense concepts for Army support to the Phased Adaptive Approach (PAA) being implemented within each regional COCOM.			
Title: Analysis, and Models and Simulations (M&S) ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Operational Analysis/Tools, Modeling and Simulation (M&S) - Studies and Analysis accomplishments included oversight and varying degrees of participation of operational assessments of concepts, doctrine, organizations, technologies and tactics. Efforts also included examination of TacSAT III issues for space and missile defense including new doctrine for Space Superiority and Operational Analysis of High Altitude (HA) capabilities at the Tactical Level, Theater Missile Defense concepts, and Space ISR. Tools and M&S accomplishments include M&S for experimentation and operational assessments, and the maintenance of M&S tools including developing an operational representation of HA and space based capabilities into OneSAF and the development of the Joint Embedded Messaging System (JEMS) for translation and transfer of space-based information for M&S and tactical systems. ***FY 2011 Plans:*** Conduct studies and operational assessments of concepts, doctrine, organizations, technologies and tactics that impacted on major decisions at the Army staff level. Studies ensure that Army equities in Joint system development of space, missile defense, and high altitude systems and concepts. Studies that are being completed in FY11 are Terrestrial Communications Study, Space Superiority Program I Cost-benefit Analysis, Countermeasure Implication Study, Joint Capabilities Mix Phase III support. These studies have produced objective results focused on the value to the ground warfighter providing critical timely information to decision makers related to space, missile defense, and high altitude military utility, cost reduction, and concept exploration in support of Army systems and techniques. Additionally the Future Warfare Center supports experiments in various environments (synthetic, prototypes, and proof-of-principal demonstrations in field exercises to evaluate technologies and concepts in realistic operating environments. These ongoing efforts are described in the FY 2012 section shown below. ***FY 2012 Plans:***	7.949 0	2.864 0	5.954

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603305A: *Army Missle Defense Systems Integration*	PROJECT TR5: *MISSILE DEFENSE BATTLELAB*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Supports ongoing efforts that provide general military utility and cost reduction analysis of space, missile defense, and high altitude systems and techniques specifically, in terms of utility to the ground warfighter. The technology demonstrations, exercises used to help expedite technology transition from the laboratory or potential dual use commercial technologies include: Training & Doctrine Command (TRADOC) experiment support; augmenting analysis for TRADOC experiments and technology demonstrations; Nimble Fire Experiment; Global Thunder / Global Lightning Support and Air and Missile Defense Task Force analysis support. Support of technology demonstrations, Analysis and Demonstration Tools/Test Beds for evolving space superiority and operationally responsive space concepts that address emerging needs will continue and be expanded in the out years to ensure that advanced technology development can adequately address space, missile defense and high altitude doctrinal and material investments. Onsite support is provided to meet Army requirements for missile defense evaluations of advanced technology for the Joint Forces Command The FWC will continue to update EADSIM (a space, missile defense, and high altitude decision support tool utilized by over 300 Army and Joint organizations) to provide the required analysis capability to perform military utility analysis, system and cost benefit analysis, and military technique evaluations for applicable advanced technologies.			
Accomplishments/Planned Programs Subtotals	19.701	7.159	14.883

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Not applicable for this item.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603305A: *Army Missle Defense Systems Integration*	PROJECT TR7: *Indirect Fire Protection Capability 2 - Intercept*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
TR7: *Indirect Fire Protection Capability 2 - Intercept*	-	4.296	21.126	-	21.126	69.122	89.021	92.999	142.738	Continuing	Continuing
Quantity of RDT&E Articles											

Note

This project is a new start.

A. Mission Description and Budget Item Justification

This system is an integral part of the overall Air and Missile Defense (AMD) architecture and provides a robust intercept capability against rocket, artillery, and mortar threats for deployed forces. The Indirect Fire Protection Capability Increment 2 -Intercept (IFPC Inc 2-I) will become part of the Army's Integrated Air and Missile Defense (IAMD) architecture and seamlessly integrate with current Increment 0, Counter-Rockets, Artillery, and Mortar (C-RAM), and Increment 1, Enhanced Sense and Warn Capability. When implemented, IFPC Inc 2-I will provide 360 degree protection against RAM threats simultaneously attacking from multiple azimuths. IFPC Inc 2-I technologies may consist of kinetic and/or directed energy weapons, associated fire control sensors, and a technical fire control capability. The specific system concept will be determined by an Analysis of Alternatives (AoA) to be completed in FY12. Tactical Command and Control is an external interface to the IFPC Inc 2-I program and will be provided by supported forces. Technologies currently being developed under Science and Technology efforts may be used to support the Technology Development Phase of the IFPC Inc 2-I effort.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Initiate Milestone A Documentation and Analysis of Alternatives (AoA) Development ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Plans:*** Initiate Milestone A Documentation Development, define Requirements in support of Contracts Requirement Package for contract award after Milestone A. Support Analysis of Alternatives development.	-	4.296 0	-
Title: Labs/Centers ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** Support development of the Requirements baseline. Assist in the development of Milestone A documentation (i.e., Technology Development Strategy, Test and Evaluation Strategy, and Systems Engineering Plan). Support Contract Requirements Package documentation (i.e., Scope of Work, Contract Data Requirements List, and Performance Specification). Support System	-	-	16.070

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603305A: *Army Missle Defense Systems Integration*	PROJECT TR7: *Indirect Fire Protection Capability 2 - Intercept*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Requirements Review preparation. Design of the Technical Fire Control, Command Vehicle, and Launcher. Development of Interface Control Documents.			
Title: Government Product Office Support ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** Complete Milestone A documentation (i.e., Technology Development Strategy, Test and Evaluation Strategy, and Systems Engineering Plan). Standing up Government Program Office to include personnel; infrastructure; travel; Milestone A preparation; establish processes and procedures; support Analysis of Alternatives development and Contract Requirements Package (CRP) development for contract award in FY13.	-	-	5.056
Accomplishments/Planned Programs Subtotals	-	4.296	21.126

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0604820A, Proj E10: *Sentinel*			2.890		2.890		1.983	1.968	2.937	Continuing	Continuing
• SSN WK5057: *Sentinel Mods*	25.783		41.657		41.657		48.418	46.613	46.463	Continuing	Continuing
• SSN WK5053: *FAAD GBS*		91.467	7.958		7.958					Continuing	Continuing
• PE 0605457A, Proj S40: *Army Integrated Air and Missile Defense (AIAMD)*			270.607		270.607		346.341	298.869	275.651	Continuing	Continuing
• PE 0654742: *Counter-Rockets Artillery & Mortar (C-RAM)*	13.559		54.355		54.355		3.967			0.000	125.586
• PE 0603004A: *High Energy Laser Technology*	22.414		18.408		18.408		23.214	24.103	24.641	Continuing	Continuing
• PE0603313A: *Missile and Rocket Advanced Technology*	83.649		90.602		90.602		72.921	54.201	59.679	Continuing	Continuing
• Proj 206: *Missile Simulation*	3.384		3.554		3.554		3.677	3.644	3.524	Continuing	Continuing
• Proj 263: *Future Msl Tech Integr(FMTI)*	40.861		60.716		60.716		62.528	38.110	34.829	Continuing	Continuing
• Proj 550: *Counter Active Protection*	7.831		7.522		7.522		0.009	0.009	4.100	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603305A: *Army Missle Defense Systems Integration*	PROJECT TR7: *Indirect Fire Protection Capability 2 - Intercept*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• Proj 704: *Advanced Missile Demo*	7.509		8.810		8.810		6.707	12.438	17.226	Continuing	Continuing
• Proj G03: *Area Defense Advanced Technology*	1.920		10.000		10.000					0.000	19.920
• Proj NA6: *Missile and Rocket Initiatives*	22.144									0.000	22.144

D. Acquisition Strategy

Conduct a Materiel Development Decision (MDD) for the Indirect Fire Protection Capability Increment 2 - Interceptor (IFPC Inc 2-I) by third quarter FY11; Complete Analysis of Alternatives (AoA) to determine material solution approach; establish requirement baseline; initiate development of Technical Fire Control (TFC) component which is independent of material solution determined by the AoA; begin design development of Command Vehicle; complete development and approval of Contract Requirements Package (CRP); and execute Milestone A decision to authorize proceeding into the Technology Development (TD) Phase and prepare for a contract award in second quarter FY13. Design work on the TFC and Command Vehicle will begin once AoA results are known in second quarter FY12.

Anticipated system will consist of a kinetic and/or directed energy Interceptor, Fire Control Sensor, Technical Fire Control, Command Vehicle and control interfaces between major components.

Award multiple full and open competitive contracts at the beginning of the TD Phase for competing teams to develop interceptor/fire control sensor designs and key component/system prototypes which will be demonstrated in their tactical configurations for Government evaluation prior to a Preliminary Design Review and Milestone B. Final down select and Milestone B planned for FY2016. Award of Engineering and Manufacturing Development (EMD) effort to down selected contractor team will be through the execution of an option included in the TD contract.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603305A: *Army Missle Defense Systems Integration*	PROJECT TR7: *Indirect Fire Protection Capability 2 - Intercept*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FY11 Pre MDD efforts	TBD	Cruise Missile Defense Systems Project Office:TBD	-	4.296		1.056		-		1.056	Continuing	Continuing	Continuing
		Subtotal	-	4.296		1.056		-		1.056			

Remarks

Management Services in FY11 are to initiate Milestone A Documentation Development; define Requirements in support of Contract Requirements Package for contract award after Milestone A. Support Analysis of Alternatives development.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Product Office	TBD	Cruise Missile Defense Systems Project Office:Huntsville, AL	-	-		4.000		-		4.000	Continuing	Continuing	Continuing
Labs/Centers	TBD	Aviation and Missile Research, Development, Engineering Center:Huntsville, AL	-	-		16.070		-		16.070	Continuing	Continuing	Continuing
		Subtotal	-	-		20.070		-		20.070			

Remarks

Product Development costs in FY12 cover the completion of System Engineering documentation (Technology Development Strategy; Test and Evaluation Strategy; System Engineering Plan); completion of Contract Requirements Package development in preparation for Milestone A in 4QFY12 and for a prime contract award in early FY13.

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	4.296		21.126		-		21.126			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603305A: *Army Missle Defense Systems Integration*	**PROJECT** TR7: *Indirect Fire Protection Capability 2 - Intercept*

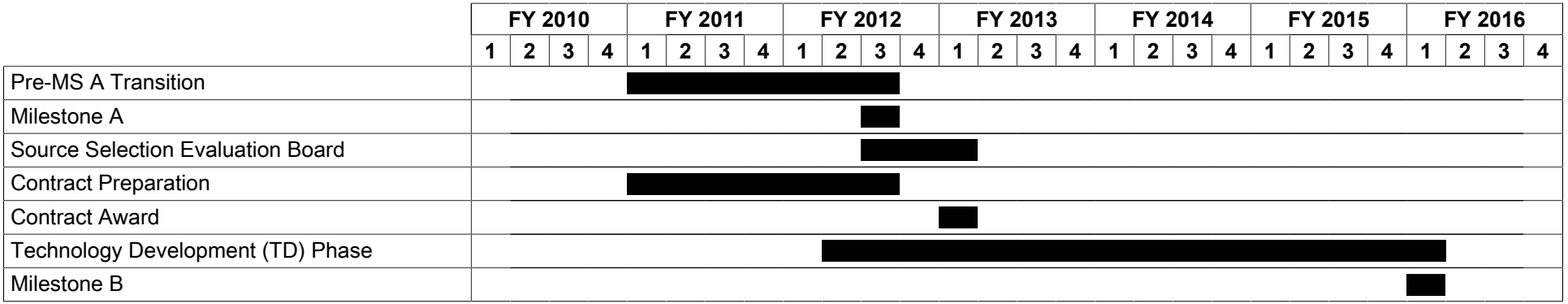

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603305A: *Army Missle Defense Systems Integration*	**PROJECT** TR7: *Indirect Fire Protection Capability 2 - Intercept*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Pre-MS A Transition	1	2011	3	2012
Milestone A	3	2012	3	2012
Source Selection Evaluation Board	3	2012	1	2013
Contract Preparation	1	2011	3	2012
Contract Award	1	2013	1	2013
Technology Development (TD) Phase	2	2012	1	2016
Milestone B	1	2016	1	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	126.189	27.551	9.612	-	9.612	23.336	17.746	17.984	11.827	Continuing	Continuing
978: *SPACE CONTROL*	96.382	11.858	-	-	-	13.168	7.107	7.229	1.389	Continuing	Continuing
990: *Space and Missile Defense Integration*	29.807	15.693	9.612	-	9.612	10.168	10.639	10.755	10.438	Continuing	Continuing

Note

FY10: Funds realighned ($4100) to High Altitude Long Endurance - Demonstrator (HALE-D)

FY12: Space Control Funding in the amount of $15,609 realigned to PE 0604131, Project DT1. ($8117) realigned to higher priority requirements.

A. Mission Description and Budget Item Justification

The program element funds space systems integration efforts performed by the US Army Space and Missile Defense Command/ Army Forces Strategic Command (USASMDC/ARSTRAT) and the Program Executive Office for Intelligence, Electronic Warfare, and Sensors (PEO IEW&S).

USASMDC/ARSTRAT: Headquarters, Department of the Army General Order Number 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), the Army integrator for global missile defense, and the Army Service Component Command of U.S. Strategic Command (USSTRATCOM). As such, USASMDC/ARSTRAT 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, Material, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize those space related capabilities. Army Regulation (AR) 10-87 Army Commands, Army Service Component Commands, and the Direct Reporting Units, dated 4 September 2007 and AR 5-22 The Army Force Modernization Proponent System dated 19 August 2009 designates USASMDC/ARSTRAT as the Army specified proponent for Global Missile Defense and Space/High Altitude Capabilities.

Project #990 funds USASMDC/ARSTRAT to mature warfighting concepts, and validate concepts, identify capabilities need to implement the validated concepts, and develop DOTMLPF solutions to realize those space and high altitude related capabilities. Also sustains Joint Friendly Force Tracking (J-FFT) Mission Management Center and its associated testbed for both operations and spiral development for 24/7 Friendly Force Tracking integration into a real-time common operating picture for Combatant Commanders, Joint Task Force Commanders and Coalition partners.

Project # 978 funds Space Control capabilities. The PEO Intelligence, Electronic Warfare, and Sensors (PEO IEW&S) is the Milestone Decision Authority for the Project 978 Space Control Materiel Development Effort. This effort is utilizing competitive prototyping to develop a forward-deployed platform to generate, receive, monitor, analyze and store satellite communications in direct support of the ground force Commander. System mobility (using government-off-the-shelf (GOTS) tactical vehicles such as the potential Joint Light Tactical Vehicle (JLTV) or Mine Resistant Ambush Protected (MRAP)) will enable the system to move to positions of geographical advantage to establish and maintain assured space data access and information superiority in support of Brigade tactical operations. As the Army Proponent for Space, the Commander, US Army Space and Missile Command/ Army Forces Strategic Command (USASMDC/ARSTRAT), stated that this Acquisition Program has a higher priority than any other space control investment.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army					DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*		R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*			
B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	118.610	27.551	33.338	-	33.338
Current President's Budget	126.189	27.551	9.612	-	9.612
Total Adjustments	7.579	-	-23.726	-	-23.726
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	4.100	-			
• SBIR/STTR Transfer	3.479	-			
• Other Adjustments 1	-	-	-23.726	-	-23.726

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*	PROJECT 978: *SPACE CONTROL*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
978: *SPACE CONTROL*	96.382	11.858	-	-	-	13.168	7.107	7.229	1.389	Continuing	Continuing
Quantity of RDT&E Articles											

Note

FY 2011-2015 funding for the Long Endurance Multi-Intelligence Vehicle (LEMV) was moved from program element (PE) 0603308A to 0305205A.

FY12-16 funding for Space Control Project 978 moved to PE 0604131, Project DT1

A. Mission Description and Budget Item Justification

Tactical Data Terminals (Space), a Program Office assigned to the PEO for Intelligence, Electronic Warfare, and Sensors (PEO IEW&S) is developing a mobile, ground-based, tactically-centric space information superiority capability to meet Joint Requirements and validated Training and Doctrine Command (TRADOC) capability gaps. The system is a forward-deployed platform to generate, receive, monitor, analyze and store satellite communications in direct support of the ground force Commander. The system is centered on a Modular and Open System Approach (MOSA) that will enhance (less time, less cost) future upgrades to meet emerging space capabilities. System mobility (using government-off-the-shelf (GOTS) tactical vehicles such as the potential Joint Light Tactical Vehicle (JLTV) or the Mine Resistant Ambush Protected (MRAP)) will enable the system to move to positions of geographical advantage to establish and maintain assured space data access and information superiority in support of Brigade tactical operations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Space Control - Technology Development	12.586	11.858	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Performed risk reduction and technology maturation of sub-system competitive prototypes to Technology Readiness Level 6. Funds were also used for Program Management Office support and Security.			
FY 2011 Plans: Perform risk reduction and technology maturation of competitive system prototypes to Technology Readiness Level 6. Complete Request for Proposal and prepare to openly compete the Engineering and Manufacturing Development Phase contract. Funds also used for Program Management Office support and Security.			
Title: LEMV Plans and Strategies	2.880	-	-
Articles:	0		

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*	PROJECT 978: *SPACE CONTROL*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** LEMV - Develop and maintain LEMV program plans and strategies. Program management for LEMV materiel development and acquisition planning, testing, and initial demonstration planning.			
Title: LEMV system architectural requirements ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** LEMV - Define LEMV system architectural requirements and coordinate with combat developer on concept of operations. Coordinate with other Services on technology development. Conduct system engineering and trade studies on viable concepts. Identify risk areas in technical performance, sustainability, cost and schedule. Develop materiel acquisition documentation to support milestone decisions and contracting actions	4.320 0	-	-
Title: LEMV risk reduction efforts ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** LEMV - Conduct risk reduction efforts that include prototyping system representative command and control sub-elements to validate critical command and control connectivity and battle management functional processes early in development to show successful demonstration. Engineering testing includes characterization and demonstration of sub-system interfaces, demonstrations/validations of sub-subsystem functional interactions, validation of technology integration and performance objectives for sub-system processors, and collection of supportability related data required for development of the integrated logistic support package. Sub-system testing will be conducted to validate technology maturity.	5.760 0	-	-
Title: LEMV Developmental/Operational testing and sustainment ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:***	70.836 0	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*	PROJECT 978: *SPACE CONTROL*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
LEMV - Award contract, design and fabricate platform, payload and ground station, conduct Preliminary Design Review and Critical Design Reviews, Developmental/Operational testing and sustainment.			
Accomplishments/Planned Programs Subtotals	96.382	11.858	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The Product entered the Technology Development (TD) Phase in 3QFY09 following a successful Material Development Decision and Milestone A. The Program Office leveraged a Small Business Set Aside Competition to award two competitive prototype contracts. The Program is managing the competitive prototype contracts and leveraging Army and Other Government Agency Science & Technology efforts to retire maximum risk (cost, schedule, and performance) prior to competing and awarding a contract in support of the Engineering and Manufacturing Development (EMD) Phase.

In FY12, the Product Office will complete Developmental Testing for the TD Phase (proving Technology is at TRL 6) and finalize documentation and entry criteria to support a subsequent Milestone B decision. Intent of the Acquisition Strategy is to capitalize on Open competition for the EMD contract with a goal of maximizing fixed price incentive firm (FPIF) contracts for post Milestone B efforts and firm-fixed-pricing (FFP) for production.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*	PROJECT 978: *SPACE CONTROL*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Space Control - Program and Security Management	Various	Program Management and Security Oversight:AL	4.071	2.176		-		-		-	Continuing	Continuing	Continuing
Space Control - Security Facilities Upgrade	TBD	Various:Various	0.362	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	4.433	2.176		-		-		-			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Space Control - Systems and technical architectures	Various	Various:Varous	0.378	-		-		-		-	Continuing	Continuing	Continuing
Space Control - Concept Development and Engineering Trade Studies	Various	Various:Various	3.674	-		-		-		-	Continuing	Continuing	Continuing
Space Control - Perform sub-system risk reduction, testing, and validation	C/CPIF	2 X Competitive Prototypes:CO, FL, PA	0.951	0.326		-		-		-	Continuing	Continuing	Continuing
Space Control - Perform design, Development and sub-system integration	C/CPIF	Competitive Prototypes:CO, FL, PA	9.529	4.421		-		-		-	Continuing	Continuing	Continuing
LEMV - Systems and technical architectures	C/CPIF	Various:Various	4.320	-		-		-		-	Continuing	Continuing	Continuing
LEMV - Concept development and engineering trade studies	C/CPIF	Various:Various	2.880	-		-		-		-	Continuing	Continuing	Continuing
LEMV - Sub-system risk reduction, testing, and validation	C/CPIF	Various:Various	5.760	-		-		-		-	Continuing	Continuing	Continuing
LEMV - Design, development, and sub-system integration	C/CPIF	Various:Various	56.394	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	83.886	4.747		-		-		-			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*	PROJECT 978: *SPACE CONTROL*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Space Control - Government support and support contracts	C/FFPLOE	Program Management Office Functions:AL, CO	2.748	3.957		-		-		-	Continuing	Continuing	Continuing
LEMV - Government support and support contracts	C/FFPLOE	Various:Various	8.000	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	10.748	3.957		-		-		-			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Space Control - Test & Evaluation Support	Various	Developmental and Operational Testing:Various	2.903	0.978		-		-		-	Continuing	Continuing	Continuing
		Subtotal	2.903	0.978		-		-		-			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	101.970	11.858		-		-		-			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*	PROJECT 978: *SPACE CONTROL*

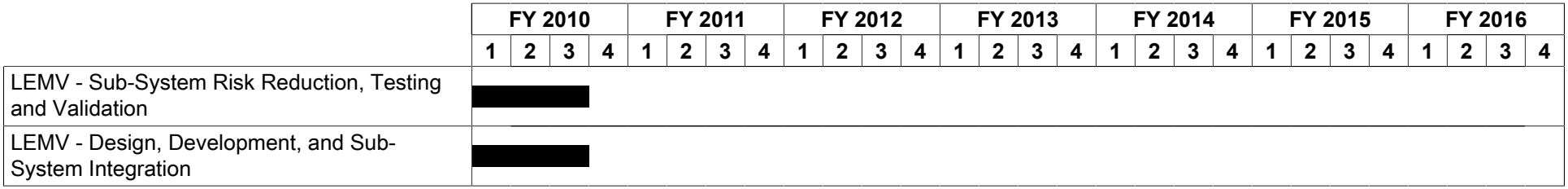

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603308A: *Army Space Systems Integration*	**PROJECT** 978: *SPACE CONTROL*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
LEMV - Sub-System Risk Reduction, Testing and Validation	1	2010	3	2010
LEMV - Design, Development, and Sub-System Integration	1	2010	3	2010

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*	PROJECT 990: *Space and Missile Defense Integration*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
990: *Space and Missile Defense Integration*	29.807	15.693	9.612	-	9.612	10.168	10.639	10.755	10.438	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Project 990 funds United States Army Space and Missile Command/ Army Strategic Command (USASMDC/ARSTRAT) efforts to develop, analyze and mature warfighting concepts, focus military science and technology research, and conduct warfighting experiments for space and high altitude capabilities. The program also funds development and integration of new data sources and data services into the Joint Friendly Force Tracking Mission Management Center. . USASMDC/ ARSTRAT is the proponent for space / high altitude capabilities and is responsible for determining and integrating Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel and Facilities (DOTMLPF) for the Army.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Concept Development, Wargames and Demonstrations	7.518	15.693	4.240
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Supported the JCIDS process providing solutions that consider innovations involving doctrine, organization, training, materiel, leadership and education, personnel and facilities (DOTMLPF). Evaluated capability gaps in the context of strategic direction for the total US military force and influence the direction of space, missile defense, high altitude, and cyber requirements earlier in the acquisition process. Planed, developed, and executed concepts and DOTMLPF solutions for Army exploitation of space systems, space control capabilities, ballistic missile defense and high altitude systems. Represented Army positions and defend Army equities relative to Joint/DoD and inter-Service activities; e.g., National Security Space Architect (NSSA) Program Assessments, etc. Develop space modernization strategies and sponsor exploration of future space, high altitude, and missile defense warfighting concepts			
FY 2011 Plans: Participate in updates to Army Capstone, Operational and Functional Concepts involving Army systems and operations. Participate and provide support to all Unified Quest wargames and experiments to ensure that Space and High Altitude capabilities are correctly represented, and those issues with the Army?s use of these capabilities are explored.			
FY 2012 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*	PROJECT 990: *Space and Missile Defense Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Continue to plan, develop, and execute concepts and combat development solutions for Army integration of space systems, space control capabilities, missile defense and high altitude systems. 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. Participate and provide support to all Unified Quest and other wargames and experiments to ensure that space and high altitude capabilities gaps are identified and capabilities are correctly represented, so that the Army?s use of these capabilities are explored. Develop space modernization strategies and sponsor exploration of future space, high altitude, and missile defense warfighting concepts.			
Title: Congressional Adds ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Includes FY09/FY10 Congressional Adds for Advanced Power Technologies for Nano-Satellites, Army Responsive Tactical Space, Geospatial Airship Research Platform (GARP), High Altitude Airship, High Altitude Integration Testbed, High Altitude Shuttle System for Battlespace Coverage, High Fidelity Imaging System, HiSentinel Stratospheric Airship, Low Cost Interceptor, Missile Attack Early Warning System, Multipurpose Nanosat Missile System, Nanocomposite Enhanced Radar and Aerospace Materials, Positron for Capture and Storage, Positron Sensors and Energy Applications, Small Agile Satellites, and Tactical Overwatch High Altitude System.	11.699 0	-	-
Title: High Altitude Long Endurance Demonstrator (HALE-D) ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** High Altitude Long Endurance Demonstrator (HALE-D)	4.100 0	-	-
Title: Space and High Altitude System Integration and Experimentation ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Completed Capability Description Document for Space Superiority.	2.292 0	-	1.732

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*	PROJECT 990: *Space and Missile Defense Integration*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Experimented at the request of USSTRATCOM with the use of Very Small Aperture Terminals for space superiority applications. Integrated Space Operations System software capabilities into Defense Common Ground Station-Army (DCGS-A) platforms. Completed prototype Army Space Knowledge Management System. Continued development of the Joint Space Tactical Planning applications. Developed architecture and ground station prototypes, and experimented with use of residual satellite communications capability using a satellite launched into the wrong orbit. Planned for and participated in the operational utility assessment of the Long Endurance Multi-Int (LEMV) system. Completed Capability Description Document for Persistent Platforms. ***FY 2012 Plans:*** Continue experimentation in support of operational responsive space. Complete migration of Space Operations System capabilities to both classified and unclassified DCGS-A variants.			
Title: Joint Friendly Force Tracking (J-FFT) Testbed ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Sustained J-FFT Testbed, which integrates new techniques, data sources and data services into the J-FFT Mission Management Center (MMC). The MMC injects real-time FFT information into the Common Operating Picture for COCOMs, JTFs and Coalition partners. Supported development of FFT capabilities for Afghan National Forces. ***FY 2012 Plans:*** Provide J-FFT support to the J-FFT MMC integrating new technical and procedure capabilities for the operational system.	4.198 0	-	3.640
Accomplishments/Planned Programs Subtotals	29.807	15.693	9.612

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Not applicable for this effort.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603308A: *Army Space Systems Integration*	PROJECT 990: *Space and Missile Defense Integration*

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603327A: *Air and Missile Defense Systems Engineering*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	165.515	-	-	-	-	-	-	-	-	Continuing	Continuing
S25: *ARMY SIAP OPERATIONAL INTEGRATION*	0.796	-	-	-	-	-	-	-	-	Continuing	Continuing
S34: *AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION*	164.719	-	-	-	-	-	-	-	-	Continuing	Continuing

Note

On 23 December 2009 the Army Integrated Air & Missile Defense (AIAMD) program was approved for entry into the Engineering and Manufacturing Development phase as ACAT ID program. The approved program baseline represents a substantially lower risk approach from the initial program and resulted in a FY 2016 Initial Operational Capability (IOC). As a result of certification required by section 2366b of title 10, United States Code, the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) waived three certification elements (Affordability, Full Funding, and Preliminary Design Review (PDR) Completion) for the Army IAMD program. Details on these waivers are provided in the Program Element (PE) Note for PE 0605457A.

A. Mission Description and Budget Item Justification

This system is an integral part of the overall Air and Missile Defense (AMD) architecture and will provide for an incrementally fielded Integrated Air and Missile Defense Fire Control System/capability for the Army Air and Missile Defense Battalions. This program element provides funding for the integration of Army Integrated Air and Missile Defense (AIAMD). On 9 February 2006 the Army Systems Acquisition Review Council (ASARC) designated the IAMD program a Pre-Major Defense Acquisition Program (MDAP) and approved the stand-up of the IAMD Project Office (PO). Program Executive Office Missiles and Space (PEO MS) formally stood up the IAMD PO on 9 May 2006. On 23 December 2009 the Army Integrated Air & Missile Defense (AIAMD) program was approved for entry into the Engineering and Manufacturing Development phase as ACAT ID program.

The mission of the AIAMD PO is twofold; To define, develop, acquire, field and sustain the Army's portion of the Joint IAMD system of systems capability to be deployed as integrated components in Army, Joint, interagency, and multi-national net-centric architectures; and to develop, acquire, field and sustain the AIAMD common battle command component of the architecture (replacing seven weapon system unique Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) components in an AMD Battalion) and integrate externally developed sensors and shooters to provide an effective AIAMD capability. The Capability Development Document (CDD) was JROC approved on 17 May 2010 via JROCM 073-10. The AIAMD mission is derived from analysis of the Joint Air and Missile Defense (AMD) imperatives and the four mission sets that Army AMD performs. These mission sets are: Provide Air and Missile Defense, Contribute to AMD Situational Awareness/Situational Understanding, Contribute to Airspace Management, and Integrate/contribute to operational protection. The AIAMD PO is responsible for the development of an AIAMD Architecture comprised of components developed within the Project Office as well as by other PEO MS Project Offices (Phased Array Tracking to Intercept of Target (PATRIOT), Improved Sentinel, and Joint Land Attack Cruise Missile Defense Elevated Netted Sensor Systems (JLENS)), PEO Command, Control and Communications - Tactical (C3T) Project Offices (Air and Missile Defense Command and Control Systems (AMDCCS)), Missile Defense Agency (MDA), and Joint organizations. As part of this responsibility, the AIAMD PO has responsibility for performing the overarching AIAMD System of Systems

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603327A: *Air and Missile Defense Systems Engineering*

Architecture Systems Engineering. While the AIAMD Architecture is complex, it is itself part of a larger Joint System of Systems architecture. The AIAMD program provides the Army's part of this larger Joint IAMD Architecture.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	166.061	-	-	-	-
Current President's Budget	165.515	-	-	-	-
Total Adjustments	-0.546	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-0.546	-			
• SBIR/STTR Transfer	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603327A: *Air and Missile Defense Systems Engineering*	PROJECT S25: *ARMY SIAP OPERATIONAL INTEGRATION*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S25: *ARMY SIAP OPERATIONAL INTEGRATION*	0.796	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This effort is focused on analysis and research of information sharing and critical technologies to satisfy Department of Defense and Department of Homeland Security force protection requirements. Specific tasks will focus on software database search and correlation techniques, information technology assessment of software program capabilities, research of advanced visualization concepts, research assessments of Commercial Off The Shelf (COTS) and evolving technologies, requirements versus capabilities research, and advanced sensor developments to support force protection.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Congressional Add	0.796	-	-
Articles:	0		
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Congressional Add for the Center for Defense Systems Research.			
Accomplishments/Planned Programs Subtotals	0.796	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603327A: *Air and Missile Defense Systems Engineering*	PROJECT S25: *ARMY SIAP OPERATIONAL INTEGRATION*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Center for Defense Systems Research	TBD	Various:Various	38.257	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	38.257	-		-		-		-			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government support & support contracts	MIPR	OGAs, Inhouse, Contact spt.:Various	16.226	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	16.226	-		-		-		-			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	54.483	-		-		-		-			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603327A: *Air and Missile Defense Systems Engineering*	PROJECT S34: *AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S34: *AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION*	164.719	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

On 23 December 2009 the Army Integrated Air & Missile Defense (AIAMD) program was approved for entry into the Engineering and Manufacturing Development phase as ACAT ID program. The approved program baseline represents a substantially lower risk approach from the initial program and resulted in a FY 2016 Initial Operational Capability (IOC). As a result of certification required by section 2366b of title 10, United States Code, the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) waived three certification elements (Affordability, Full Funding, and Preliminary Design Review (PDR) Completion) for the Army IAMD program. Details on these waivers are provided in the Program Element (PE) Note for PE 0605457A.

A. Mission Description and Budget Item Justification

This system is an integral part of the overall Air and Missile Defense (AMD) architecture and will provide for an incrementally fielded Integrated Air and Missile Defense Fire Control System/capability for the Army Air and Missile Defense Battalions. Funding in this project provides for the overarching Army Integrated Air and Missile Defense (AIAMD) Architecture and Army IAMD Battle Command System (IBCS) components necessary to produce an AIAMD capability. The AIAMD Program represents a shift from a traditional system-centric weapon systems acquisition to a component-based acquisition. This component-based acquisition will provide the most efficient way to acquire and integrate the components of the incremental AIAMD architecture. Unlike traditional acquisition programs that focus primarily on the development of a single system or platform, the AIAMD Program is structured to enable the development of an overarching system-of-systems capability with participating Air and Missile Defense (AMD) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD Program achieves this objective by establishing the incremental AIAMD architecture and developing the following products: the IBCS, the Integrated Fire Control (IFC) Network, and the Plug & Fight (P&F) Interface kits. The IBCS provides common Army IAMD Battle Command System (IBCS) Engagement Operations Center (EOC) that replaces seven weapon system unique Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) components in an AMD Battalion. The IFC Network provides fire control connectivity and enabling distributed operations. The P&F Interface kit enables the multiple sensor and weapon components for netted operations. AIAMD has been designated as the Army's Pathfinder for the development of a Joint Track Management Capability (JTMC).

As part of the new DoD 5000.02 initiative for competitive prototyping, the AIAMD program awarded two competitive contracts to teams lead by Northrop Grumman and Raytheon for the development of the Army IAMD Battle Command System (IBCS) in September 2008. During FY 2009, the two competing contractors developed prototypes of their respective designs and conducted an initial Preliminary Design Review (PDR). Competitive proposals were then submitted for the Engineering and Manufacturing Development (EMD) Phase of the program in May 2009. The down select to one contractor occurred after the Milestone B decision in December 2009. The FY 2010 funding represents the first full year of the EMD Phase of the program. During this phase, the IBCS contractor will be furthering their design efforts with respect to the command post, the common side of the Plug and Fight Kit, and the IFC Network. AIAMD funding also incorporates A-Kit contract actions by the

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603327A: *Air and Missile Defense Systems Engineering*	PROJECT S34: *AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION*

AIAMD PO for the development of the unique side of the Plug & Fight Kit which enables the weapons and sensors to be placed on the IFC Network for the contributing acquisition programs (Phased Array Tracking to Intercept of Target (PATRIOT), Improved Sentinel, and Joint Land Attack Cruise Missile Defense Elevated Netted Sensor Systems (JLENS)). An IBCS delta Preliminary Design Review (PDR) was conducted 29 July 2010, the contributing programs delta PDRs were conducted 20 October 2010 through 3 November 2010, and the AIAMD Delta PDR meeting was conducted on 16 November 2010.

The Army IAMD Project S34 funding for FY 2011 and beyond was moved to Budget Activity 5 (PE 0605457A, Project Code S40) for the Engineering and Manufacturing Development phase of program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Product Development ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Product Development for EOC, the common and unique side of the Plug and Fight kits, and the Integrated Fire Control Network. Provides for an IBCS delta PDR, contributing programs delta PDRs and the AIAMD delta PDR.	137.487 0	-	-
Title: Support Cost ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** AIAMD Support Cost	13.122 0	-	-
Title: Test and Evaluation ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Provides for Modeling & Simulation, Joint Interoperability Test Support , Army Evaluation Center/Developmental Test Command/ Operational Test Command support and White Sands Missile Range Test Support	14.110 0	-	-
Accomplishments/Planned Programs Subtotals	164.719	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603327A: *Air and Missile Defense Systems Engineering*	PROJECT S34: *AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0604869A, Project M06: *PE 0604869A, Project M06, PATRIOT/ MEADS Combined Aggregate Program (CAP)*	570.831	467.139	406.605		406.605					Continuing	Continuing
• PE 0605456A, Project PA3: *PE 0605456A, Project PA3, PAC-3/ MSE Missile*		62.500	88.993		88.993		68.938	63.468	64.215	Continuing	Continuing
• SSN C53101: *SSN C53101, MSE Missile*			74.953		74.953		532.540	487.049	560.099	Continuing	Continuing
• SSN C53201: *SSN C53201, PATRIOT/MEADS GSE*											
• PE 0102419A: *PE 0102419A, Proj E55, JLENS*	317.132	372.493	344.655		344.655		58.124	19.717	19.726	Continuing	Continuing
• SSN BZ0525: *SSN BZ0525, JLENS Production*							501.459	454.966	416.888	Continuing	Continuing
• PE 0604802A, Project S23: *PE 0604802A, Project S23, SLAMRAAM*	56.441									Continuing	Continuing
• PE 0605450A, Project S35: *PE 0605450A, Project S35, SLAMRAAM*		23.700	19.931		19.931					Continuing	Continuing
• SSN C81002: *SSN C81002, SLAMRAAM Launcher*		116.732								Continuing	Continuing
• PE 0605457A, Project S40: *PE 0605457A, Project S40, Army Integrated Air and Missile Defense (AIAMD)*		251.124	270.607		270.607		346.341	298.869	275.651	Continuing	Continuing
• BZ5075: *BZ5075, Army IAMD Battle Command System (IBCS)*							23.587	100.560	256.855	Continuing	Continuing
			2.890		2.890		1.983	1.968	2.937	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603327A: *Air and Missile Defense Systems Engineering*	PROJECT S34: *AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0604820A, Proj E10: *PE 0604820A, Proj E10, SENTINEL*											

D. Acquisition Strategy

The Army Integrated Air and Missile Defense (AIAMD) Program will employ an evolutionary acquisition strategy consisting of multiple capability increments leading to an Increment 2 capability in FY 2016. The AIAMD Program carried two competitive prototyping developmental contractors through an initial Preliminary Design Review (PDR) with a down select after Milestone B (MS B) in December 2009 to conduct the EMD phase.

Each AIAMD capability increment follows the AIAMD Capability Development Document (CDD), JROC approved on 17 May 2010 via JROCM 073-10, and is defined as:
- Increment 1 is a User-executed capability increment focused on realignment of current force systems into an AMD Battalion (BN) organizational construct. (not part of the materiel development program)
- Increment 2 provides the first increment of an integrated materiel solution, and is the initial acquisition program to develop the threshold AIAMD capability

The AIAMD incremental development approach provides the opportunity for technology insertions into the program throughout each increment as high-payoff technologies mature and are ready for integration. This enables an orderly and cost-effective migration from the current system-centric architecture to the AIAMD architecture.

Key principles of the AIAMD acquisition approach are the following:
- Migrate from system-based acquisition to component-based acquisition
- Use system-of-systems acquisition approach with collaboration among AIAMD, PEO MS, PEO C3T, and Brigade Combat Team (BCT) Modernization Component Project Offices, Missile Defense Agency (MDA), and other Service Project Offices to network enable weapons and sensor components
- Develop and procure common Army IAMD Battle Command System (IBCS) Engagement Operations Center (EOC) that replaces seven weapon system unique Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) components
- Establish product lines used to evaluate and select, modify and integrate modular open systems Hardware (HW) and Software (SW) common configuration items
- Conduct architecture-based System Engineering, Integration and Test (SEI&T) activities for an incremental fielded configuration of the AIAMD Integrated Fire Control (IFC) Network-compatible IBCS EOC, weapons and sensor system components

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603327A: *Air and Missile Defense Systems Engineering*	PROJECT S34: *AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government System Engineering & Program Management (SEPM)	TBD	Multiple OGAs, Inhouse and Contractor:Huntsville, AL	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	-	-		-		-		-			0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Space and Missile Defense (ASMD) System of Systems (SOS) Hardware-in-the-Loop Testing	C/CPFF	Multiple OGA's, Inhouse and Contractor:Huntsville, AL and various other locations	9.912	-		-		-		-	Continuing	Continuing	0.000
IAMD System Engineering & Integration	C/CPFF	Contractor:Huntsville, AL	-	-		-		-		-	Continuing	Continuing	0.000
IBCS Concept Development	C/CPFF	Contractor:Huntsville, AL and various other locations	-	-		-		-		-	0.000	0.000	0.000
IBCS Engineering Manufacturing and Development	C/CPIF	Contractor:Huntsville, AL and various other locations	-	-		-		-		-	Continuing	Continuing	0.000
Government Furnished Equipment	MIPR	Multiple:Huntsville, AL	-	-		-		-		-	Continuing	Continuing	0.000
US Army Aviation and Missile Research Development and Engineering Center (AMRDEC)	MIPR	AMRDEC:Huntsville, AL	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	9.912	-		-		-		-			0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603327A: *Air and Missile Defense Systems Engineering*	PROJECT S34: *AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
White Sands Missile Range (WSMR)	MIPR	WSMR:White Sands, NM	-	-		-		-		-	Continuing	Continuing	0.000
Army Evaluation Center/ Developmental Test Command/Operational Test Command	MIPR	Various:Various locations	-	-		-		-		-	Continuing	Continuing	0.000
Modeling & Sim/Joint Interoperability Test Spt	TBD	SED:Huntsville, AL	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	-	-		-		-		-			0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9.912	-		-		-		-			0.000

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603619A: *Landmine Warfare and Barrier - Adv Dev*						
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	29.399	15.596	35.383	-	35.383	22.114	26.067	29.219	26.504	Continuing	Continuing
606: *CNTRMN/BARRIER ADV DEV*	29.399	15.596	35.383	-	35.383	22.114	26.067	29.219	26.504	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element provides for advanced development of all landmine and counter landmine technologies. It also covers other close combat systems to include demolitions, grenades and pyrotechnics. Currently only one project line is funded: Project 606 - Countermine/Barrier Advanced Development. It provides for component development of new countermine systems for neutralizing, clearing, and detection concepts that will enhance the effectiveness of the Route Clearance Family of Systems Capabilities Development Document.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	17.445	15.596	19.293	-	19.293
Current President's Budget	29.399	15.596	35.383	-	35.383
Total Adjustments	11.954	-	16.090	-	16.090
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	12.551	-			
• SBIR/STTR Transfer	-0.597	-			
• Adjustments to Budget Years	-	-	16.090	-	16.090

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603619A: *Landmine Warfare and Barrier - Adv Dev*	PROJECT 606: *CNTRMN/BARRIER ADV DEV*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
606: *CNTRMN/BARRIER ADV DEV*	29.399	15.596	35.383	-	35.383	22.114	26.067	29.219	26.504	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project provides for component development of new explosive hazard (countermine and counter Improvised Explosive Device (IED)) systems for neutralizing, clearing, and detection capabilities that will enhance the effectiveness of the Route Clearance Platoon within both the Engineer Company, and the Brigade Combat Team. Two of these programs are planned for FY2012; they are the Autonomous Mine Detection System (AMDS) and the Husky Mounted Detection System (HMDS). AMDS provides stand-off detection for the dismounted soldier. AMDS consist of three payloads for a robotic platform. The payloads are for surface laid and buried threat detection and marking, explosive hazards trace detection and marking, and neutralization. Additional technologies are planned to transition from on-going Advance Technology Objectives (ATOs) efforts in FY2012 and beyond. The HMDS will transition advanced technologies from the Army's S&T program into development to further enhance vehicle mounted explosive hazard detection capabilities. This project provides for component development and program transition from JUONS requirement to Army Acquisition Program. HMDS provides state of the art detection of surface laid and shallow buried explosive hazards, deep buried cache detection, and semi-autonomous operation in support of route clearance missions. HMDS is a mission equipment package mounted on HUSKY route clearance vehicles.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Build and test AMDS Brassboards (2)	29.399	9.572	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: FY10: Build and test AMDS Brassboards (2).			
FY 2011 Plans: FY11: Build and test AMDS Brassboards (2).			
Title: AMDS Brassboard Testing	-	3.628	-
Articles:		0	
Description: AMDS Brassboard Testing			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603619A: *Landmine Warfare and Barrier - Adv Dev*	PROJECT 606: *CNTRMN/BARRIER ADV DEV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY11: AMDS Brassboard Testing.			
Title: AMDS Mission Package Design and Development ***Description:*** AMDS Mission Package Design and Development ***FY 2012 Plans:*** FY12: AMDS Mission Package Design and Development	-	-	29.854
Title: AMDS Platform Integration ***Description:*** AMDS Platform Integration ***FY 2012 Plans:*** FY12: AMDS Platform Integration	-	-	3.829
Title: AMDS Tech Demo, Operational Assessment and Test Report ***Description:*** AMDS Tech Demo, Operational Assessment and Test Report ***FY 2012 Plans:*** FY12: AMDS Tech Demo, Operational Assessment and Test Report	-	-	1.200
Title: AMDS MS C Review Preparation ***Description:*** AMDS MS C Review Preparation ***FY 2012 Plans:*** AMDS MS C Review Preparation	-	-	0.500
Title: HMDS Material Development Decision and MS C Preparation ***Articles:*** ***Description:*** HMDS Material Development Decision and MS C Preparation ***FY 2011 Plans:*** HMDS Material Development Decision and MS C Preparation	- 	2.396 0	-
Accomplishments/Planned Programs Subtotals	29.399	15.596	35.383

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603619A: *Landmine Warfare and Barrier - Adv Dev*	**PROJECT** 606: *CNTRMN/BARRIER ADV DEV*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 654808/D415: *Mine Neutralization and Detection*	31.952	36.272	78.446		78.446		32.527	23.542	45.081	Continuing	Continuing

D. Acquisition Strategy

Autonomous Mine Detection System (AMDS) - The AMDS is currently in a risk reduction effort that started in FY2008 and will be completed in FY2012. Future technical development effort will occur leading to a transition from Concept Development (6.4) to Engineering Manufacturing Development (6.5).
HMDS - The acquisition strategy for HMDS supports a competitive effort. System maturity will be extremely high after combat fielding and real world mission accomplishment. Program should rapidly transition to MS C production in FY 2014.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603619A: *Landmine Warfare and Barrier - Adv Dev*	PROJECT 606: *CNTRMN/BARRIER ADV DEV*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	PM Close Combat Systems:Picatinny, NJ/ Ft Belvoir, VA	1.740	1.500		2.800		-		2.800	Continuing	Continuing	Continuing
Program Management Contractor Support	MIPR	FALCON:Fairfax, VA	1.100	0.285		0.800		-		0.800	Continuing	Continuing	Continuing
Program Management Contractor	MIPR	Millenium:Arlington, VA	0.693	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	3.533	1.785		3.600		-		3.600			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMDS Tech Dev	TBD	To Be Selected:To Be Selected	12.667	5.915		16.304		-		16.304	Continuing	Continuing	Continuing
AMDS - BAAs	Various	Various:Various	4.552	-		-		-		-	Continuing	Continuing	Continuing
AMDS Other Component Development	Various	Various:Various	2.371	-		11.550		-		11.550	Continuing	Continuing	Continuing
		Subtotal	19.590	5.915		27.854		-		27.854			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMDS	MIPR	Various:Various	8.625	5.040		3.229		-		3.229	Continuing	Continuing	Continuing
Husky Mounted Detection System	MIPR	Various:Various	-	2.356		-		-		-	2.356	4.712	2.356
		Subtotal	8.625	7.396		3.229		-		3.229			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603619A: *Landmine Warfare and Barrier - Adv Dev*	PROJECT 606: *CNTRMN/BARRIER ADV DEV*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AMDS	MIPR	Various:Various	0.020	0.500		0.700		-		0.700	Continuing	Continuing	Continuing
		Subtotal	0.020	0.500		0.700		-		0.700			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	31.768	15.596		35.383		-		35.383			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603619A: *Landmine Warfare and Barrier - Adv Dev*	PROJECT 606: *CNTRMN/BARRIER ADV DEV*

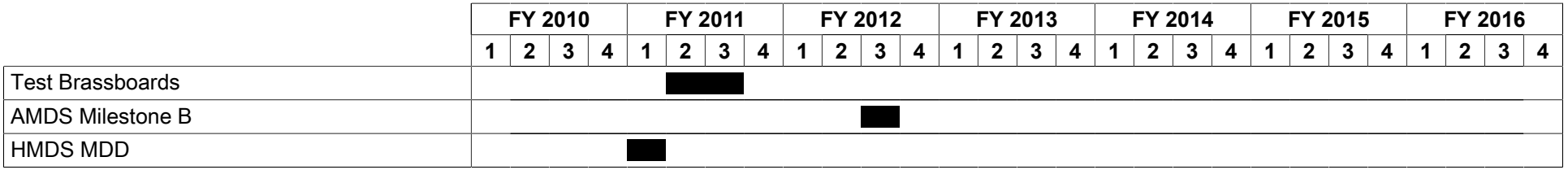

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603619A: *Landmine Warfare and Barrier - Adv Dev*	**PROJECT** 606: *CNTRMN/BARRIER ADV DEV*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Test Brassboards	2	2011	3	2011
AMDS Milestone B	3	2012	3	2012
HMDS MDD	1	2011	1	2011

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	5.607	2.425	9.501	-	9.501	4.589	3.828	-	-	0.000	25.950
E79: *SMOKE/OBSCURANT SYSTEM*	5.607	2.425	9.501	-	9.501	4.589	3.828	-	-	0.000	25.950

Note

Change Summary Explanation: Funding - FY 10: Funds realigned to higher priority Army programs.

A. Mission Description and Budget Item Justification

Project supports Screening Obscuration Module (SOM), Projected and Generated Obscuration System (PGOC), and Screening Obscuration Devices (SOD) efforts in the development and improvement of an array of obscurant agents, smoke grenade munitions, and devices to improve survivability of the combined armed forces, support extended range capability, complement combined weapon systems, and enhance force effectiveness and combat power. This program element supports critical management studies and analyses that are conducted on a continuing basis to ensure that Technology Development efforts are targeted against the emerging threat. US 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 using generated and launched smoke systems.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	4.894	2.425	4.436	-	4.436
Current President's Budget	5.607	2.425	9.501	-	9.501
Total Adjustments	0.713	-	5.065	-	5.065
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	0.713	-	5.065	-	5.065

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	PROJECT E79: *SMOKE/OBSCURANT SYSTEM*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
E79: *SMOKE/OBSCURANT SYSTEM*	5.607	2.425	9.501	-	9.501	4.589	3.828	-	-	0.000	25.950
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Project supports Screening Obscuration Module (SOM), Projected and Generated Obscuration System (PGOC), and Screening Obscuration Devices (SOD) efforts in the development and improvement of an array of obscurant agents, smoke grenade munitions, and devices to improve survivability of the combined armed forces, support extended range capability, complement combined weapon systems, and enhance force effectiveness and combat power. SOM is a small smoke generator that degrades the visual through near infrared portion of the Electro-Magnetic Spectrum. PGOC will integrate an obscuration generator and grenade launcher(s) onto an unmanned platform to provide the capability of obscuring the Visual/IR spectrum. SOD-Visual-Restricted is a handheld bursting grenade, similar in size to the fielded smoke hand grenades. It creates a nearly instantaneous cloud, when the fuze initiates a burster that ruptures the grenade body disbursing the obscurant.

This program element supports critical management studies and analyses that are conducted on a continuing basis to ensure that Technology Development efforts are targeted against the emerging threat. US 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 using generated and launched smoke systems.

FY2010 and FY2011 funds to be executed in line with acquisition strategy. PGOC Milestone A approved 2Q FY2011. Milestone B scheduled for 4Q FY2012.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Engineering, Modeling and Environmental Studies for SOD and SOM systems.	0.937	0.450	0.450
Articles:	0	0	
Description: Engineering, Modeling and Environmental Studies for SOD and SOM systems. ***FY 2010 Accomplishments:*** Engineering, Modeling and Environmental Studies for SOD and SOM systems. ***FY 2011 Plans:*** Engineering, Modeling and Environmental Studies for SOD and SOM systems. ***FY 2012 Plans:*** Engineering, Modeling and Environmental Studies for SOM systems.			
Title: Engineering, Modeling and Environmental Studies for PGOC systems.	-	-	0.200

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	PROJECT E79: *SMOKE/OBSCURANT SYSTEM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012
Description: Engineering, Modeling and Environmental Studies for PGOC systems. ***FY 2012 Plans:*** Engineering, Modeling and Environmental Studies for PGOC systems.				
Title: SOM Development.		2.972	1.575	3.013
	Articles:	0	0	
Description: SOM Development. ***FY 2010 Accomplishments:*** SOM Development. ***FY 2011 Plans:*** SOM Development. ***FY 2012 Plans:*** SOM Development.				
Title: Test and Evaluation of SOD and SOM systems.		0.985	0.400	1.602
	Articles:	0	0	
Description: Test and Evaluation of SOD and SOM systems. ***FY 2010 Accomplishments:*** Test and Evaluation of SOD and SOM systems. ***FY 2011 Plans:*** Test and Evaluation of SOD and SOM systems. ***FY 2012 Plans:*** Test and Evaluation of SOM systems.				
Title: PGOC Development		-	-	2.636
Description: Funding is provided for the following effort ***FY 2012 Plans:***				

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	PROJECT E79: *SMOKE/OBSCURANT SYSTEM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
PGOC Prototype Technology Development.			
Title: Test and Evaluation of PGOC systems. ***Articles:*** ***Description:*** Test and Evaluation of PGOC systems. ***FY 2010 Accomplishments:*** Test and Evaluation of PGOC systems. ***FY 2012 Plans:*** Test and Evaluation of PGOC systems.	0.713 0	-	1.600
Accomplishments/Planned Programs Subtotals	5.607	2.425	9.501

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDT&E, BA5, PE 0604609A: *Project 200 Smoke, Obscurant and Target Defeating Sys - Eng Dev*	0.973	2.910								0.000	3.883
• BA5, PE 0604609A,: *Project 198 Smoke, Obscurant and Target Defeating Sys - Eng Dev*		2.425								0.000	2.425

D. Acquisition Strategy

Acquisition Strategy: Development of SOD, PGOC and SOM systems to include design, construction, modeling and testing of prototypes.

SOD acquisition strategy follows an evolutionary strategy with two increments. The first increment, SOD-Visual-restricted, provides visual only screening in a restricted environment, such as the inside of a building. The second increment, SOD-Bi-Spectral, will provide visual through far-infrared screening in all environments.

PGOC acquisition strategy follows an evolutionary strategy with two increments. The first increment will integrate an obscuration generator and grenade launcher(s) onto an unmanned platform to provide the capability of obscuring the Visual/IR spectrum. The second increment will add the capability of obscuring the Millimeter Wave (MMW) spectrum to the obscuration generator. PGOC Milestone A was approved 2Q FY2011. PGOC Milestone B is scheduled for 4Q FY2012. PGOC Milestone C is scheduled for 4Q FY2014.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	PROJECT E79: *SMOKE/OBSCURANT SYSTEM*

SOM acquisition strategy is to develop a small smoke generator that degrades the visual through near infrared portion of the Electro-Magnetic Spectrum. SOM Milestone B is scheduled for 4Q FY2012. SOM Milestone C is scheduled for 4Q FY2015.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	PROJECT E79: *SMOKE/OBSCURANT SYSTEM*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Personnel	Various	JPM:NBCCA	0.690	0.387		0.600		-		0.600	Continuing	Continuing	Continuing
		Subtotal	0.690	0.387		0.600		-		0.600			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOM Hardware Development	TBD	TBD:TBD	-	1.188		3.013		-		3.013	Continuing	Continuing	Continuing
Hardware Development (SOD)	TBD	Various OGAs:Various	0.915	-		-		-		-	Continuing	Continuing	Continuing
Hardware Development (SOM)	TBD	TBD:TBD	1.259	-		-		-		-	Continuing	Continuing	Continuing
Hardware Development (PGOC)	TBD	TBD:TBD	-	-		2.336		-		2.336	0.000	2.336	0.000
		Subtotal	2.174	1.188		5.349		-		5.349			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
M&S Development/ Environmental Tox Studies	TBD	Various OGAs:Various	0.065	0.150		0.450		-		0.450	Continuing	Continuing	Continuing
Engineering Studies	TBD	Edgewood Chemical Biological Center:Edgewood, Md	0.304	0.300		0.200		-		0.200	Continuing	Continuing	Continuing
		Subtotal	0.369	0.450		0.650		-		0.650			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	PROJECT E79: *SMOKE/OBSCURANT SYSTEM*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOD Test & Evaluation	Various	OGA Various:Various	0.252	-		-		-		-	Continuing	Continuing	Continuing
SOM Test & Evaluation	Various	OGA Various:Various	0.236	0.400		1.602		-		1.602	Continuing	Continuing	Continuing
PGOC Test & Evaluation	Various	Various OGAs:Various	-	-		1.300		-		1.300	0.000	1.300	0.000
		Subtotal	0.488	0.400		2.902		-		2.902			

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3.721	2.425		9.501		-		9.501			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	**PROJECT** E79: *SMOKE/OBSCURANT SYSTEM*

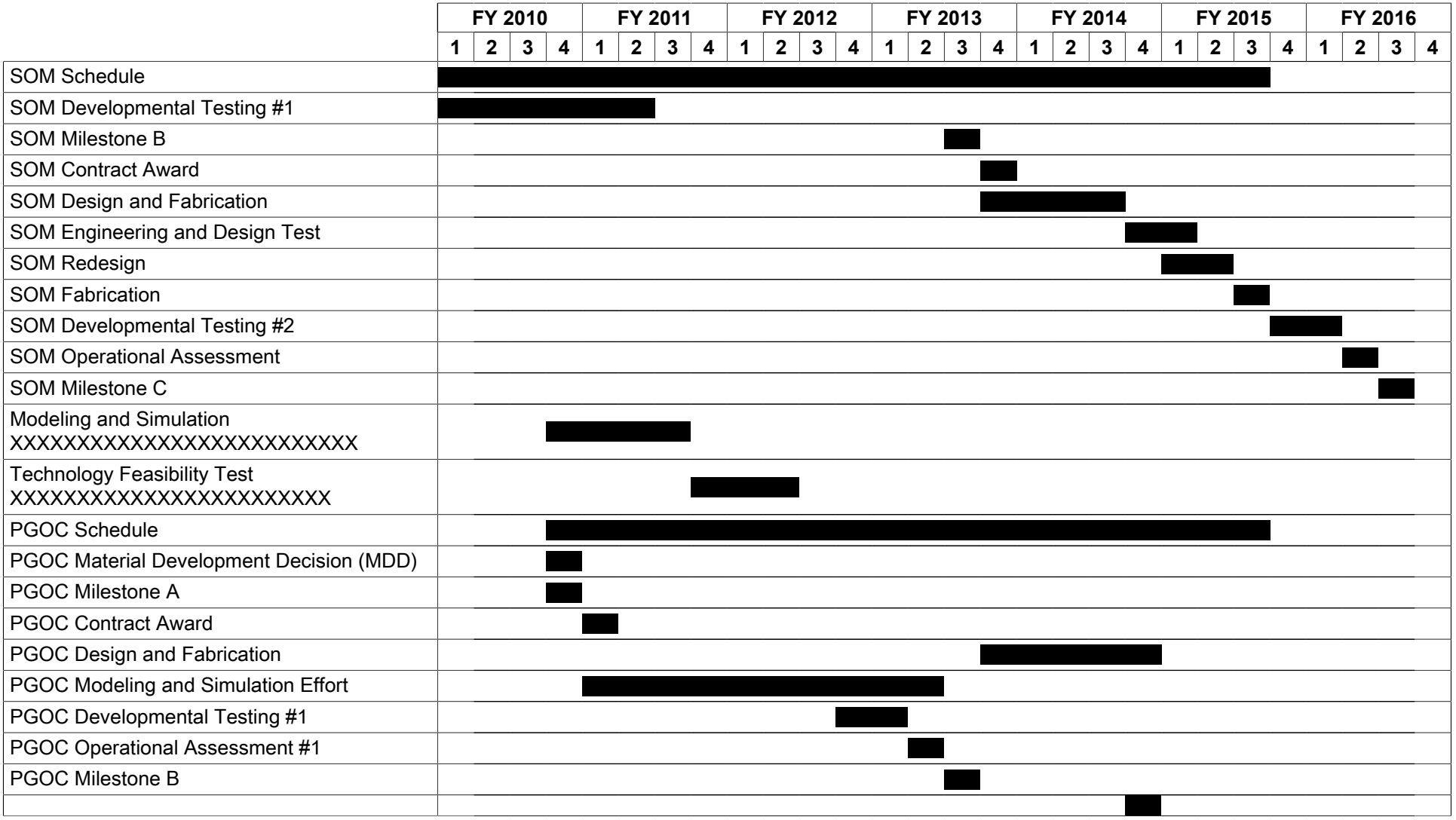

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	**PROJECT** E79: *SMOKE/OBSCURANT SYSTEM*

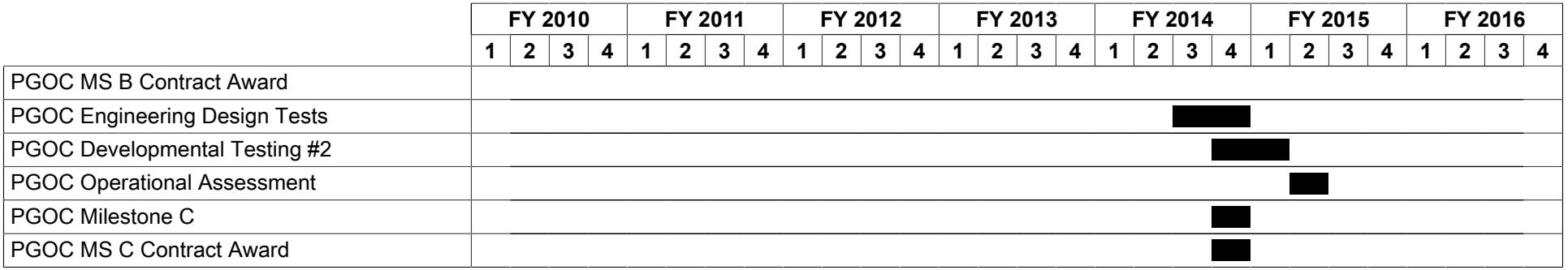

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	**PROJECT** E79: *SMOKE/OBSCURANT SYSTEM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SOM Schedule	1	2010	3	2015
SOM Developmental Testing #1	1	2010	2	2011
SOM Milestone B	3	2013	3	2013
SOM Contract Award	4	2013	4	2013
SOM Design and Fabrication	4	2013	3	2014
SOM Engineering and Design Test	4	2014	1	2015
SOM Redesign	1	2015	2	2015
SOM Fabrication	3	2015	3	2015
SOM Developmental Testing #2	4	2015	1	2016
SOM Operational Assessment	2	2016	2	2016
SOM Milestone C	3	2016	3	2016
Modeling and Simulation XXXXXXXXXXXXXXXXXXXXXXXXX	4	2010	3	2011
Technology Feasibility Test XXXXXXXXXXXXXXXXXXXXXXX	4	2011	2	2012
PGOC Schedule	4	2010	3	2015
PGOC Material Development Decision (MDD)	4	2010	4	2010
PGOC Milestone A	4	2010	4	2010
PGOC Contract Award	1	2011	1	2011
PGOC Design and Fabrication	4	2013	4	2014
PGOC Modeling and Simulation Effort	1	2011	2	2013
PGOC Developmental Testing #1	4	2012	1	2013
PGOC Operational Assessment #1	2	2013	2	2013
PGOC Milestone B	3	2013	3	2013

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603627A: *Smoke, Obscurant and Target Defeating Sys-Adv Dev*	**PROJECT** E79: *SMOKE/OBSCURANT SYSTEM*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
PGOC MS B Contract Award	4	2014	4	2014
PGOC Engineering Design Tests	3	2014	4	2014
PGOC Developmental Testing #2	4	2014	1	2015
PGOC Operational Assessment	2	2015	2	2015
PGOC Milestone C	4	2014	4	2014
PGOC MS C Contract Award	4	2014	4	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603639A: *Tank and Medium Caliber Ammunition*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	33.202	42.183	39.693	-	39.693	47.208	58.882	68.743	64.109	Continuing	Continuing
652: *ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE*	32.602	42.183	39.684	-	39.684	37.767	7.584	2.197	-	Continuing	Continuing
656: *FCS Mounted Combat System (MCS) Ammunition*	-	-	0.009	-	0.009	9.441	51.298	66.546	64.109	Continuing	Continuing
694: *MEDIUM CALIBER AMMUNITION*	0.600	-	-	-	-	-	-	-	-	0.000	0.600

Note

FY 2012: Funds were realigned from the Advanced Multi-Purpose (AMP) cartridge program and the M829E4 program ($78,855K) to higher priority requirements.

A. Mission Description and Budget Item Justification

The Direct Fire Advanced Technology (DFAT) Program Element (PE) encompasses a comprehensive program to develop, rapidly transition to production, and field advanced tank, medium and small caliber ammunitions. These programs will ensure continued battlefield overmatch and lethality of U.S. maneuver forces despite worldwide development and proliferation of enhanced armored vehicle protection technologies. To achieve this, DFAT will identify and develop promising technologies through competitive development and streamlined acquisition procedures. All ammunition development funds within this PE are managed to facilitate transitions between phases, avoid administrative delays, and focus resources on the most promising areas.

FY 2011 M829E4 AKE Cartridge funding supports the completion of Engineering and Manufacturing Development (EMD) Phase I and Phase II initiation of the M829E4. The M829E4 round is an unguided, direct fire, platform-delivered Line of Sight (LOS) munition that will provide fast response lethality to rapidly destroy threat targets with Explosive Reactive Armor (ERA) and Active Protection Systems (APS) in the close fight from 0-2km (T) and to 0-4km (O). The M829E4 will be compatible with the 120mm Current Force Abrams Main Battle Tank and 120mm platforms. FY 2012 funding supports design finalization, design verification, testing and fabrication of Design, Test and Evaluation hardware and beginning of testing. FY 13 will feature near completion of testing and preparation for Milestone C.

Funding in FY 2012 on Project 656 supports the Milestone B decision for the Advanced Multi-Purpose (AMP) cartridge program. The AMP is a platform delivered, multi-purpose cartridge that will provide the Abrams Tank and future 120mm platforms with the capability to defeat a multitude of targets throughout the joint battle space. AMP will be optimized for use in urban environments in direct support of infantry. It will provide a new wall-breaching capability and the ability to engage and defeat dismounted enemy forces such as Anti-Tank Guided Missile teams at ranges from 50m to 2000m (T) and 50m to 4500m (O). The AMP cartridge is a next generation multi-purpose round that will replace the M830 HEAT-MP-T, M830A1 HEAT MP-T, M1028 Canister, and M908 OR-T cartridges by consolidating the capabilities into a single round. FY13 funding for AMP will be utilized to conduct source selection efforts, make initial EMD contract award(s) and evaluate and demonstrate competing

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603639A: *Tank and Medium Caliber Ammunition*

EMD prototypes. The Abrams Main Battle Tank must be equipped with an Ammunition Data Link in order to realize the full performance benefits of our future munitions including M829E4 and AMP.

The Hell Hound project 694 was a 40mm Low Velocity door breeching cartridge for Infantry using the M203 grenade launcher which breeches doors from a distance. Funding analysis and testing concluded in FY10.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	33.757	42.183	118.548	-	118.548
Current President's Budget	33.202	42.183	39.693	-	39.693
Total Adjustments	-0.555	-	-78.855	-	-78.855
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-78.855	-	-78.855
• Other Adjustments 1	-0.555	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603639A: *Tank and Medium Caliber Ammunition*	PROJECT 652: *ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
652: *ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE*	32.602	42.183	39.684	-	39.684	37.767	7.584	2.197	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The M829E4 round is a platform-delivered Line of Sight (LOS) munition that will provide capability for the current force Heavy Brigade Combat Team's (HBCT) commander to conduct decisive operations and destroy current and future enemy Main Battle Tanks (MBTs) with Explosive Reactive Armor (ERA) and Active Protection Systems (APS) at ranges from 0-2km (T) and 0-4km (O). The M829E4 will provide the capability to destroy and or neutralize the adversary armor and capabilities. FY 2012 supports the continuation of Phase II of the M829E4 cartridge Engineering and Manufacturing Development (EMD). FY 2012 funding supports design finalization, design verification, testing and fabrication of Design, Test and Evaluation hardware and beginning of that testing. The Abrams Main Battle Tank must be equipped with an Ammunition Data Link in order to realize the full performance benefits of our future munitions including the M829E4 and AMP.

The M829E4 is the next generation premier Kinetic Energy (KE) round and will replace the current Abrams KE round (M829A3). The M829E4 will provide lethal overmatch against designated threats throughout all combat operations, to include Military Operation in Urban Terrain (MOUT), mountain, and non-traditional battlefields. The increased performance against standard armor, ERA, and APS will allow for the use of fewer rounds and will increase survivability of the platform with improved defeat capability at extended ranges beyond 2km.

M829E4 will be compatible with 120mm Current Force Abrams main battle tank and future 120mm platforms.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Phase I Engineering and Manufacturing Development (EMD)	29.332	2.000	-
Articles:	0	0	
Description: Funding is provided for the following effort: ***FY 2010 Accomplishments:*** Phase I awarded two prime contracts for multiple competing prototypes. ***FY 2011 Plans:*** Complete Phase I with shoot off and down select to one prime contractor.			
Title: Intial Performance Test	3.270	-	-
Articles:	0		

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603639A: *Tank and Medium Caliber Ammunition*	PROJECT 652: *ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Funding is provided for the following effort: ***FY 2010 Accomplishments:*** Initial Performance Testing			
Title: Demonstration Test ***Articles:*** ***Description:*** Funding is provided for the following effort: ***FY 2011 Plans:*** The demonstration test is a competitive shoot-off between the two contractors. This test is conducted by the Government in which "the contractors designs will be assessed" for performance and maturity. This includes ballistic and armor tests.	-	3.250 0	-
Title: Phase II EMD ***Articles:*** ***Description:*** Funding is provided for the following effort: ***FY 2011 Plans:*** Phase II of EMD which occurs after the down select, a single design will be matured, tested and evaluated to insure all requirements are met /exceeded. Detailed safety and performance test will be conducted, and the design will be optimized for performance at the end of Phase II. ***FY 2012 Plans:*** Continuing Phase II of EMD in which the design will be finalized, tested and evaluated to insure all requirements are met / exceeded. Hardware will be fabricated for FY12/13 DT&E testing.	-	36.933 0	29.664
Title: Design Evaluation Testing ***Description:*** Funding is provided for the following effort: ***FY 2012 Plans:*** Design Evaluation Test (DET) is a interim test of the finalized design prior to the build of the DT&E Test hardware. It's a risk reduction test to quantify performance of the design prior to design freeze and subsequent build of the DT&E cartridges.	-	-	4.020
Title: Developmental Test & Evaluation (DT&E) ***Description:*** Funding is provided for the following effort:	-	-	6.000

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603639A: *Tank and Medium Caliber Ammunition*	PROJECT 652: *ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2012 Plans: The Developmental Test & Evaluation is the test at the conclusion of EMD which is of a single design, in which the capability is demonstrated and performance quantified. The data and evaluation of this test supports Milestone-C and TC-STD(Type Classified - Standard Decisions). This consists of a battery of safety and performance tests to assure ARMY requirements are met/exceeded. Testing will include survivability, Insensitive Munitions, armor, Ballistic and Safety test.			
Accomplishments/Planned Programs Subtotals	32.602	42.183	39.684

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• MCS: *Advanced Kinetic Energy (AKE)*							30.182	36.788		Continuing	Continuing

D. Acquisition Strategy

The M829E4, Advanced Kinetic Energy cartridge is at Technology Readiness Level 6 (TRL6). The Milestone B Decision was made in 4Q FY 2009, and the program entered Engineering and Manufacturing Development (EMD) in FY 2010. EMD consists of two phases; the Phase I contracts was awarded in 2Q FY 2010 and the Phase II contract will be awarded in 3Q FY 2011. During Phase I (15 months), the Government awarded two separate Cost Plus Fixed Fee (CPFF) contracts culminating in a demonstration test and competitive source selection to down-select to one contractor for the 33 month Cost Plus Incentive Fee (CPIF) Phase II. The down-select will be based on the demonstrated performance of the cartridge design, proposed systems engineering and management approach for Phase II, and the total program cost estimate for each contractor at the time of the demonstration test. The selected contractor will be awarded the option to continue EMD Phase II until its conclusion in FY 2014. Upon successful completion of Milestone C, a Low Rate Initial Production (LRIP) option will be awarded to the EMD Phase II contractor in 1Q 2014. The contract will also contain options for two additional production years. All production options will be Firm Fixed Price (FFP).

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603639A: *Tank and Medium Caliber Ammunition*	PROJECT 652: *ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GD-OTS	Various	GD-OTS:St.Petersburg, FL	-	4.000		-		-		-	Continuing	Continuing	Continuing
ATK	Various	ATK:ATK Minnesota	-	4.000		-		-		-	Continuing	Continuing	Continuing
PM-MAS	MIPR	PM-MAS:Picatinny Arsenal, NJ	-	0.774		1.000		-		1.000	Continuing	Continuing	Continuing
TBS (Phase II)	Various	TBS:TBS	-	27.000		33.364		-		33.364	Continuing	Continuing	Continuing
		Subtotal	-	35.774		34.364		-		34.364			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ARDEC	MIPR	ARDEC:Picatinny, NJ	-	2.602		2.100		-		2.100	Continuing	Continuing	Continuing
		Subtotal	-	2.602		2.100		-		2.100			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Yuma Proving Ground	MIPR	YPG:Yuma, AZ	-	1.200		1.400		-		1.400	Continuing	Continuing	Continuing
Aberdeen Proving Ground	MIPR	APG:Aberdeen, MD	-	0.750		0.800		-		0.800	Continuing	Continuing	Continuing
Battelle	MIPR	Battelle:Richland,WA	-	-		-		-		-	Continuing	Continuing	Continuing
ATEC	MIPR	ATEC:Aberdeen, MD	0.100	-		0.100		-		0.100	Continuing	Continuing	0.000
Watervliet	MIPR	Watervliet:Troy, NY	-	-		0.320		-		0.320	0.000	0.320	0.000
JMC	MIPR	JMC:Rock Island, IL	-	-		0.600		-		0.600	Continuing	Continuing	Continuing
Army Research Lab	MIPR	ARL:Aberdeen, Maryland	-	1.857		-		-		-	0.000	1.857	0.000
		Subtotal	0.100	3.807		3.220		-		3.220			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603639A: *Tank and Medium Caliber Ammunition*	PROJECT 652: *ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE*	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.100	42.183		39.684		-		39.684			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603639A: *Tank and Medium Caliber Ammunition*	PROJECT 652: *ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE*

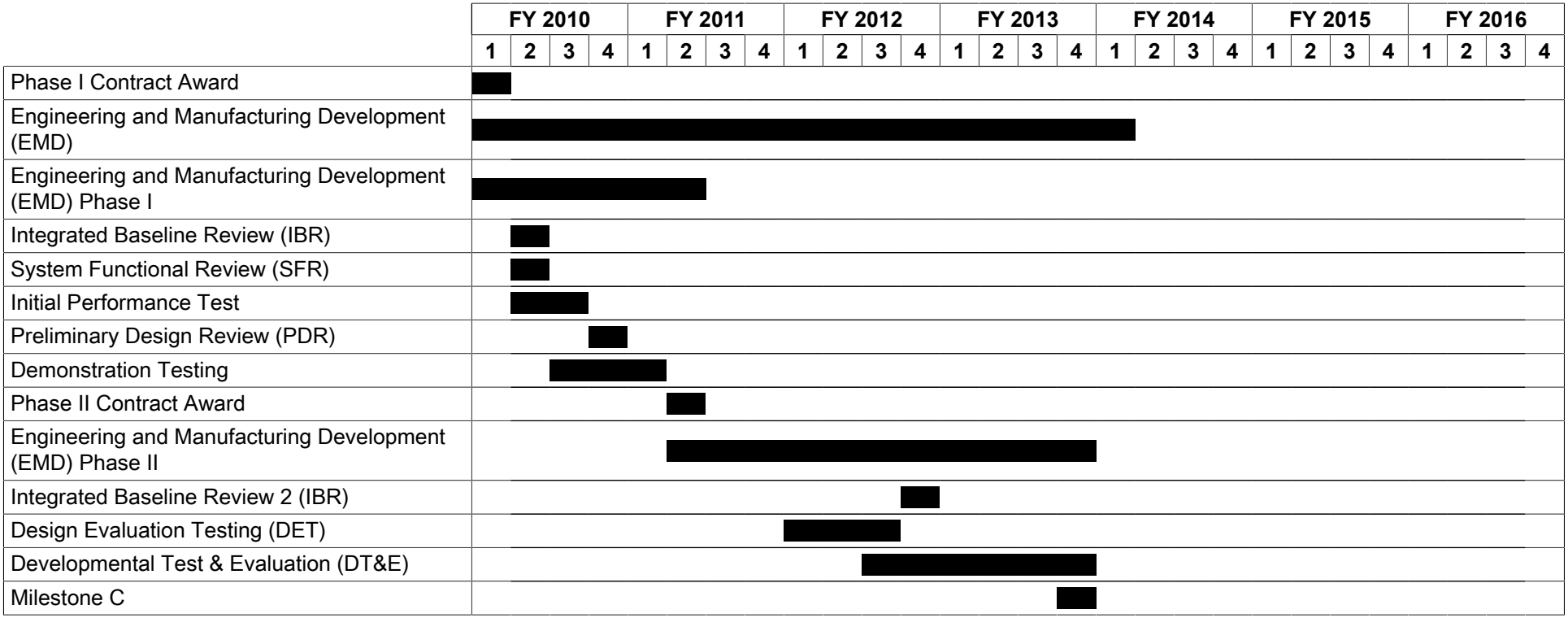

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603639A: *Tank and Medium Caliber Ammunition*	**PROJECT** 652: *ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Phase I Contract Award	1	2010	1	2010
Engineering and Manufacturing Development (EMD)	1	2010	1	2014
Engineering and Manufacturing Development (EMD) Phase I	1	2010	2	2011
Integrated Baseline Review (IBR)	2	2010	2	2010
System Functional Review (SFR)	2	2010	2	2010
Initial Performance Test	2	2010	3	2010
Preliminary Design Review (PDR)	4	2010	4	2010
Demonstration Testing	3	2010	1	2011
Phase II Contract Award	2	2011	2	2011
Engineering and Manufacturing Development (EMD) Phase II	2	2011	4	2013
Integrated Baseline Review 2 (IBR)	4	2012	4	2012
Design Evaluation Testing (DET)	1	2012	3	2012
Developmental Test & Evaluation (DT&E)	3	2012	4	2013
Milestone C	4	2013	4	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603639A: *Tank and Medium Caliber Ammunition*	PROJECT 656: *FCS Mounted Combat System (MCS) Ammunition*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
656: *FCS Mounted Combat System (MCS) Ammunition*	-	-	0.009	-	0.009	9.441	51.298	66.546	64.109	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Advanced Multi Purpose (AMP) program is scheduled to enter Engineering and Manufacturing Development (EMD) in FY 2012. The AMP program is a direct fire line of sight 120mm large caliber munition to be developed for the Abrams Main Battle Tank, as well as other future 120mm direct fire platforms. It has three modes of operation including point detonate, delay, and airburst. AMP is the materiel solution for breaching reinforced concrete walls and defeating Anti Tank Guided Missile (ATGM) Teams from 50m to 2000m (T) and 50m to 4500m (O), a validated gap that cannot currently be met with existing stockpiled ammunition. Additional targets include bunkers, dismounted infantry, light armor and obstacle reduction. Added benefits of the AMP program come from the consolidation of capabilities currently provided by four stockpiled 120mm munitions including the M830 HEAT-MP-T, M830A1 HEAT-MP-T, M908 OR-T and the M1028 Canister. This consolidation addresses current 120mm aging stockpile issues, results in a reduced logistical burden, and provides the Warfighter with the operational benefit of being able to battle carry a single munition for various target engagement scenarios. AMP will increase platform survivability by providing a lethal overmatch throughout traditional and non-traditional combat operations including Military Operation in Urban Terrain (MOUT). The Abrams Main Battle Tank must be equipped with an Ammunition Data Link in order for the full performance benefit of AMP and other future munitions to be realized. FY13 funding will be utilized to evaluate and demonstrate competing EMD prototypes, conduct source selection efforts, make initial EMD contract award(s), and initiate contractor EMD efforts.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: PM-MAS	-	-	0.009
Description: Funding is provided for the following effort ***FY 2012 Plans:*** FY12 funding will be utilized to support a MS B decision and prepare acquisition documents required to issue RFP and award EMD contracts.			
Accomplishments/Planned Programs Subtotals	-	-	0.009

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

FY12 funding will be utilized to support a MS B decision and prepare acquisition documents required to issue RFP and award EMD contracts.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603639A: *Tank and Medium Caliber Ammunition*	**PROJECT** 656: *FCS Mounted Combat System (MCS) Ammunition*

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603639A: *Tank and Medium Caliber Ammunition*	PROJECT 694: *MEDIUM CALIBER AMMUNITION*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
694: *MEDIUM CALIBER AMMUNITION*	0.600	-	-	-	-	-	-	-	-	0.000	0.600
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Funding on Project 694 supports the purchase and test of the 40mm Hell Hound cartridge. The Hell Hound is a low velocity 40mm cartridge fired from the M203 and M320 grenade launchers. The purpose of the test is to determine whether the Hell Hound can breech doorways from a distance by infantry forces in a more efficient and safer manner than currently available with other methods.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Hell Hound Evaluation	0.600	-	-
Articles:	0		
Description: Purchase and Test Hell Hound			
FY 2010 Accomplishments: Purchase and Test Hell Hound			
Accomplishments/Planned Programs Subtotals	0.600	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

There is no budget beyond FY 2008 Congressional funding.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	96.269	136.302	101.408	-	101.408	219.548	253.862	207.711	117.658	205.380	1,338.138
C03: *INTERIM ARMORED VEHICLE (IAV) FAMILY*	27.895	2.502	22.500	-	22.500	14.400	5.200	-	-	0.000	72.497
C51: *STRYKER A1*	58.859	133.800	78.908	-	78.908	205.148	248.662	207.711	117.658	205.380	1,256.126
VT2: *STRYKER DOUBLE V*	9.515	-	-	-	-	-	-	-	-	0.000	9.515

A. Mission Description and Budget Item Justification

This Program Element (PE) supports the development of the Stryker Family of vehicles in three separate projects:

The original Project Code (C03) supports the use of the common platform/common chassis design reducing requirements for repair parts and logistics support in the area of operations. Funding in this project will continue to address Overseas Contingency Operations (OCO), survivability, Operational Needs Statements (ONS) issues, and integrating Targeting Under Armor (TUA) for the Stryker FSV.

The Stryker Modernization Project (C51) addresses current and evolving survivability concerns and results in retaining interoperability with other formations and the ability to integrate spin-outs and technologies. The first increment of the Stryker Modernization program will regain the operational envelope lost by the addition of survivability kits by eliminating size, power, and weight challenges caused by the kits. This increment consist of improved engine/transmission suspension, Height Management System (HMS), Central Tire Inflation System (CTIS), brakes, driveline, Hull structure, seats and environmental. Follow on increments will provide increased capability and address emerging requirements as well as provide for the mitigation of MGS long-term deficiencies. These follow on efforts consist of 360 degree situational awareness, shot detection, improved Remote Weapon Station (RWS), embedded training, and data/video network.

Stryker Double V Hull (DVH) Project (VT2) was established in FY 10. The Double V Hull design is in response to a G-3 directed requirement for survivability enhancements on Stryker vehicles used in Operation Enduring Freedom to provide a total integrated solution of increased protection and survivability against Improvised Explosive Devices (IED). DVH will be fielded as Theater Provided Equipment (TPE) and support deployment of SBCTs to Afghanistan. FY 10 requirements were funded with $2.485 FY 09 RDT&E and $9.515 FY 10 RDT&E Below Threshold Reprogramming (BTR) actions from PM HBCT-Bradley and executed in Project VT2. A $102.000 Above Threshold Reprogramming (ATR) action utilizing FY09 SBCT WTCV funding was approved and executed in Project VT2 FY 09 RDT&E.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	89.828	136.302	230.561	-	230.561
Current President's Budget	96.269	136.302	101.408	-	101.408
Total Adjustments	6.441	-	-129.153	-	-129.153
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	3.075	-			
• Other Adjustments 1	3.366	-	-129.153	-	-129.153

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	PROJECT C03: *INTERIM ARMORED VEHICLE (IAV) FAMILY*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
C03: *INTERIM ARMORED VEHICLE (IAV) FAMILY*	27.895	2.502	22.500	-	22.500	14.400	5.200	-	-	0.000	72.497
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Interim Armored Vehicle (IAV) Family Project (C03) 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) is 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 has been essential in 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 Vehicle (NBCRV). The use of the common platform/ common chassis design reduces requirements for repair parts and logistics support in the area of operations. Funding in this project will continue to address Overseas Contingency Operations (OCO), survivability, Operational Needs Statements (ONS) issues, and integration of Targeting Under Armor (TUA)on the Stryker FSV.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Operational Test and Evaluation NBCRV	5.372	-	-
Articles:	0		
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: NBCRV Control Damage Experiment started 1QFY10 and will be followed by the Operational Test and Evaluation (OT&E) in preparation for the upcoming NBCRV Milestone C Full-Rate Production Decision in 4QFY11.			
Title: Development and Engineering Current Configuration Vehicles	-	2.104	22.093
Articles:		0	
Description: Funding is provided for the following effort			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	PROJECT C03: *INTERIM ARMORED VEHICLE (IAV) FAMILY*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Continuing development and engineering for OCO, survivability and ONS issues for the Stryker Vehicles. ***FY 2012 Plans:*** Undergo development and engineering for Overseas Contingency Operations (OCO), survivability and Operational Need Statements (ONS) issues and integration of TUA for the Stryker FSV			
Title: Development and Engineering SRAT II ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Undergo development and engineering of Stryker Reactive Armor Tiles II(SRAT II)	16.026 0	-	-
Title: Government Test SRAT II ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** SRAT II Government testing begins in FY09, completes in FY11.	5.339 0	-	-
Title: Government Engineering and Program Management ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Completed Government Systems Engineering and Program Management ***FY 2011 Plans:*** Continuing Government Systems Engineering and Program Management ***FY 2012 Plans:*** Funding for future Government Systems Engineering and Program Management	0.458 0	0.398 0	0.407
Title: Contractor Support to Test ***Articles:*** ***Description:*** Funding is provided for:	0.700 0	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	**PROJECT** C03: *INTERIM ARMORED VEHICLE (IAV) FAMILY*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: Contractor Support to Test for NBCVR			
Accomplishments/Planned Programs Subtotals	27.895	2.502	22.500

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• GM0100: *Stryker MOD*		591.352	52.797		52.797		75.709	81.188	160.330	0.000	1,071.105
• G85100: *Stryker*	512.774	299.545	632.994		632.994				327.509	0.000	2,141.331

D. Acquisition Strategy

Funding continues engineering and development efforts related to Overseas Contingency Operations (OCO), survivability, and Operational Needs Statements (ONS) issues, and integration of targeting under armor. As the Stryker family of vehicles continues to be deployed, we will explore, enhance and increase the survivability of the Stryker. Examples of improvement are the vehicle's Hull Protection, Tire Fire Suppression Kits, Improved Common Ballistic Shields, Belly Armor, and Stryker Reactive Armor Tiles II (SRAT II) initiatives.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	PROJECT C03: *INTERIM ARMORED VEHICLE (IAV) FAMILY*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Office (PMO)	Various	TACOM,:MI	14.724	0.398		0.407		-		0.407	Continuing	Continuing	Continuing
		Subtotal	14.724	0.398		0.407		-		0.407			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stryker Development/ Engineering	Various	GDLS:MI	390.445	2.104		2.154		-		2.154	Continuing	Continuing	Continuing
Active Protection System (APS)Radar	Various	GSLS:MI	1.600	-		-		-		-	Continuing	Continuing	Continuing
Targeting Under Armor	Various	GDLS:MI	-	-		19.939		-		19.939	8.852	28.791	0.000
		Subtotal	392.045	2.104		22.093		-		22.093			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NBCRV Operational Test & Evaluation	Various	DPG, OTC, APG, Army Test & Evaluation Center:UT, TX, MD, VA	106.379	-		-		-		-	Continuing	Continuing	Continuing
OCO and SRAT II Testing	Various	ARL, Army Test & Evaluation Command:MD, MD	2.182	-		-		-		-	Continuing	Continuing	Continuing
Contractor Support to Test	Various	GDLS:MI	22.444	-		-		-		-	Continuing	Continuing	Continuing
Targeting Under Armor Testing	Various	Various Test Centers:Multiple	-	-		-		-		-	8.090	8.090	0.000
		Subtotal	131.005	-		-		-		-			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	PROJECT C03: *INTERIM ARMORED VEHICLE (IAV) FAMILY*

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	537.774	2.502		22.500		-		22.500			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	**PROJECT** C03: *INTERIM ARMORED VEHICLE (IAV) FAMILY*

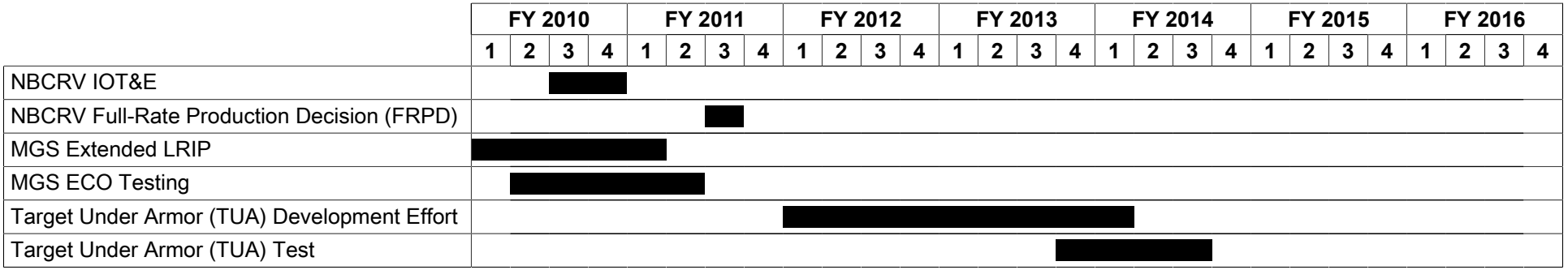

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	**PROJECT** C03: *INTERIM ARMORED VEHICLE (IAV) FAMILY*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NBCRV IOT&E	3	2010	4	2010
NBCRV Full-Rate Production Decision (FRPD)	3	2011	3	2011
MGS Extended LRIP	1	2010	1	2011
MGS ECO Testing	2	2010	2	2011
Target Under Armor (TUA) Development Effort	1	2012	1	2014
Target Under Armor (TUA) Test	4	2013	3	2014

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	PROJECT C51: *STRYKER A1*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
C51: *STRYKER A1*	58.859	133.800	78.908	-	78.908	205.148	248.662	207.711	117.658	205.380	1,256.126
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Stryker Modernization Project (C51) addresses current and evolving survivability concerns and results in retaining interoperability with other formations and the ability to integrate spin-outs and technologies. The Stryker Modernization program will regain the operational envelope lost by the addition of survivability kits by eliminating size, power, and weight challenges caused by the kits. The modernization program consist of improved engine/transmission suspension, Height Management System (HMS), Central Tire Inflation System (CTIS), brakes, driveline, Hull structure, seat,environmental,mitigation of MGS long-term deficiencies,360 degree situational awareness, shot detection, improved Remote Weapon Station (RWS), embedded training, and data/video network.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Contractor Support	57.032	126.448	71.382
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Support the Stryker Modernization Program. Target date for MS B is 4QFY13. Developed system performance specifications, conducted trade studies, developed concept designs, undergo modeling and simulation activities and conduct technical demonstrations.			
FY 2011 Plans: Continue Support for the Stryker Modernization Program. Target date for MS B is 4QFY13. Will develop system performance specifications, conduct trade studies, develop concept designs, undergo modeling and simulation activities and conduct technical demonstrations.			
FY 2012 Plans: Continue Support for the Stryker Modernization Program. Target date for MS B is 4QFY13. Will develop system performance specifications, conduct trade studies, develop concept designs, undergo modeling and simulation activities and conduct technical demonstrations.			
Title: Government Test Support	0.014	-	-
Articles:	0		
Description: Funding is provided for the following effort			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	**PROJECT** C51: *STRYKER A1*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: Government Testing of Stryker Modernization			
Title: Government Engineering and Program Management	1.813	7.352	7.526
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Current Government Systems Engineering and Program Management			
FY 2011 Plans: Continuing Government Systems Engineering and Program Management			
FY 2012 Plans: Future Government Systems Engineering and Program Management			
Accomplishments/Planned Programs Subtotals	58.859	133.800	78.908

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Funding supports continuing Stryker Modernization of the Mobile Gun System (MGS) long-term deficiencies as outlined in 5 Aug 08 ADM.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	PROJECT C51: *STRYKER A1*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Office (PMO)	Various	TACOM:MI	1.569	7.352		7.526		-		7.526	Continuing	Continuing	Continuing
		Subtotal	1.569	7.352		7.526		-		7.526			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stryker Development/ Engineering Stryker Modernization and Mobile Gun System (MGS) Deficiencies	Various	GDLS:MI	156.701	126.448		71.382		-		71.382	Continuing	Continuing	Continuing
		Subtotal	156.701	126.448		71.382		-		71.382			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Agencies	Various	Various:Various	0.714	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.714	-		-		-		-			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stryker Modernization Testing	Various	Various:Various	0.373	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.373	-		-		-		-			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	PROJECT C51: *STRYKER A1*

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	159.357	133.800		78.908		-		78.908			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	PROJECT C51: *STRYKER A1*

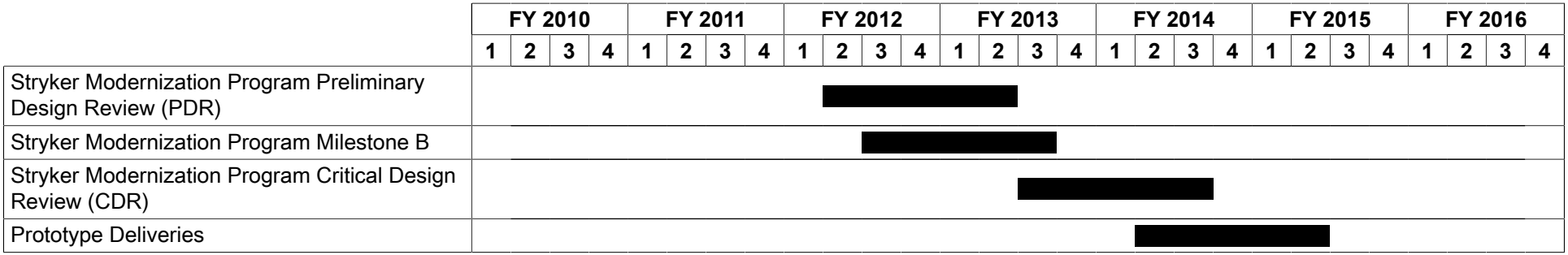

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	**PROJECT** C51: *STRYKER A1*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Stryker Modernization Program Preliminary Design Review (PDR)	2	2012	2	2013
Stryker Modernization Program Milestone B	3	2012	3	2013
Stryker Modernization Program Critical Design Review (CDR)	3	2013	3	2014
Prototype Deliveries	2	2014	2	2015

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	PROJECT VT2: *STRYKER DOUBLE V*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
VT2: *STRYKER DOUBLE V*	9.515	-	-	-	-	-	-	-	-	0.000	9.515
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Stryker Double V Hull (DVH) Project (VT2) was established in FY 10. The Double V Hull design is in response to a G-3 directed requirement for survivability enhancements on Stryker vehicles used in Operation Enduring Freedom to provide a total integrated solution of increased protection and survivability against Improvised Explosive Devices (IED). DVH will be fielded as Theater Provided Equipment (TPE) and support deployments of SBCT's to Afghanistan.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Contractor Test Support	0.095	-	-
Articles:	0		
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Reliability and Maintainablility Scoring Conference support for the Double V Hull			
Title: Government Test Support	9.379	-	-
Articles:	0		
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Double V Hull Government test support for Phase 0 and Phase 1 efforts			
Title: Government Engineering and Program Management	0.041	-	-
Articles:	0		
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Government Systems Engineering and Program Management			
Accomplishments/Planned Programs Subtotals	9.515	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603653A: *ADVANCED TANK ARMAMENT SYSTEM (ATAS)*	**PROJECT** VT2: *STRYKER DOUBLE V*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Funding continues government engineering and testing efforts related to the Double V Hull design, which supports survivability enhancements for the Stryker vehicles against Improvised Explosive Devices (IED).

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603747A: *Soldier Support and Survivability*						
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	40.392	28.456	9.747	-	9.747	9.965	9.873	10.225	10.159	Continuing	Continuing
610: *FOOD ADV DEVELOPMENT*	4.045	4.234	3.843	-	3.843	3.971	4.131	4.343	4.292	Continuing	Continuing
C08: *RAPID EQUIPPING FORCE*	36.347	24.222	5.904	-	5.904	5.994	5.742	5.882	5.867	Continuing	Continuing

Note

Change Summary Explanation: FY 2012: Funds realigned to higher priority Army programs.

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.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	33.178	76.456	4.166	-	4.166
Current President's Budget	40.392	28.456	9.747	-	9.747
Total Adjustments	7.214	-48.000	5.581	-	5.581
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• FY11 OCO Request	7.214	-48.000	5.581	-	5.581

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
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COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
610: *FOOD ADV DEVELOPMENT*	4.045	4.234	3.843	-	3.843	3.971	4.131	4.343	4.292	Continuing	Continuing
Quantity of RDT&E Articles											

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.

This PE/Project supports Field Feeding Programs for all the services.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Containerized Ice Making System (CIMS) ***Articles:*** ***Description:*** Provides a containerized ice making system to support base camps. ***FY 2010 Accomplishments:*** Reviewed and validate Ice usage/consumption requirements for BISS with Combined Arms Support Command (CASCOM) and the Joint Service Community. Performed market research to evaluate existing Commercial Off the Shelf / Non-Developmental (COTS/NDI) bulk Ice Making and bagging Systems. Developed a Draft Performance Specification or a Commercial Item Description (CID). Prepared a Request for Proposal/Statement of Work (SOW) to award a subsequent developmental contract to design and fabricate BISS prototype(s).	0.070 0	-	-	-	-
Title: Solar Power Refrigeration ***Articles:*** ***Description:*** Provides a mechanical sub cooler that will increase the operational temperature limit, reduce fuel consumption and	0.318 0	0.189 0	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
decrease electrical draw. The reduction in electrical draw makes it a better candidate for alternative energy source like Solar. ***FY 2010 Accomplishments:*** Transitioned Solar Refrigeration Technology from S&T to system development phase. Prepared solicitation for prototype. ***FY 2011 Plans:*** Transitioned Solar Refrigeration Technology from S&T to system development phase. Prepared solicitation for prototype.					
Title: Solid Waste Remediation ***Articles:*** ***Description:*** Provides environmentally friendly incineration system for solid waste. ***FY 2011 Plans:*** Transition Waste to Energy Converter (WEC) technology to advanced component development phase after successful demonstration of exit criteria outlined in the Technology Transition Agreement. Review and validate requirements outlined in the Capability Production Document (CPD) with CASCOM and Joint Service Community. Establish design and evaluation criteria to meet desired capability. ***FY 2012 Base Plans:*** Test solid waste remediation hardware and transition to 6.5.	-	0.290 0	0.507	-	0.507
Title: Modular Appliances for Field Feeding ***Articles:*** ***Description:*** Provide a suite of common, man portable, highly efficient, closed combustion, thermostatically controlled appliances for use across the spectrum of field feeding and base camp operations. ***FY 2010 Accomplishments:*** Transitioned Man-portable appliance technology to advanced component development phase to integrate into the Containerized Kitchen (CK). Establishe design and evalution criteria to meet deesired capability. Initiated fabrication of prototype and initiate Developmental Testing (DT). ***FY 2011 Plans:***	0.390 0	0.423 0	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Prepare solicitation for prototype and award contract. Initiate fabrication of prototype and initiate Developmental Testing (DT).					
Title: Fielded Individual Ration Improvement Project (FIRIP)	0.915	0.649	0.630	-	0.630
Articles:	0	0			
Description: Continuous product improvement project for the MRE ***FY 2010 Accomplishments:*** Continue to identify suitable COTS/NDI candidate items and conduct in-house product development of food components for fielded individual operational rations (MRE 2013/2014 DOP) to enhance acceptability, increase consumption and improve nutritional intake. Conduct pilot scale in-house production to support engineering design, technology insertion, and producibility. Work with vendors and assemblers as needed to ensure feasibility and technology transition. Develop, integrate, and validate state-of-the-art science and technology, food processing and primary/secondary packaging innovations into individual ration platforms to increase operational effectiveness, functionality and improve logistics. Processing and packaging to introduce targeted component items into individual ration platforms for enhanced acceptability, nutrition and performance. ***FY 2011 Plans:*** Continue to identify suitable COTS/NDI candidate items and conduct in-house product development of food components for fielded individual operational rations (MRE 2013/2014 DOP) to enhance acceptability, increase consumption and improve nutritional intake. Conduct pilot scale in-house production to support engineering design, technology insertion, and producibility. Work with vendors and assemblers as needed to ensure feasibility and technology transition. Develop, integrate, and validate state-of-the-art science and technology, food processing and primary/secondary packaging innovations into individual ration platforms to increase operational effectiveness, functionality and improve logistics. processing and packaging to introduce targeted component items into individual ration platforms for enhanced acceptability, nutrition and performance. ***FY 2012 Base Plans:*** Continue to identify suitable COTS/NDI candidate items and conduct in-house product development of food components for fielded individual operational rations (MRE 2015 DOP) to enhance acceptability, increase consumption and improve nutritional intake. Conduct pilot scale in-house production to support engineering design, technology insertion, and producibility. Work with vendors and assemblers as needed to ensure feasibility and technology transition. Develop, integrate, and validate state-of-the-art science and technology, food processing and primary/secondary packaging innovations into individual ration platforms to increase					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
operational effectiveness, functionality and improve logistics. processing and packaging to introduce targeted component items into individual ration platforms for enhanced acceptability, nutrition and performance.					
Title: Assault/Special Purpose Ration Improvement Project (ASPIP) ***Articles:*** ***Description:*** Continuous product improvement of special purpose rations by the insertion of new technologies in nutrition, processing and packaging. ***FY 2010 Accomplishments:*** Continue identification and selection of new candidate items. Conduct in-house product development as needed; assemble test menus, select test site, and transition to 6.5 for field test. Complete procurement documents for new items and new assembly documentation for FSR and MCW/LRP. Conduct production testing of new components. ***FY 2011 Plans:*** Continue identification and selection of new candidate items. Conduct in-house product development as needed; assemble test menus, select test site, and transition to 6.5 for field test. Complete procurement documents for new items and new assembly documentation for FSR and MCW/LRP. Conduct production testing of new components. ***FY 2012 Base Plans:*** Continue identification and selection of new candidate items. Conduct in-house product development as needed; assemble test menus, select test site, and transition to 6.5 for field test. Complete procurement documents for new items and new assembly documentation for FSR and MCW/LRP. Conduct production testing of new components.	0.310 0	0.229 0	0.190	-	0.190
Title: Performance Metrics of Optimized Packaging ***Articles:*** ***Description:*** Integrate / demonstrate thin film and coating technologies and their respective properties into durable, high barrier, non-foil ration packaging materials and to build functionality into packaging materials to enhance package shelf life and product survivability while down-gauging materials. ***FY 2011 Plans:***	-	0.121 0	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
This effort will evaluate innovative packaging materials including high barrier, non-foil packaging structure for acidic condiments in order to increase condiment variety and warfighter acceptability for maximum consumption and nutritional intake. Packaging materials will be down-selected then integrated with new formulations of high demand acidic condiments. The effort involves reformulating and optimizing pH of acidic condiments for acceptability, then integrating those new formulations with the down-selected packaging material for evaluation of package integrity, product quality, and shelf life. Producibility testing will then be initiated for commercial scale-up of the reformulated high acid condiments in the new packaging materials. Technical data and prototypes will transition to individual & group ration improvement projects for field testing.					
Title: Next Generation Combat Breakfast Technologies ***Articles:*** ***Description:*** Develop and demonstrate technologies to enhance and expand development of the next generation of breakfast components. ***FY 2011 Plans:*** Transition from technology base advanced development effort highly acceptable, multi-component breakfast and bakery items to fielded combat rations. Supports frequently requested items that will increase consumption, caloric intake, and morale. Military nutritional and shelf life requirements necessitate application of novel processing, packaging, and stabilization and preservation technologies to bridge the gap between user needs and product availability. Identified specific analytical requirements, ingredient, and packaging specifications such as water activity, pH, moisture, and additives to increase sensory acceptability and extend shelf life (humectants, emulsifiers, water binding agents, and anti-staling agents) are needed. Items include self-heating egg, breakfast burritos, breakfast pizzas, turnovers, sausage, instant breakfast cereals, pita breads, English muffins, etc. Will demonstrate and validate product parameters in commercial scale production, identify critical process controls, determine analytical testing or new test procedures, initiate long term storage studies and sensory evaluation, conduct nutrient analysis and incorporate in menu planning to meet OTSG guidelines, and develop technical data to support transition to production. ***FY 2012 Base Plans:*** Field Test items and transition to DSCP for procurement.	-	0.135 0	0.125	-	0.125
Title: Ration Systems ***Articles:***	0.098 0	-	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Identify and select new commercial and in-house developmental and product improvements. ***FY 2010 Accomplishments:*** Complete product evaluations and product refinement as needed. Prepare final technical data for commercial production and transition to Defense Supply Center Philadelphia ration system procurement of final modular supplements.					
Title: Fielded Group Ration Improvement Project (FGRIP) ***Articles:*** ***Description:*** Continuous product improvement project to continuously update/improve group ration components, menus, and packaging by integrating state-of-the-art military/commercial packaging and technology base transitions. ***FY 2010 Accomplishments:*** Revise performance-based documents and transition to Procurement. Improve family of UGRs (H&S (2013/2014), A (2012/2013), B and E (2013/2014)) to increase overall Warfighter acceptability, and consumption. Based on Warfighter recommendations, incorporate COTS, NDI, and developmental components into prototype menus. Select field test site and transition to 6.5 for field testing. Complete draft procurement documents. Integrate state of the art packaging and combat ration processing technologies for improved operational and functional performance. ***FY 2011 Plans:*** Improve family of UGRs (H&S (2013/2014), A (2012/2013), B and E (2013/2014)) to increase overall Warfighter acceptability, and consumption. Based on Warfighter recommendations, incorporate COTS, NDI, and developmental components into prototype menus. Select field test site and transition to 6.5 for field testing. Complete draft procurement documents. Integrate state of the art packaging and combat ration processing technologies for improved operational and functional performance. ***FY 2012 Base Plans:*** Improve family of UGRs (H&S (2014/2015), A (2013/2014), B and E (2014/2015)) to increase overall Warfighter acceptability, and consumption. Based on Warfighter recommendations, incorporate COTS, NDI, and developmental components into prototype menus. Select field test site and transition to 6.5 for field testing.	0.975 0	0.730 0	0.640	-	0.640

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Complete draft procurement documents. Integrate state of the art packaging and combat ration processing technologies for improved operational and functional performance.					
Title: Military Ration Studies ***Articles:*** ***Description:*** Evaluate the effects of extened consumption. ***FY 2011 Plans:*** Conduct study of effects of extened consumption of military rations on warfighters.	-	0.070 0	-	-	-
Title: Alternative material for shipping containers ***Articles:*** ***Description:*** Identify and test suitable materials for shipping containers. ***FY 2010 Accomplishments:*** Complete evaluation of prototype shipping containers. Complete productibility and transportation studies of optimized shipping containers. Conduct user evaluation of shipping containers.	0.110 0	-	-	-	-
Title: Naval Refrigeration Project ***Articles:*** ***Description:*** Develop Naval refrigeration to provide adequate and conveniently accessible chill/freeze storage space aboard ship. ***FY 2010 Accomplishments:*** Develop modular, hatchable, reconfigurable, dual temperature refrigerated and frozen space to support endurance requirements for legacy and future ships.	0.090 0	-	-	-	-
Title: Future Navy Galleys / Hatchable Submarine Galley ***Articles:*** ***Description:*** Provide consolidated galley design and advanced technologies that support the Navy optimized crewing plan for both surface ships and submarines. ***FY 2010 Accomplishments:***	0.310 0	-	-	-	-

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Procure equipment, develop test plans, and conduct land-based testing to support Navy goals. Standardize and optimize the food service equipment, reducing manpower requirements, and supporting NAVSUP's Standard Core Menu for submarines.					
Title: Automated Shipboard Dishwashing System (ASDS) ***Articles:*** ***Description:*** Develop technologies to demonstrate an ASDS that will reduce labor and manning for Carrier Scullery Operations. ***FY 2011 Plans:*** Transition Automated Shipboard Scullery project from the Navy Small Business Innovative Research (SBIR) Program to a Phase III effort. Combat Feeding Directorate (CFD) will partner with PEO Carriers on a cost sharing initiative to support a Phase III SBIR effort. During the Phase III effort, the Automated Shipboard Dishwashing System (ASDS) configuration will be demonstrated aboard a U.S. Navy ship. Prior to the demonstrating the system onboard a ship, a Ship Configuration Change Document (SCD) will be initiated and approved. This will allow the ASDS to be installed onboard a Navy vessel for evaluation.	-	0.470 0	-	-	-
Title: US Navy Standard Core Menu Continuous Product Improvement Project (NSCM) ***Articles:*** ***Description:*** Provide recommendations for upgrading/improving Navy Standard Core Menu components by introducing new preparation techniques to enhance menu acceptance and effectiveness while reducing labor requirements. ***FY 2010 Accomplishments:*** Coordinate with NAVSUP to identify and collect information to determine menu goals and constraints; investigate emerging food preparation techniques to reduce labor for shipboard feeding; and provide annual reports and product recommendations. ***FY 2011 Plans:*** Provide NAVSUP with continuous product identification, evaluations and menu development to support NSCM upgrades and revision changes. ***FY 2012 Base Plans:***	0.209 0	0.136 0	0.150	-	0.150

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Provide NAVSUP with continuous product identification, evaluations and menu development to support NSCM upgrades and revision changes.					
Title: UGR-E" Transition to the Alternate Chemical Heater ***Articles:*** ***Description:*** Transition a safe, inexpensive, flameless, and disposable heating system that heats the UGR-E" with improved safety characteristics and ultimately enhances operational effectiveness. ***FY 2010 Accomplishments:*** Complete transition (from a Technology Transition Initiative) of a fully functional alternate chemical heating technology for the UGR-E. Verify performance as drop-in component of the UGR-E. Revise performance-based procurement documents, field test under the FGRIP and transition procurement documents to DSCP.	0.250 0	-	-	-	-
Title: Smart Tag Indicators for Ration Packaging ***Articles:*** ***Description:*** Explore use of ultra thin battery technology to illuminate with measurable fill lines, and direction when visibility is low. ***FY 2011 Plans:*** Initiate program to provide ration components in fully integrated, multi-functional, active packaging materials beyond traditional polymer laminate films and oxygen scavenger sachets to improve storage stability & acceptability, reduce product waste, and increase consumption/nutrition. Performance oriented ***FY 2012 Base Plans:*** Initiate program to provide ration components in fully integrated, multi-functional, active packaging materials beyond traditional polymer laminate films and oxygen scavenger sachets to improve storage stability & acceptability, reduce product waste, and increase consumption/nutrition. Performance oriented	-	0.084 0	0.225	-	0.225
Title: Quality Kinetics ***Articles:*** ***Description:*** Explore use of ultra thin battery technology to illuminate with measurable fill lines, and direction when visibility is low. ***FY 2011 Plans:***	-	0.056 0	0.125	-	0.125

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Transition and implement quantitative kinetics models utilizing analytical markers (fat oxidation colorimetry, etc) to 6.4 Assault/Special Purpose Ration Improvement Program (ASPIP) and Fielded Individual Ration Improvement Program (FIRIP). Integrate optimized quality kinetics models into current sensory evaluation system and adjust and optimize storage protocols and conditions using analytical testing/temperature kinetics and defined and recommended guidelines for conducting accelerated storage studies equivalent to Military storage requirements. Streamline and enhance evaluation process for identified new ration components (entres, sides, snacks, bakery items) that fall within the guidelines specified by the quality kinetics model, accelerate rapid fielding of specific ration components, decrease/minimize engineering support cases for quality related issues, and enhance development efficiency. Modify and transition technical data to Defense Supply Center Philadelphia. ***FY 2012 Base Plans:*** Continue to transition and implement quantitative kinetics models utilizing analytical markers (fat oxidation colorimetry, etc) to 6.4 Assault/Special Purpose Ration Improvement Program (ASPIP) and Fielded Individual Ration Improvement Program (FIRIP). Integrate optimized quality kinetics models into current sensory evaluation system and adjust and optimize storage protocols and conditions using analytical testing/temperature kinetics and defined and recommended guidelines for conducting accelerated storage studies equivalent to Military storage requirements. Streamline and enhance evaluation process for identified new ration components (entres, sides, snacks, bakery items) that fall within the guidelines specified by the quality kinetics model, accelerate rapid fielding of specific ration components, decrease/minimize engineering support cases for quality related issues, and enhance development efficiency. Modify and transition technical data to Defense Supply Center Philadelphia.					
Title: Improved Food Risk Assessment / Management ***Articles:*** ***Description:*** Provide DoDVSA** and Services a predictive modeling database / applicable training materials to provide science-based information to perform food safety risk assessment/management duties. ***FY 2011 Plans:*** Improved Food Risk Assessment/Management, provide DoD Veterinary Services Agency and services a predictive modeling database and applicable training materials to provide science-based information to perform food safety risk assessment/management duties	-	0.030 0	-	-	-
Title: Joint Service Refrigeration Container System (JSRCS)	-	0.130	0.350	-	0.350

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Articles: ***Description:*** Develop a joint service refrigerated container system that will support all military field feeding platforms. ***FY 2011 Plans:*** Develop a Joint Service Refrigerated Container System (JSRCS) to support group ration distribution and storage for multiple services. ***FY 2012 Base Plans:*** Develop a Joint Service Refrigerated Container System (JSRCS) to support group ration distribution and storage for multiple services.		0			
Title: Advanced Refrigeration Insulation ***Articles:*** ***Description:*** Identify, test, and evaluate optimal insulation for military refrigerators. ***FY 2011 Plans:*** Evaluate and demonstrate state of the art insulation technology, like Aerogel Insulation to significantly improve refrigeration efficiency in the field and shipboard.	-	0.150 0	-	-	-
Title: A Ration Capable Assault Kitchen ***Articles:*** ***Description:*** Streamlined system for preparing A ration with Assault Kitchen. ***FY 2011 Plans:*** Develop a fully integrated refrigeration system for the Assault kitchen to allow the AK to support UGR-A ration feeding, and menu supplements	-	0.160 0	-	-	-
Title: Modernization and Implementation of the Air Force Basic Expeditionary Airfield Resources (BEAR) ***Articles:*** ***Description:*** Provide Air Force new electric food service equipment; and implementation plan to support the initial (i) / follow-on (f) systems to support AF BEAR field feeding. ***FY 2011 Plans:***	-	0.182 0	0.250	-	0.250

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Air Force Basic Expeditionary Airfield Resources (BEAR) - Kitchen System Enhancements, provide AF with enhanced, state of the art all electric food service equipment; and continue to refine modular field feeding system. ***FY 2012 Base Plans:*** Air Force Basic Expeditionary Airfield Resources (BEAR) - Kitchen System Enhancements, provide AF with enhanced, state of the art all electric food service equipment; and continue to refine modular field feeding system.					
Title: Next Generation Hurdle Technologies ***Description:*** Provides newly formulated intermediate moisture ration components utilizing novel bioactive hurdles that will enable technologies for the ration developers to generate a higher variety of high quality ration components. ***FY 2012 Base Plans:*** Complete challenge studies, producibility contract, field testing for Warfighter acceptance, and prepare documents for transition to procurement.	-	-	0.190	-	0.190
Title: Aircrew Build to Order Meal Module ***Description:*** Provides deployed Army aircrews in rotary and fixed wing aircraft, Air Force/Navy fighter pilots, cargo pilots, medical evacuation aircrew, and tank crews in combat with a compact, modular, and nutritious lunch type meal that can be easily consumed on-the-go, in-flight, or on the job while performing missions for up to 7 to 8 hours per day. ***FY 2012 Base Plans:*** Conduct user field evaluation, analyze data, and refine ration and packaging configuration.	-	-	0.140	-	0.140
Title: Rightsizing UGR-A and B for Expeditionary Operations ***Description:*** Provides an optimized number of servings for use by Tactical Small Units (TSUs) in contingency basing operations for both the UGR-A (Army) and UGR-B (Marine Corps) with austere field feeding equipment. ***FY 2012 Base Plans:***	-	-	0.150	-	0.150

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Conduct warfighter evaluation to validate proposed configuration, coordinate recommendations with Joint Culinary Center of Excellence and obtain JSORF approval, and update and transition revised procurement documents to DLA-TS.					
Title: Barrier Coating for Optimized Package Performance ***Description:*** Provides low-cost, non-foil, high performance packaging materials for incorporation into existing and future combat ration packaging systems, such as the Unitized Group Ration (UGR) and Meal, Ready-to-Eat (MRE). ***FY 2012 Base Plans:*** Determine optimal barrier structure and scale-up to pilot-scale production of prototype samples. Evaluate prototype packaging system for barrier and mechanical properties, and shelf life and rough handling.	-	-	0.171	-	0.171
Accomplishments/Planned Programs Subtotals	4.045	4.234	3.843	-	3.843

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 654713 548: *Military Subsistence System*	2.010	2.118	2.075		2.075		2.136	2.149	2.176	Continuing	Continuing
• OPA 3, MA65801: *Refrigerated Containers*	31.970	16.488	22.133		22.133		7.631	4.238	14.585	Continuing	Continuing

D. Acquisition Strategy

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

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603747A: *Soldier Support and Survivability*	PROJECT 610: *FOOD ADV DEVELOPMENT*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Combat Feeding Program Management	Various	RDECOM, Natick, MA:Natick, MA	3.508	0.404		0.398		-		0.398	Continuing	Continuing	Continuing
		Subtotal	3.508	0.404		0.398		-		0.398			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Service Food/Combat Feeding Equipment	Various	RDECOM, Natick, MA:Natick, MA	29.901	1.660		1.410		-		1.410	Continuing	Continuing	Continuing
Joint Service Food/Combat Feeding Equipment	Various	Various:Various	18.051	1.625		1.499		-		1.499	Continuing	Continuing	Continuing
		Subtotal	47.952	3.285		2.909		-		2.909			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Service Food/Combat Feeding Equipment	Various	DTC/AEC:National Capitol Region	7.508	0.545		0.536		-		0.536	Continuing	Continuing	Continuing
		Subtotal	7.508	0.545		0.536		-		0.536			

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	58.968	4.234		3.843		-		3.843			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603747A: *Soldier Support and Survivability*	PROJECT 610: *FOOD ADV DEVELOPMENT*

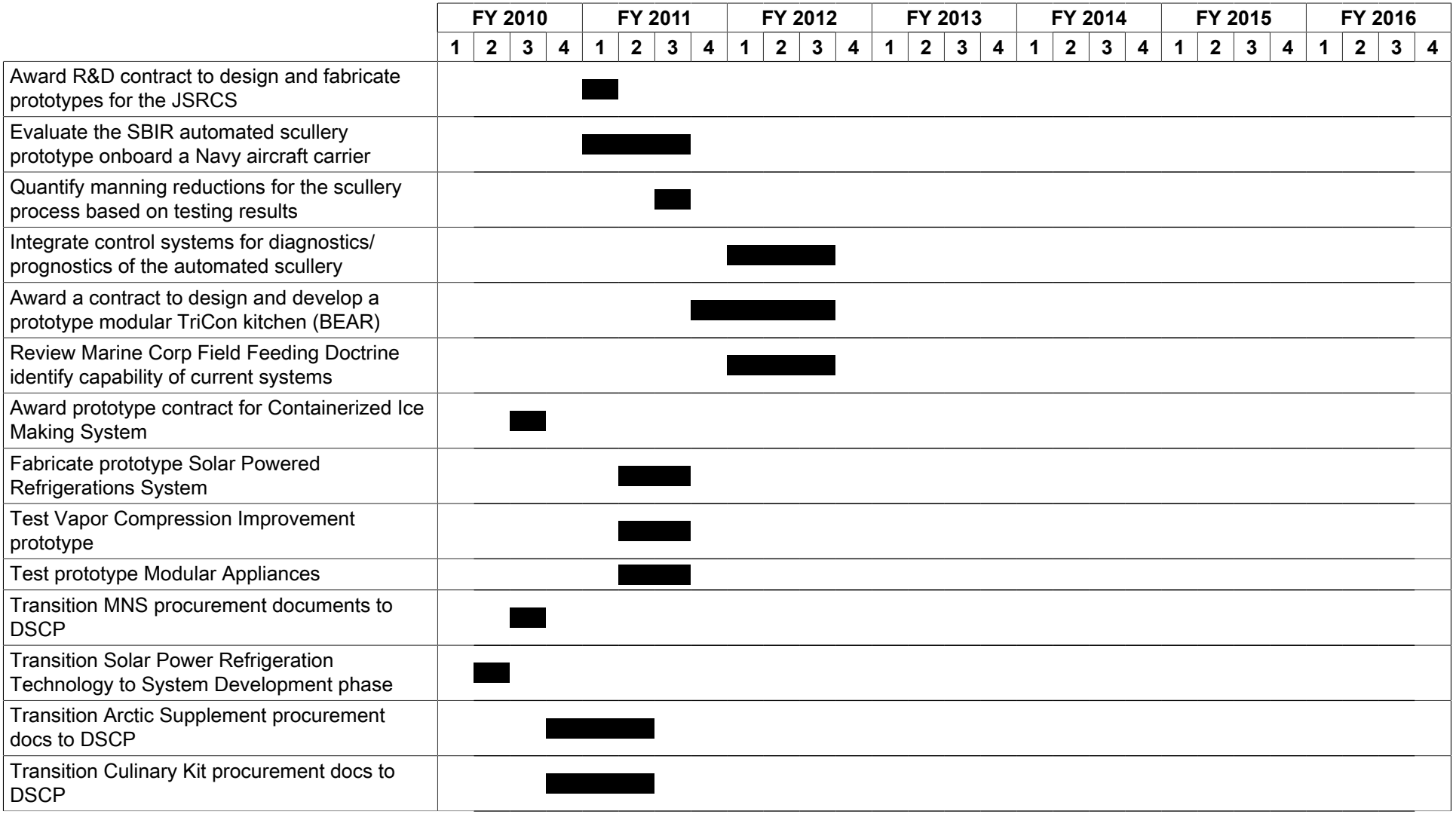

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603747A: *Soldier Support and Survivability*	PROJECT 610: *FOOD ADV DEVELOPMENT*

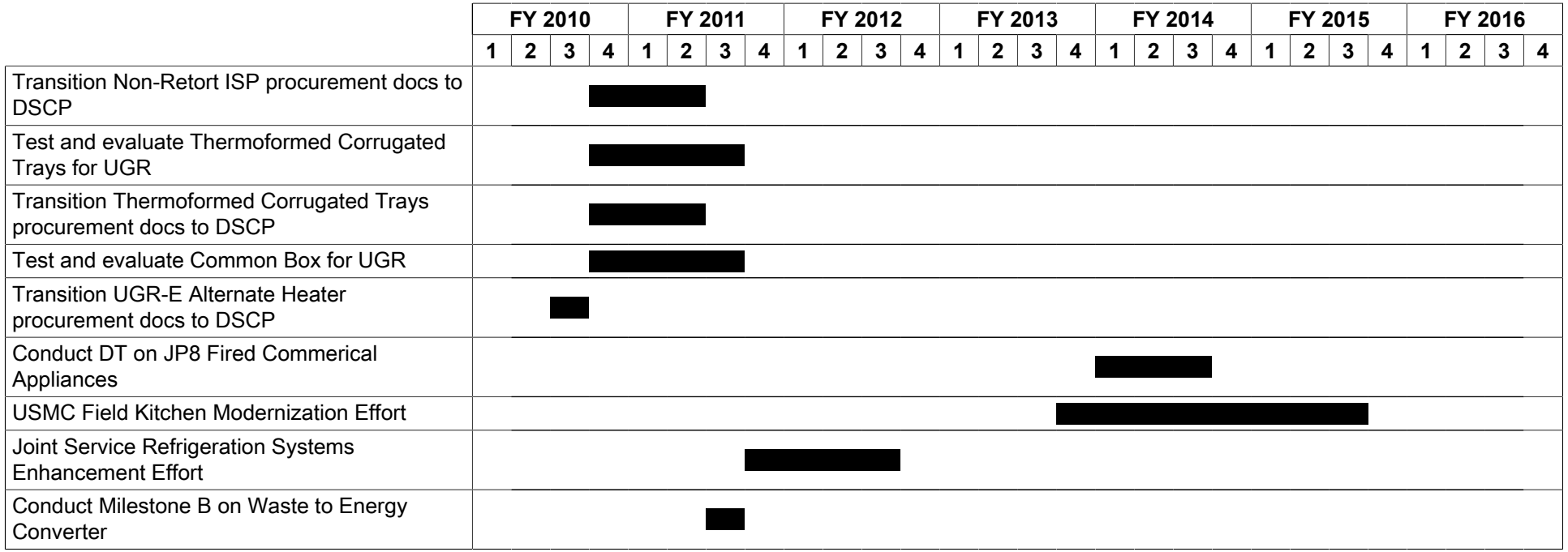

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603747A: *Soldier Support and Survivability*	**PROJECT** 610: *FOOD ADV DEVELOPMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Award R&D contract to design and fabricate prototypes for the JSRCS	1	2011	1	2011
Evaluate the SBIR automated scullery prototype onboard a Navy aircraft carrier	1	2011	3	2011
Quantify manning reductions for the scullery process based on testing results	3	2011	3	2011
Integrate control systems for diagnostics/prognostics of the automated scullery	1	2012	3	2012
Award a contract to design and develop a prototype modular TriCon kitchen (BEAR)	4	2011	3	2012
Review Marine Corp Field Feeding Doctrine identify capability of current systems	1	2012	3	2012
Award prototype contract for Containerized Ice Making System	3	2010	3	2010
Fabricate prototype Solar Powered Refrigerations System	2	2011	3	2011
Test Vapor Compression Improvement prototype	2	2011	3	2011
Test prototype Modular Appliances	2	2011	3	2011
Transition MNS procurement documents to DSCP	3	2010	3	2010
Transition Solar Power Refrigeration Technology to System Development phase	2	2010	2	2010
Transition Arctic Supplement procurement docs to DSCP	4	2010	2	2011
Transition Culinary Kit procurement docs to DSCP	4	2010	2	2011
Transition Non-Retort ISP procurement docs to DSCP	4	2010	2	2011
Test and evaluate Thermoformed Corrugated Trays for UGR	4	2010	3	2011
Transition Thermoformed Corrugated Trays procurement docs to DSCP	4	2010	2	2011
Test and evaluate Common Box for UGR	4	2010	3	2011
Transition UGR-E Alternate Heater procurement docs to DSCP	3	2010	3	2010
Conduct DT on JP8 Fired Commerical Appliances	1	2014	3	2014
USMC Field Kitchen Modernization Effort	4	2013	3	2015
Joint Service Refrigeration Systems Enhancement Effort	4	2011	3	2012

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603747A: *Soldier Support and Survivability*	PROJECT 610: *FOOD ADV DEVELOPMENT*

	Start		End	
Events	Quarter	Year	Quarter	Year
Conduct Milestone B on Waste to Energy Converter	3	2011	3	2011

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603747A: *Soldier Support and Survivability*	PROJECT C08: *RAPID EQUIPPING FORCE*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
C08: *RAPID EQUIPPING FORCE*	36.347	24.222	5.904	-	5.904	5.994	5.742	5.882	5.867	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Note that: (a) Equipment mix and configuration may change based on changes in operational environment and circumstances. (b) REF- Resource Management Capabilities Needs equipment and funding execution details will be provided in the Secretary of Army report to the Congressional Defense Committee in March and October of each year (per HAC Report #108-553, DoD APPNs Bill 2005, June 18, 2004, page 134.)

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 Operational 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 threats, in any operational environment. 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 Operational Commander's needs. For the REF, necessary materiel solutions can only be determined as "real time" threat modes are identified. Countermeasures to these evolving threats must be developed/ purchased/modified, often within weeks, for the first cycle of spiral type responses. The REF rapidly provides capabilities to Army forces employed globally through current and emerging technologies in order to improve operational effectiveness. Specifically the REF is charged to: EQUIP Operational Commanders with off-the-shelf (government or commercial) solutions or near term developmental items that can be researched, developed and acquired quickly - ideally within 90 days.

The REF process rapidly provides capabilities to meet immediate warfighter needs and supports efforts to mitigate asymmetric and traditional threats. A key element of this process is the provision for execution flexibility. The REF process provides the mechanism to respond rapidly to an adaptive enemy who changes in days and months, not years. The REF focuses on finding effective capabilities to counter emerging and future threats.

The REF works directly with Operational Commanders to find solutions to identified equipping requirements. These solutions may result in procurement of new or existing military/commercial materiel equipment, or accelerated development of a Future Force materiel solution for insertion into the current force now. The REF adaptive practices are at the forefront of Army modernization and serve as a catalyst and change agent for Army transformation. The REF accomplishes its mission by working in partnership with industry, academia, Army senior leaders, the Army Training and Doctrine Command (TRADOC), the Army acquisition community, and the Army Test and Evaluation Command (ATEC) to meet immediate warfighter needs.

The REF ensures safety testing of all equipment prior to release to Soldier. All equipment must pass Safety Confirmation and have a Capabilities and Limitations Report completed prior to being issued to operational unit/Soldiers.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603747A: *Soldier Support and Survivability*	**PROJECT** C08: *RAPID EQUIPPING FORCE*

The Asymmetric Warfare Group (FY12 OCO Request of $8.3 Million) integrates, coordinates, deploys and provides trained and ready forces, and exercises command and control of assigned forces in support of Joint and Army Forces Commanders? to enhance the combat effectiveness of the operating force and enable the defeat of asymmetric threats. The AWG observes, collects, develops, validates, and disseminates emerging tactics and techniques to those who need it. Provides Train-the-Trainer on countering asymmetric threats, to include Improvised Explosive Devices, suicide bombers and biological weapons. AWG identifies and coordinates the fielding of rapid prototyping and/or commercial off-the-shelf (COTS) solutions to counter asymmetrical threats.

--Army and Joint Forces must be able to successfully observe, detect, recognize, and identify both friendly and enemy forces on the modern battlefield. Intelligence, Surveillance, and Reconnaissance (ISR) functions are a principal element of U.S. defense capabilities, and include systems for gathering and processing information needed by decision-makers and military commanders. Efforts will enable combatant commanders to more quickly identify changes in threat situations and rapidly research and develop ISR material solutions to counter these new threats.

--Soldier Support efforts will exploit existing and emergent Small Unit Capabilities related to the individual Soldier protection and survivability to include countermeasure technologies. Efforts incorporate development of innovative solutions and modifications to government off-the-shelf (GOTS) and commercial off-the-shelf (COTS) products. These efforts may include contracting activities for technical subject matter expertise and engineering support in the Soldier Support commodity.

--Lethality efforts will develop material capabilities as a bridge to enduring capabilities for Army. Investments will include emerging technologies and countermeasures focused on constantly changing enemy tactics and procedures that threaten Soldiers. Efforts incorporate new solution developments and modifications to government off-the-shelf (GOTS) and commercial off-the-shelf (COTS) products. These efforts may include contracting activities for technical subject matter expertise and engineering support in the Lethality commodity.

--Mobility efforts will develop material capabilities as a bridge to enduring capabilities for the Army. Investments will include emerging technologies for innovative delivery to the battlefield, movement of supporting equipment and strategies to decrease vulnerability and increase survivability. Efforts will include adaptive prototyping devices for water
and other media in the defeat of IEDs as well as incorporating new solution developments and modifications to government off-the-shelf (GOTS) and commercial off-the-shelf (COTS) products. These efforts may include contracting activities for technical subject matter expertise and engineering support in the Mobility commodity.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Rapid Equipping Force	34.747	24.222	5.904	-	5.904
Articles:	0	0			
Description: Funding is provided for the following effort					
FY 2010 Accomplishments: The REF was designed to bridge the gap between the lengthy acquisition process and warfighter equipping needs that should not be delayed. The REF rapidly provides capabilities to Army Forces employed globally					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603747A: *Soldier Support and Survivability*	PROJECT C08: *RAPID EQUIPPING FORCE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
through current and emerging technologies in order to improve operational effectiveness. The REF ensures safety testing of all equipment prior to release to the Soldier. REF focuses on the development and testing of systems and mechanisms designed to detect, identify and defeat enemy equipment and actions designed to injure or kill in order to help protect the warfighter. The REF continues to maintain support to Commanders in the areas of Protecting the Force and Intelligence, Surveillance and Reconnaissance (ISR). ***FY 2011 Plans:*** The REF was designed to bridge the gap between the lengthy acquisition process and warfighter equipping needs that should not be delayed. The REF rapidly provides capabilities to Army Forces employed globally through current and emerging technologies in order to improve operational effectiveness. The REF ensures safety testing of all equipment prior to release to the Soldier. REF focuses on the development and testing of systems and mechanisms designed to detect, identify and defeat enemy equipment and actions designed to injure or kill in order to help protect the warfighter. The REF continues to maintain support to Commanders in the areas of Protecting the Force and Intelligence, Surveillance and Reconnaissance (ISR). ***FY 2012 Base Plans:*** The REF was designed to bridge the gap between the lengthy acquisition process and warfighter equipping needs that should not be delayed. The REF rapidly provides capabilities to Army Forces employed globally through current and emerging technologies in order to improve operational effectiveness. The REF ensures safety testing of all equipment prior to release to the Soldier. REF focuses on the development and testing of systems and mechanisms designed to detect, identify and defeat enemy equipment and actions designed to injure or kill in order to help protect the warfighter. The REF continues to maintain support to Commanders in the areas of Protecting the Force and Intelligence, Surveillance and Reconnaissance (ISR).					
Title: Congressional Add - Squad Mission Support (SMSS) ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Squad Mission Support (SMSS)	1.600 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	36.347	24.222	5.904	-	5.904

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603747A: *Soldier Support and Survivability*	PROJECT C08: *RAPID EQUIPPING FORCE*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• M08101: *REF*	694.750	100.819	4.923	43.000	47.923		5.000	4.700	4.200	Continuing	Continuing
• 134: *Operations and Maintenance, Army*	11.431	103.300	20.800	116.800	137.600		21.335	21.501	21.866	Continuing	Continuing

D. 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 Operational Commander's needs.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603747A: *Soldier Support and Survivability*	PROJECT C08: *RAPID EQUIPPING FORCE*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Base: Various Projects - Protect The Force in Counter Insurgency	Various	Various:Various	-	5.442		3.504		-		3.504	Continuing	Continuing	Continuing
Base: Various Projects - Enhance Intelligence Surveilance Recon	Various	Various:Various	-	3.151		0.400		-		0.400	Continuing	Continuing	Continuing
Base: Various Projects - Logistics/Medical in Counterinsurgency Opns	Various	Various:Various	-	0.573		-		-		-	Continuing	Continuing	Continuing
Base: Various Projects - Timeliness of Analysis and Information Dissemination	Various	Various:Various	-	2.435		-		-		-	Continuing	Continuing	Continuing
Congressional Add - Squad Mission Support (SMSS)	Various	Various:Various	-	-		-		-		-	Continuing	Continuing	Continuing
SSTR/ Economic Assumption/ FFRDC and SBIR	FFRDC	Various:Various	-	-		-		-		-	Continuing	Continuing	Continuing
OCO: Rapid Equipping Force	Various	Various:Various	-	9.900		-		-		-	Continuing	Continuing	0.000
		Subtotal	-	21.501		3.904		-		3.904			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ATEC - Protect Force in Counterinsurgency Operations	TBD	Various:Various	-	2.721		2.000		-		2.000	Continuing	Continuing	Continuing
		Subtotal	-	2.721		2.000		-		2.000			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	24.222		5.904		-		5.904			

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603766A: *Tactical Electronic Surveillance System - Adv Dev*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	17.023	17.962	5.766	-	5.766	6.542	6.661	6.590	6.628	Continuing	Continuing
907: *Tactical Exploitation of National Capabilities-MIP*	17.023	17.962	5.766	-	5.766	6.542	6.661	6.590	6.628	Continuing	Continuing

Note

Change Summary Explanation: Funding - FY 2012: Funding partially restored to support development efforts that ensure Army continued interoperability with National Intelligence Community.

A. Mission Description and Budget Item Justification

The Army Special Program Office (ASPO) executes the Congressionally-directed Tactical Exploitation of National Exploitation of National CAPabilities (TENCAP) program under the direction of the TENCAP General Officers Steering Group (TGOSG). The TGOSG validated the three core tenets of TENCAP: (1) to understand and influence National technologies and architectures; (2) to perform cross-agency engineering to leverage National capabilities for Army purposes; and (3) to provide core engineering expertise across National and theater Intelligence, Surveillance, and Reconnaissance (ISR) layers to enable integration of space with the Army aerial, terrestrial, and foundation layers. ASPO rapidly develops Quick Reaction Capabilities (QRCs) (e.g. Air Vigilance) in response to Joint and Army-approved Operational Needs Statements (JUONS/ONS). TENCAP relies upon Subject Matter Experts (SMEs) with core competencies in National and theater level systems and capabilities, who are embedded or interface directly with Science and Technology (S&T) divisions at the NRO, NGA, and NSA, as well as other DOD and non-DOD S&T and academic institutions, and serves as the Army's primary technical interface to these organizations.

The TGOSG specifically directs TENCAP to support in three areas: (1) Integrated Intelligence Architecture (I2A), (2) space and cross-layer integration, and (3) assess current warfighter operational gaps and opportunities and recommend solutions.

TENCAP Subject Matter Experts and Technical Engineers protect Army equities in the Intelligence Community (IC) and ensure that critical Army requirements are addressed in the development of: (1) new sensor capabilities; (2) data processing, exploitation, and dissemination architectures; and (3) Joint Concepts of Operations (CONOPS). TENCAP also serves as the Army's centralized lead to evaluate, enhance, prototype, and transition new technologies/capabilities, developed in the Science & Technology (S&T) community, to Army tactical systems to include Distributed Common Ground System-Army (DCGS-A), Prophet, and Warfighter Information Network-Tactical (WIN-T). TENCAP facilitates integration of these systems into a coherent enterprise solution that serves as a force multiplier for Intelligence, Surveillance, and Reconnaissance (ISR), Battle Command, and Force Protection capabilities. TENCAP emerging technologies (1) ensure continued access to current National and Theater sensors and supporting ground architectures; and (2) exploit new opportunities that focus on improving the tasking, analysis, processing, exploitation and dissemination of the data collected. This includes efforts to: (1) shorten targeting timelines down to Platoon level; (2) enhance target identification; (3) provide better target location (accuracy); (4) provide continued coverage of a target; (5) develop in-theater analytic tools to exploit data in near-real-time to support contingency operations.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603766A: *Tactical Electronic Surveillance System - Adv Dev*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	12.164	17.962	3.005	-	3.005
Current President's Budget	17.023	17.962	5.766	-	5.766
Total Adjustments	4.859	-	2.761	-	2.761
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	4.859	-	2.761	-	2.761

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603766A: *Tactical Electronic Surveillance System - Adv Dev*	PROJECT 907: *Tactical Exploitation of National Capabilities-MIP*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
907: *Tactical Exploitation of National Capabilities-MIP*	17.023	17.962	5.766	-	5.766	6.542	6.661	6.590	6.628	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Army Special Program Office (ASPO) executes the Congressionally-directed Tactical Exploitation of National Exploitation of National CAPabilities (TENCAP) program under the direction of the TENCAP General Officers Steering Group (TGOSG). The TGOSG validated the three core tenets of TENCAP: (1) to understand and influence National technologies and architectures; (2) to perform cross-agency engineering to leverage National capabilities for Army purposes; and (3) to provide core engineering expertise across National and theater Intelligence, Surveillance, and Reconnaissance (ISR) layers to enable integration of space with the Army aerial, terrestrial, and foundation layers. ASPO rapidly develops Quick Reaction Capabilities (QRCs) (e.g. Air Vigilance) in response to Joint and Army-approved Operational Needs Statements (JUONS/ONS). TENCAP relies upon Subject Matter Experts (SMEs) with core competencies in National and theater level systems and capabilities, who are embedded or interface directly with Science and Technology (S&T) divisions at the NRO, NGA, and NSA, as well as other DOD and non-DOD S&T and academic institutions, and serves as the Army's primary technical interface to these organizations.

The TGOSG specifically directs TENCAP to support in three areas: (1) Integrated Intelligence Architecture (I2A), (2) space and cross-layer integration, and (3) assess current warfighter operational gaps and opportunities and recommend solutions.

TENCAP Subject Matter Experts and Technical Engineers protect Army equities in the Intelligence Community (IC) and ensure that critical Army requirements are addressed in the development of: (1) new sensor capabilities; (2) data processing, exploitation, and dissemination architectures; and (3) Joint Concepts of Operations (CONOPS). TENCAP also serves as the Army's centralized lead to evaluate, enhance, prototype, and transition new technologies/capabilities, developed in the Science & Technology (S&T) community, to Army tactical systems to include Distributed Common Ground System-Army (DCGS-A), Prophet, and Warfighter Information Network-Tactical (WIN-T). TENCAP facilitates integration of these systems into a coherent enterprise solution that serves as a force multiplier for Intelligence, Surveillance, and Reconnaissance (ISR), Battle Command, and Force Protection capabilities. TENCAP emerging technologies (1) ensure continued access to current National and Theater sensors and supporting ground architectures; and (2) exploit new opportunities that focus on improving the tasking, analysis, processing, exploitation and dissemination of the data collected. This includes efforts to: (1) shorten targeting timelines down to Platoon level; (2) enhance target identification; (3) provide better target location (accuracy); (4) provide continued coverage of a target; (5) develop in-theater analytic tools to exploit data in near-real-time to support contingency operations.

FY2012 Base funding in the amount of $5.766 million provides for (1) development activities that exploit and facilitate the integration of advancing Joint and National space/airborne sensor capabilities (multiple Intelligence disciplines) to ensure Army Tactical Commanders have access to and use of those assets, and (2) development of TENCAP General Officer Steering Group (TGOSG) validated and prioritized efforts to meet or accelerate ISR collection, targeting, and situational awareness requirements for contingency operations.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603766A: *Tactical Electronic Surveillance System - Adv Dev*	PROJECT 907: *Tactical Exploitation of National Capabilities-MIP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: TENCAP Focus Areas (Emerging technologies)	6.422	9.042	-
Articles:	0	0	
Description: Collaborate, develop and exploit emerging multi-INT and Space-based technologies to satisfy/accelerate ISR, Battle Command and Force Protection requirements			
FY 2010 Accomplishments: Fielded two prototype Advanced Geo-Spatial Imagery (AGI) processors to OEF and OIF that allow local units to integrate National Technical Means as a basis for processing and analysis; led effort to develop Specific Emitter Identification (SEI) algorithm that increased twenty fold the satellite data available for analysis and reporting. Integrated broadcast receipt of Full Motion Video (FMV) at BCT and below			
FY 2011 Plans: Improve 24/7 Multi-INT sensor coverage; enhances MI Co GEOINT by adding SIGINT geo-positioning on FMV, Moving Target Indicator (MTI) tracks on FMV; HUMINT reports on FMV, and AGI exploitation tools; theater control of a National sensor; Develop strategy to institutionalize I2A for replication into new Areas of Operations (AOR) and maximize effectivity; Improve identity resolution of threat targets; improve geo-positioning accuracy across sensors/fires.			
Title: Exercises and Mission Rehearsals	0.686	1.205	-
Articles:	0	0	
Description: Develop simulations for TENCAP mission rehearsals, warfighter exercises, and CONOPS revision and development (Mission transitioning to PM DCGS-A in FY10)			
FY 2010 Accomplishments: Upgraded National and Theater sensor simulation system used on all Mission Rehearsal Exercises (MRX) to reflect new capabilities and CONOPS. Supported 5 Division/Corps MRXs.			
FY 2011 Plans: (Mission transitioned to PM DCGS-A in FY10, FY11 funds redirected to TFAs)			
Title: TENCAP Core for Cross-agency engineering	7.080	3.850	3.583
Articles:	0	0	
Description: Understand and influence development efforts and changes in Joint and National technologies and architectures, leverage investments, and ensure cross-layer integration of Space for tactical Army use.			
FY 2010 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603766A: *Tactical Electronic Surveillance System - Adv Dev*	PROJECT 907: *Tactical Exploitation of National Capabilities-MIP*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Leveraged $3.8M MERIT from NRO for Army ISR priorities; began interoperability assessment of 4 different 3G handheld systems to be used at Squad level; coordinated establishment of emitter test range for National and Theater sensors; coordinated Army response to new NGA targeting requirements; coordinated CONOPS that allows BCTs to obtain commercial imagery ***FY 2011 Plans:*** Migrate new SEI capabilities to terrestrial and airborne sensors; ensure Army ISR requirements are included in National SIGINT CDD Increment 2; execute MERIT program; monitor emerging technologies and new national system developments; improve interoperability between Army and external communications architectures; lead integration of emerging wireless capabilities into a single Army architecture ***FY 2012 Plans:*** Execute MERIT program; monitor emerging technologies and new national system developments; demonstrate concept payloads to support persistent ISR with Long Endurance Multi-Intelligence Vehicle (LEMV)			
Title: Program Support at Army Special Program Office (ASPO) ***Articles:*** ***Description:*** Provide necessary Acquisition program oversight and support (Gov salaries, travel, admin, budget, logistics) for all TENCAP activities and Quick Reaction Capabilities (QRCs) projects ***FY 2010 Accomplishments:*** Provided management and support to all ASPO base programs and QRCs with successful transition of Tactical Exploitiation Systems (TES) capabilities to PM DCGS-A, and realized effeciencies through six in-sourcing conversion hires and more than 10% reduction of overall Program Support overhead costs ***FY 2011 Plans:*** Continues program support for all ASPO base programs and QRCs. ***FY 2012 Plans:*** Continues program support for all ASPO base programs and QRCs.	2.835 0	3.865 0	2.183
Accomplishments/Planned Programs Subtotals	17.023	17.962	5.766

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603766A: *Tactical Electronic Surveillance System - Adv Dev*	**PROJECT** 907: *Tactical Exploitation of National Capabilities-MIP*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

TENCAP acquisition strategy is supported by an annual process that provides validates and directs TENCAP requirements. This begins with the annual spring TENCAP capabilities board hosted by the DA G2 with the goal to capture and represent Army-wide TENCAP requirements. This is followed by the TENCAP Council of Colonels (COC) in the May to June timeframe. An annual TENCAP General Officer Steering Group (TGSOG) is planned for July to August to support the POM cycle. The TGOSG is represented by the G2, G3, G6, G8, and ASA(ALT) who validate and prioritize proposed initiatives that address Army shortfalls or capability gaps. TENCAP partners with PEOs and Program Managers to facilitate transfer/integration of capabilities into Program of Record (POR) systems. The increase of funds in FY12 from the previous funding position reflects the Army's intent to fulfill the TGOSG direction and re-establish a funding level that enables TENCAP to achieve the three core tenets of the TGOSG: (1) to understand and influence National technologies and architectures; (2) to perform cross-agency engineering to leverage National capabilities for Army purposes; and (3) to provide core engineering expertise across National and theater Intelligence, Surveillance, and Reconnaissance (ISR) layers to enable integration of space with the Army aerial, terrestrial, and foundation layers. To maximize Army TENCAP efficiencies, TENCAP will: (1) leverage and exploit the Intelligence Community's (IC) and Science & Technology (S&T) development investments to minimize costs to the Army; (2) limit duplication of effort within Army programs; (3) improve transition of S&T capabilities to Army PORs.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603766A: *Tactical Electronic Surveillance System - Adv Dev*	PROJECT 907: *Tactical Exploitation of National Capabilities-MIP*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Intelligence Subject Matter Experts and Engineering Services (SETA)	C/FFP	TASC, Inc.:Alexandria, VA	5.700	2.950		1.660		-		1.660	Continuing	Continuing	Continuing
Imagery Intelligence Engineering Services (Matrix Government Engineers)	MIPR	Army Geospatial Center (AGC):Alexandria, VA	1.900	0.900		0.120		-		0.120	Continuing	Continuing	Continuing
		Subtotal	7.600	3.850		1.780		-		1.780			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TENCAP Focus Areas (Emerging Technologies)	MIPR	Multiple:Multiple	-	5.177		1.803		-		1.803	Continuing	Continuing	0.000
		Subtotal	-	5.177		1.803		-		1.803			0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TENCAP Focus Areas (Emerging Technologies)	MIPR	Multiple:Multiple	-	7.730		2.183		-		2.183	Continuing	Continuing	0.000
		Subtotal	-	7.730		2.183		-		2.183			0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Exercises and Mission Rehearsals	MIPR	Multiple:Multiple	1.786	1.205		-		-		-	Continuing	Continuing	Continuing
		Subtotal	1.786	1.205		-		-		-			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603766A: *Tactical Electronic Surveillance System - Adv Dev*	PROJECT 907: *Tactical Exploitation of National Capabilities-MIP*

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9.386	17.962		5.766		-		5.766			

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*						R-1 ITEM NOMENCLATURE PE 0603774A: *Night Vision Systems Advanced Development*					
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	8.000	-	-	-	-	-	-	-	-	0.000	8.000
131: *NIGHT VISION SYS A/DEV*	8.000	-	-	-	-	-	-	-	-	0.000	8.000

Note

Change Summary Explanation: FY10 funds reprogrammed for Electro Optical Infgra Red w/Laser Designator (EO/IR/LD) Common Sensor Payload (CSP) High Definition Target Location Accuracy (HD/TLA)efforts supporting Unmanned Aircraft Systems (UAS).

A. Mission Description and Budget Item Justification

This program element 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 warfighter. A major thrust will be to transition technologies to acquisition programs that meet required, advanced sensor capabilities. This includes the ability for sensors to accomplish Advanced Unmanned Aerial Vehicle (UAV) Payload missions.

This program has no FY12 Base or OCO requirement.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	8.000	-	-	-	-
Total Adjustments	8.000	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	8.000	-			
• SBIR/STTR Transfer	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603774A: *Night Vision Systems Advanced Development*	PROJECT 131: *NIGHT VISION SYS A/DEV*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
131: *NIGHT VISION SYS A/DEV*	8.000	-	-	-	-	-	-	-	-	0.000	8.000
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project supports the Army's transformation by developing payloads for brigade combat team, division, and corps Unmanned Aircraft Systems(UAS) and unmanned systems in accordance with Headquarters Department of the Army (HQDA) and Training and Doctrine Command (TRADOC) priorities.

The Electro Optical Infra Red w/Laser Designator (EO/IR/LD) Common Sensor Payload (CSP) High Definition Target Location Accuracy (HD/TLA) is being developed and built at the direction of the Vice Chief of Staff of the Army for the Gray Eagle (formerly known as Extended Range Multi Purpose) program and has potential application to other platforms. The CSP HDTLA system will provide a day/night capability to collect and display continuous high definition imagery with enhanced ability to designate targets of interest for attack by laser guided precision weapons.

This program has no FY12 Base or OCO requirement.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: CSP HD/TLA HD/IR and Laser Technology	8.000	-	-	-	-
Articles:	0				
Description: HD/IR and Laser Technology Maturity					
FY 2010 Accomplishments: HD/IR and Laser Technology Maturity					
Accomplishments/Planned Programs Subtotals	8.000	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDT&E - 0305204A: *Tactical Unmanned Aerial Vehicle (11A)*	39.591		16.000		16.000		14.905	15.305	15.763	0.000	107.764
	87.154		136.183	10.800	146.983		259.486	234.153	59.707	0.000	1,052.524

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603774A: *Night Vision Systems Advanced Development*	PROJECT 131: *NIGHT VISION SYS A/DEV*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• APA - A00020: *MQ-1 Payload - UAS*											

D. Acquisition Strategy

Acquisition Strategy. The approved acquisition strategy was a sole source task order through the competitively awarded Navy Basic Order Agreement (BOA) with Raytheon to mature the HDIR camera and the Diode Pump laser technology from Technology Readiness Level (TRL) 5 to TRL 6. Once sufficiently matured, the components will be incorporated (integrated) into test systems and transitioned into the Block upgrade program to undergo further system and qualification testing (FY12) as part of RDTE efforts conducted in the HD/TLA Block upgrade under Advanced Payloads (PE 0305204A Project D11A).

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603774A: *Night Vision Systems Advanced Development*	PROJECT 131: *NIGHT VISION SYS A/DEV*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HD/IR and Laser technology Maturity	C/BOA	Raytheon:McKinney, TX	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	-	-		-		-		-			0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		-		-			0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603774A: *Night Vision Systems Advanced Development*	PROJECT 131: *NIGHT VISION SYS A/DEV*

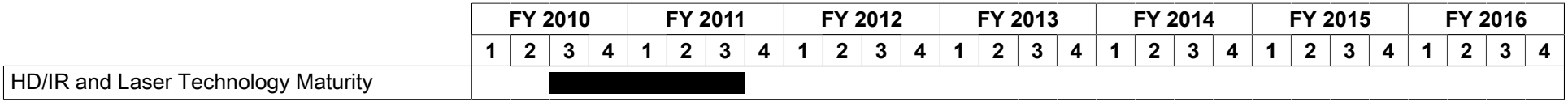

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603774A: *Night Vision Systems Advanced Development*	**PROJECT** 131: *NIGHT VISION SYS A/DEV*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
HD/IR and Laser Technology Maturity	3	2010	3	2011

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	20.203	4.695	4.946	-	4.946	5.108	4.786	4.683	4.684	Continuing	Continuing
035: *NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE*	8.573	4.695	4.520	-	4.520	4.668	4.352	4.683	4.331	Continuing	Continuing
04E: *ENVIRONMENTAL RESTORATION TECH VALIDATION*	-	-	0.426	-	0.426	0.440	0.434	-	0.353	Continuing	Continuing
E23: *ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) PILOT IN DOD*	1.989	-	-	-	-	-	-	-	-	0.000	1.989
EP1: *ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)*	9.641	-	-	-	-	-	-	-	-	0.000	9.641

Note

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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 demonstrated and 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 heading for user to implement").

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603779A: *Environmental Quality Technology - Dem/Val*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	18.374	4.695	4.770	-	4.770
Current President's Budget	20.203	4.695	4.946	-	4.946
Total Adjustments	1.829	-	0.176	-	0.176
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	1.990	-			
• SBIR/STTR Transfer	-0.161	-			
• Adjustments to Budget Years	-	-	0.176	-	0.176

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT 035: *NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
035: *NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE*	8.573	4.695	4.520	-	4.520	4.668	4.352	4.683	4.331	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The National Defense Center for Energy and Environment(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). In May 2008, the program name was redesignated from the National Defense for Environmenal Excellence to the National Defense Center for Energy and Environment to ensure that the Center's mission recognizes and addresses the strategic interdependence of energy and environmental technology requirements within an overall sustainability framework in support of our installations, weapons systems and war fighters. This name change also directly supports the DoD's proactive implementation of Executive Order 13423, "Strengthening Federal Environmental, Energy and Transportation Management."

Our broadly encompassing and growing mobile, personal and stationary advanced energy technology requirements include infrastructure, alternative and synthetic fuels, surety, renewables, storage, distribution, advanced power, micro-grids, transportation, systems integration and others. Further, to train as we fight, validated energy and environmental technologies need to be available, and implemented at our power projection bases and training areas. The NDCEE will continue to research, demonstrate and transfer these technologies supporting our integrated Environment, Safety and Occupational Health (ESOH) and energy objectives with full consideration of the triple bottom line of mission, environment and community.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Management and operations of the NDCEE by the prime contractor.	3.283	1.325	1.300
Articles:	0	0	
Description: Management and operations of the NDCEE by the prime contractor.			
FY 2010 Accomplishments: Management and operations of the NDCEE by the prime contractor.			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT 035: *NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Management and operations of the NDCEE by the prime contractor. ***FY 2012 Plans:*** Management and operations of the NDCEE by the prime contractor.			
Title: Industrial base integration, operation of the NDCEE environmental technology facility, and environmental information analysis. ***Articles:*** ***Description:*** Industrial base integration, operation of the NDCEE environmental technology facility, and environmental information analysis. ***FY 2010 Accomplishments:*** Industrial base integration, operation of the NDCEE environmental technology facility, and environmental information analysis. ***FY 2011 Plans:*** Industrial base integration, operation of the NDCEE environmental technology facility, and environmental information analysis. ***FY 2012 Plans:*** Industrial base integration, operation of the NDCEE environmental technology facility, and environmental information analysis.	1.277 0	0.500 0	0.500
Title: Conduct demonstration/validation of environmentally acceptable technologies that enhance military readiness and reduce production, operating, and/or disposal costs. ***Articles:*** ***Description:*** Conduct demonstration/validation of environmentally acceptable technologies that enhance military readiness and reduce production, operating, and/or disposal costs. ***FY 2010 Accomplishments:*** Conduct demonstration/validation of environmentally acceptable technologies that enhance military readiness and reduce production, operating, and/or disposal costs. ***FY 2011 Plans:*** Conduct demonstration/validation of environmentally acceptable technologies that enhance military readiness and reduce production, operating, and/or disposal costs. ***FY 2012 Plans:***	3.385 0	2.603 0	2.485

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603779A: *Environmental Quality Technology - Dem/Val*	**PROJECT** 035: *NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Conduct demonstration/validation of environmentally acceptable technologies that enhance military readiness and reduce production, operating, and/or disposal costs.			
Title: NDCEE Government program management during contract negotiations and execution and during project formulation, execution, and technology transfer. ***Articles:*** ***Description:*** NDCEE Government program management during contract negotiations and execution and during project formulation, execution, and technology transfer. ***FY 2010 Accomplishments:*** NDCEE Government program management during contract negotiations and execution and during project formulation, execution, and technology transfer. ***FY 2011 Plans:*** NDCEE Government program management during contract negotiations and execution and during project formulation, execution, and technology transfer. ***FY 2012 Plans:*** NDCEE Government program management during contract negotiations and execution and during project formulation, execution, and technology transfer.	0.628 0	0.267 0	0.235
Accomplishments/Planned Programs Subtotals	8.573	4.695	4.520

C. Other Program Funding Summary ($ in Millions)

N/A

D. 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

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT 035: *NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE*

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.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT 035: *NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Office of the Assistant Sec Army (Installations and Environment):Washington, DC	4.738	0.880		0.508		-		0.508	Continuing	Continuing	Continuing
		Subtotal	4.738	0.880		0.508		-		0.508			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
To Be Determined	TBD	To Be Determined:To Be Determined	5.028	1.200		-		-		-	Continuing	Continuing	Continuing
		Subtotal	5.028	1.200		-		-		-			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Data	Various	Concurrent Technologies Corporation (CTC):Johnstown, PA	16.440	1.120		1.709		-		1.709	Continuing	Continuing	Continuing
		Subtotal	16.440	1.120		1.709		-		1.709			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Testing	Various	Concurrent Technologies Corp.:Johnstown, PA	2.466	-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT 035: *NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Testing and Evaluation	Various	Concurrent Technologies Corp.:Johnstown, PA	18.327	1.495		2.303		-		2.303	Continuing	Continuing	Continuing
		Subtotal	20.793	1.495		2.303		-		2.303			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	46.999	4.695		4.520		-		4.520			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT 04E: *ENVIRONMENTAL RESTORATION TECH VALIDATION*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
04E: *ENVIRONMENTAL RESTORATION TECH VALIDATION*	-	-	0.426	-	0.426	0.440	0.434	-	0.353	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Environmental Information Technology Management (EITM) includes support for Knowledge Based Corporate Reporting system (KBCRS) and Defense Environmental Network Information Exchange (DENIX). This new request for research, development, test and evaluation (RDTE) is to enhance KBCRS to a net-centric all services transactional system of record and reporting tool set. Also includes EITM upgrades to incorporate new security and other requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Restoration Tech Validation	-	-	0.426
Description: Funding is provided for the following effort ***FY 2012 Plans:*** To provide system upgrades to support users with reporting requirements, for example the Annual Report to Congress.			
Accomplishments/Planned Programs Subtotals	-	-	0.426

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The U.S. Army's Environmental Quality Technology (EQT) program provides new or innovative methods, equipment, materials, and/or protocols to reduce the total cost of Army operations and/or allow training operations to continue with minimum adverse impact on the environment that result from base operations and weapons system maintenance/support activities. The restoration demonstration/validation portion of EQT is designed to support Army-wide stewardship of its lands and facilities by focusing on the transfer of potential technological solutions to restoration problems on Army installations and to industry to support restoration of Army lands to their former or redesignated use. The restoration EQT demonstration/validation program goal is to support installation needs through exploitation of technology without compromising readiness or training. It accomplishes this goal in two steps. First, Technology Teams identify, prioritize, and justify technological solutions to Army high-priority environmental quality technology restoration requirements. Second, based on Department of the Army and Office of the Secretary of Defense guidance, funding authority is sought through the Army's planning, programming, and budgeting process. The EQT management oversight process consists of an Environmental Technology Technical Council (ETTC; a program management council), an Environmental Technology Integrated Process Team, (a working group supporting the ETTC) and, in this case, a Restoration Technology Team (composed of experts in restoration technology and in Army user needs).

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603779A: *Environmental Quality Technology - Dem/Val*	**PROJECT** 04E: *ENVIRONMENTAL RESTORATION TECH VALIDATION*

This program is leveraging resources and knowledge gained from the Strategic Environmental Research and Development Program (SERDP), the Environmental Security Technology Certification Program (ESTCP) and the National Defense Center for Environmental Excellence (NDCEE).

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT 04E: *ENVIRONMENTAL RESTORATION TECH VALIDATION*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Enhance KBCRS to a net-centric all services transactional system of record and reporting tool set.	TBD	To Be Determined:To Be Determined	5.100	-		0.426		-		0.426	Continuing	Continuing	Continuing
		Subtotal	5.100	-		0.426		-		0.426			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	5.100	-		0.426		-		0.426			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT E23: *ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) PILOT IN DOD*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
E23: *ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) PILOT IN DOD*	1.989	-	-	-	-	-	-	-	-	0.000	1.989
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Environmental Management System (EMS) Pilot in Department of Defense (DOD) is a new Congressional interest project. The project is to demonstrate and validate EMS internet-based software applications at Defense sites in order to better manage environmental information and reduce compliance burdens of installations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Demonstrated and validated EMS internet-based software applications at Department of Defense (DoD) installation sites. ***Articles:***	1.989 0	-	-
Description: Demonstrated and validated EMS internet-based software applications at Department of Defense (DoD) installation sites. ***FY 2010 Accomplishments:*** Demonstrated and validated EMS internet-based software applications at Department of Defense (DoD) installation sites.			
Accomplishments/Planned Programs Subtotals	1.989	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT EP1: *ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
EP1: *ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)*	9.641	-	-	-	-	-	-	-	-	0.000	9.641
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Environmental Quality Technology Dem/Val Adds (CA) - Congressional directed Army Environmental quality technology projects that address critical requirements, reduce out-year costs, and support long-term sustainability. This includes compliance, conservation, restoration and installation pollution prevention technologies.

Congressional directed Environmental Quality Technology (EQT) projects for FY 2010 appropriation totaling $13.7 million: Cadmium Emissions Reduction $1.000 million; Vanadium Technology $2.400 million; Environmental Management Information System (EMIS) $2.000 million (should be in APE 643779E23), and Program increase for National Defense Center for Energy and Environment (NDCEE) $7.500 million (should be in APE 643779035).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Renewable Energy Testing Center (RETC) - congressional interest project ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Renewable Energy Testing Center (RETC)-Provide metics on robustness, safety, energy efficiency and environmenatal effectiveness.	0.800 0	-	-
Title: Cadmium Emissions Reduction -Letterkenny Army Depot ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Cadmium Emissions Reduction -Letterkenny Army Depot - congressional interest project	1.000 0	-	-
Title: Vanadium Technology Program - congressional interest project ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:***	2.400 0	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT EP1: *ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Vanadium Technology Program			
Title: National Defense Center for Energy and Environment(NDCEE) ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** National Defense Center for Energy and Environment (NDCEE) - Program Increase (should be reported in APE 643779035)	3.141 0	-	-
Title: Environmental Management System (EMS) Pilot in DOD - congressional interest project ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Environmental Management System (EMS) Pilot in DOD - congressional interest project (should be reported in APE 643779E23)	2.300 0	-	-
Accomplishments/Planned Programs Subtotals	9.641	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Congressional interest projects

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603779A: *Environmental Quality Technology - Dem/Val*	PROJECT EP1: *ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Demonstration/Validation of Cadmium Emissions Reduction	Various	Mountain Research, LLC:Altoona, PA	20.110	-		-		-		-	Continuing	Continuing	0.000
Demonstration/Validation of Vanadium Technology	Various	ATI:Pittsburgh, PA	-	-		-		-		-	Continuing	Continuing	0.000
Demonstration/Validation of Environmental Management Information System project.	Various	Concurrent Technologies Corp:Johnstown, PA	-	-		-		-		-	Continuing	Continuing	0.000
Demonstration/Validation of Renewable Energy Testing Center	Various	Technikon, LLC:McClellan Park, CA	-	-		-		-		-	Continuing	Continuing	0.000
Development Testing at the National Defense Center for Energy and Environment.	Various	Concurrent Technologies Corp:Johnstown, PA	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	20.110	-		-		-		-			0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	20.110	-		-		-		-			0.000

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	164.014	190.903	297.955	-	297.955	275.192	168.948	71.671	41.843	Continuing	Continuing
367: *WIN-T INCREMENT 2 - INITIAL NETWORKING-ON-THE-MOVE*	18.303	17.413	10.147	-	10.147	-	-	-	20.983	Continuing	Continuing
372: *WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE*	145.711	173.490	287.808	-	287.808	275.192	168.948	71.671	20.860	Continuing	Continuing

Note

Change Summary Explanation for FY12:
PB11($175.504) FY12PB ($297955) DELTA $122.451M
The FY12 RDTE increase is necessary to cover increased Inc 3 RDTE efforts to support MS C decision.

A. Mission Description and Budget Item Justification

The Defense Acquisition Executive (DAE), through the Nunn-McCurdy certification process, certified a restructured WIN-T program on June 5, 2007. The certification Acquisition Decision Memorandum (ADM) stated that the Army will restructure the WIN-T Major Defense Acquisition Program (MDAP) to absorb the former Joint Network Node (JNN) Network program. It further stated that the restructured program will consist of four Increments: Inc 1, Inc 2, Inc 3, and Inc 4.

WIN-T is key to the Army's Network Modernization program. The WIN-T program's focus is to design, develop, produce and field the Future Modular Force transport network, while leveraging mature technologies that can enhance the Current Modular Force to operate in an emerging noncontiguous environment.

FY12 funding in support of Inc 2 provides government test support for New Equipment Training, Cold Region Test, Force Development Test/Experimentation (FD/T), Initial Operational Test (IOT), as well as the support required for the Full Rate Production Decision Review.

FY12 funding in support of Inc 3 continues the Inc 3 System Development and Demonstration contract to include software development engineering builds, continued development of Inc 3 mature technologies that will be inserted into Inc 2, development of an aerial tier, as well as continuing the objective transmission subsystem; JC4ISR radio and associated antennas and the Transmission Subsystem Critical Design Review (TSS CDR) to support the Inc 3 engineering and manufacturing development phase.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	169.783	190.903	175.504	-	175.504
Current President's Budget	164.014	190.903	297.955	-	297.955
Total Adjustments	-5.769	-	122.451	-	122.451
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-5.769	-	122.451	-	122.451

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	PROJECT 367: *WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
367: *WIN-T INCREMENT 2 - INITIAL NETWORKING-ON-THE-MOVE*	18.303	17.413	10.147	-	10.147	-	-	-	20.983	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Increment 2 capability supports limited collaboration, mission planning and on-the-move. WIN-T Inc 2 is key to the Army's Network Modernization program. It enables distribution of information via voice, data, and real-time video from ground-to-ground and ground-to satellite communications. Increment 2 capitalizes on commercial off-the-shelf/Government off-the-shelf (COTS)/(GOTS), mature technologies and adds mobility to the Brigade Combat Team (BCT) including Battalions and Companies. Increment 2 initially enables planning, monitoring, controlling and prioritizing (PMCP) the Div Headquarters (HQs) and/or the Bde network. It will disseminate critical information in less than five seconds and time sensitive information in less than eight seconds. Mobile communications for select users are enabled at 256 kbps for speeds up to 25 mph. It provides vehicular personnel force protection. It extends wide area/Global Information Grid (GIG) network connectivity to the lower tactical subnets at the company level. Network survivability is enhanced by automatically reconfiguring the network due to node(s) or link loss(es). Spectrum reuse is accomplished with the Highband Network Waveform (HNW) and Net Centric Waveform (NCW). The Quality of Service (QoS) capability enables message trafficking prioritization by level of importance to the warfighter. This Increment provides commercial and military band satellite communications to Div, Bde, Bn and Company (Co). WIN-T Inc 3 develops the mature technologies which will be inserted into Inc 2.

FY12 funding provides government test support for New Equipment Training, Cold Region Test, Force Development Test and Experimentation (FDT/E), Initial Operational Test (IOT), as well as the support required for the Full Rate Production Decision Review.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Test and Evaluation	15.526	16.808	9.753	-	9.753
Articles:	0	0			
Description: Test and Modeling and Simulation activities.					
FY 2010 Accomplishments: WIN-T Increment 2 completed MS C and entered Low Rate Initial Production (LRIP). Completion of DT/LUT report for MS C, Phase 1, 2 and 3 reliability growth tests and preparation for PQT-C.					
FY 2011 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
WIN-T Increment 2 will conduct Production Qualification Test - Contractor (PQT-C), Production Qualification Test - Government (PQT-G), and Logistics Demonstration as well as preparation for IOT. ***FY 2012 Base Plans:*** WIN-T Increment 2 will provide government test support for New Equipment Training, Cold Region Test, Force Development Test and Experimentation (FDT&E), Initial Operational Test (IOT), as well as the support required for the Full Rate Production Decision Review.					
Title: Support Cost ***Articles:*** ***Description:*** Technical Engineering Services and Research Studies. ***FY 2010 Accomplishments:*** Technical Engineering Services and Research Studies.	2.241 0	-	-	-	-
Title: Management Services ***Articles:*** ***Description:*** Program Management Support ***FY 2010 Accomplishments:*** Program Management support for successful completion of MS C. ***FY 2011 Plans:*** Program Management Support and Small Business Innovative Research (SBBR)/ Small Business Technology Transfer (STTR) support. ***FY 2012 Base Plans:*** Program Management support.	0.536 0	0.605 0	0.394	-	0.394
Accomplishments/Planned Programs Subtotals	18.303	17.413	10.147	-	10.147

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	PROJECT 367: *WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• BW7115: *WIN-T Inc 2 Procurement*	457.408	335.265	924.184	0.547	924.731		725.956	1,032.171	961.229	Continuing	Continuing

D. Acquisition Strategy

The Defense Acquisition Executive (DAE), through the Nunn-McCurdy certification process, certified a restructured WIN-T program on June 5, 2007. The certification Acquisition Decision Memorandum (ADM) stated that the Army will restructure the WIN-T Major Defense Acquisition Program (MDAP) to absorb the former Joint Network Node (JNN) Network program. It further stated that the restructured program will consist of four Increments: Incs 1, 2, 3, and 4.

Inc 2 has completed Limited User Testing (LUT) and a Production Readiness Review (PRR). The program obtained MS C approval in February 2010, and awarded a Low Rate Initial Production Letter contract for LRIP Lot 1A in March 2010. The March 09, 2010 Inc 2 ADM authorizes the Army to procure the first LRIP Lot 1A communication nodes to support the IOT&E. September 03, 2010 Army was authorized to procure the second LRIP Lots 1B and 2 upon definitization of the LRIP Lot 1A contract. The LRIP contract was definitized on December 30, 2010.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	PROJECT 367: *WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Various:Various	10.494	0.605		0.394		-		0.394	Continuing	Continuing	Continuing
		Subtotal	10.494	0.605		0.394		-		0.394			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platform Integration	Various	Various:Various	14.408	-		-		-		-	Continuing	Continuing	Continuing
Increment 2 ECP to the Inc 3 SDD	Various	General Dynamics C4 Systems Inc:Taunton, MA	43.191	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	57.599	-		-		-		-			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Engineering Services and Research Studies	Various	General Dynamics C4 Systems Inc:Taunton, MA	6.741	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	6.741	-		-		-		-			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Modeling & Simulation	Various	Various:Various	24.786	16.808		9.753		-		9.753	Continuing	Continuing	Continuing
		Subtotal	24.786	16.808		9.753		-		9.753			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	PROJECT 367: *WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE*	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	99.620	17.413		10.147		-		10.147			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	**PROJECT** 367: *WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE*

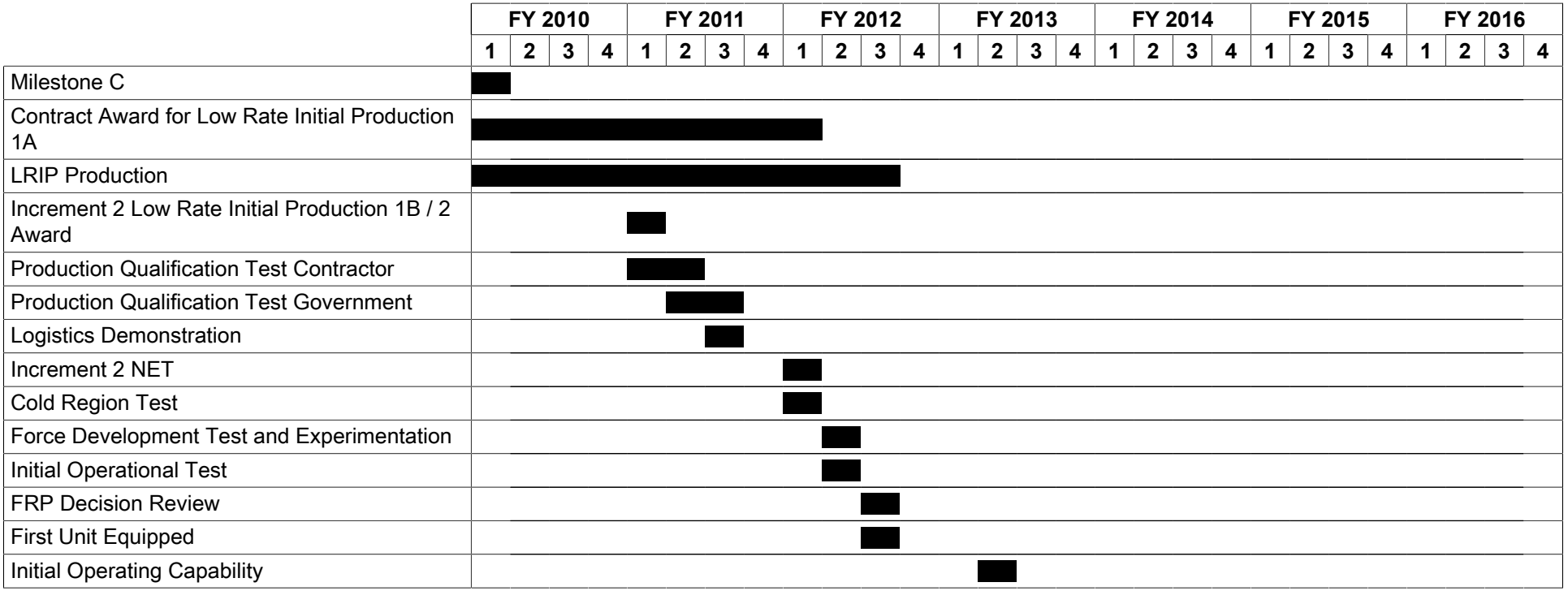

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	**PROJECT** 367: *WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone C	1	2010	1	2010
Contract Award for Low Rate Initial Production 1A	1	2010	1	2012
LRIP Production	1	2010	3	2012
Increment 2 Low Rate Initial Production 1B / 2 Award	1	2011	1	2011
Production Qualification Test Contractor	1	2011	2	2011
Production Qualification Test Government	2	2011	3	2011
Logistics Demonstration	3	2011	3	2011
Increment 2 NET	1	2012	1	2012
Cold Region Test	1	2012	1	2012
Force Development Test and Experimentation	2	2012	2	2012
Initial Operational Test	2	2012	2	2012
FRP Decision Review	3	2012	3	2012
First Unit Equipped	3	2012	3	2012
Initial Operating Capability	2	2013	2	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	PROJECT 372: *WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
372: *WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE*	145.711	173.490	287.808	-	287.808	275.192	168.948	71.671	20.860	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Warfighter Information Network - Tactical (WIN-T) Inc 3 is the Army's communications system for reliable, secure, and seamless video, data, imagery, and voice services that enables decisive combat actions. WIN-T Inc 3 is key to the Army's Network Modernization program. 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. WIN-T Increment 3 will provide the Commander/user within the tactical area of responsibility a mobile infrastructure that passes relevant information effectively and efficiently for combined arms capabilities in all required terrain and environmental conditions. WIN-T is implementing the Global Information Grid (GIG) NetCentric Vision including Information Assurance and Network Centric Enterprise Services. In addition, WIN-T is a key component of the tactical GIG. WIN-T provides dynamic bandwidth and enabling formations On-The-Move (OTM). WIN-T Inc 3 develops the mature technologies which will be inserted into Inc 2. Inc 3 introduces the aerial tier to complete the 3 tier objective architecture.

FY12 funding continues the Inc 3 System Development and Demonstration contract to include software development engineering builds, continued development of Inc 3 mature technologies that will be inserted into Inc 2, development of an aerial tier, as well as providing the objective transmission subsystem; Joint Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (JC4ISR) radio and associated antennas and the Transmission Subsystem Critical Design Review (TSS CDR) to support the Inc 3 engineering and manufacturing development phase.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Product Development	127.609	152.512	256.565	-	256.565
Articles:	0	0			
Description: Increment 3 Engineering Manufacturing Development continues development of Inc 3 system, hardware and software development, prototype manufacturing of test assets for the Inc 3 system as well as Inc 2 technical inserts and an aerial tier.					
FY 2010 Accomplishments: WIN-T Increment 3 continues the Engineering Manufacturing Development phase and began Platform Integration.					
FY 2011 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	PROJECT 372: *WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
WIN-T Increment 3 continues the Engineering Manufacturing Development phase and Platform Integration. ***FY 2012 Base Plans:*** WIN-T Increment 3 continues the Engineering Manufacturing Development phase and Platform Integration.					
Title: Support Cost ***Articles:*** ***Description:*** Technical Enginnering Services and Research Studies ***FY 2010 Accomplishments:*** Technical Enginnering Services and Research Studies ***FY 2011 Plans:*** Technical Enginnering Services and Research Studies ***FY 2012 Base Plans:*** Technical Enginnering Services and Research Studies	4.559 0	4.632 0	4.714	-	4.714
Title: Test and Evaluation ***Articles:*** ***Description:*** Testing and Modeling and Simulation ***FY 2011 Plans:*** WIN-T Increment 3 will continue with testing and Modeling and Simulation activites. ***FY 2012 Base Plans:*** WIN-T Increment 3 will continue with testing and Modeling and Simulation activites and fund preparation for the TSS DT/LUT.	-	1.103 0	4.569	-	4.569
Title: Management Services ***Articles:*** ***Description:*** Program Management Support and Small Business Innovative Research (SBBR)/ Small Business Technology Transfer (STTR) support. ***FY 2010 Accomplishments:***	13.543 0	15.243 0	21.960	-	21.960

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	PROJECT 372: *WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Program Management Support. ***FY 2011 Plans:*** Program Management Support and Small Business Innovative Research (SBBR)/ Small Business Technology Transfer (STTR) support. ***FY 2012 Base Plans:*** Program Management Support.					
Accomplishments/Planned Programs Subtotals	145.711	173.490	287.808	-	287.808

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• BW7120: *WIN-T Inc 3 Procurement*							316.587	299.818	406.731	Continuing	Continuing

D. Acquisition Strategy

The Defense Acquisition Executive (DAE), through the Nunn-McCurdy certification process, certified a restructured WIN-T program on June 5, 2007. The certification Acquisition Decision Memorandum (ADM) stated that the Army will restructure the WIN-T Major Defense Acquisition Program (MDAP) to absorb the former Joint Network Node (JNN) Network program. It further stated that the restructured program will consist of four Increments: Incs 1, 2, 3, and 4.

The ADM of May 18, 2009 approved an initial Acquisition Program Baseline (APB) for Inc 3 and noted known changes to the program including elimination of Future Combat Systems (FCS) manned ground vehicles (MGVs), liquid cooled radios, and, subsequently, the termination of Class IV Unmanned Aerial Vehicles (UAV). A follow-on Increment 3 ADM on July 31, 2009 permitted the obligation of remaining FY2009 Research, Development, Test and Evaluation (RDT&E) funds to resource EMD efforts including development of the Joint Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance radio to support the air-tier capability. The revised Acquisition Program Baseline (APB) as directed in the ADM aligns with the Department's FY 2010 and FY 2011 President's Budgets as well as the cancellation of the Future Combat Systems (FCS) manned ground vehicle component. This revised ADM was approved on October 22, 2010.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	PROJECT 372: *WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Various:Various	44.746	15.243		21.960		-		21.960	Continuing	Continuing	Continuing
		Subtotal	44.746	15.243		21.960		-		21.960			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Increment 3 System Development and Demonstration	Various	General Dynamics C4 Systems Inc:Taunton, MA	390.180	148.112		220.188		-		220.188	Continuing	Continuing	Continuing
Platform Integration	Various	Various:Various	0.700	4.400		36.377		-		36.377	Continuing	Continuing	Continuing
		Subtotal	390.880	152.512		256.565		-		256.565			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Engineering Services and Research Studies	Various	General Dynamics C4 Systems Inc:Taunton, MA	9.058	4.632		4.714		-		4.714	Continuing	Continuing	Continuing
		Subtotal	9.058	4.632		4.714		-		4.714			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing and Modeling & Simulation	Various	Various:Various	2.005	1.103		4.569		-		4.569	Continuing	Continuing	Continuing
		Subtotal	2.005	1.103		4.569		-		4.569			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	PROJECT 372: *WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE*

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	446.689	173.490		287.808		-		287.808			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	**PROJECT** 372: *WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE*

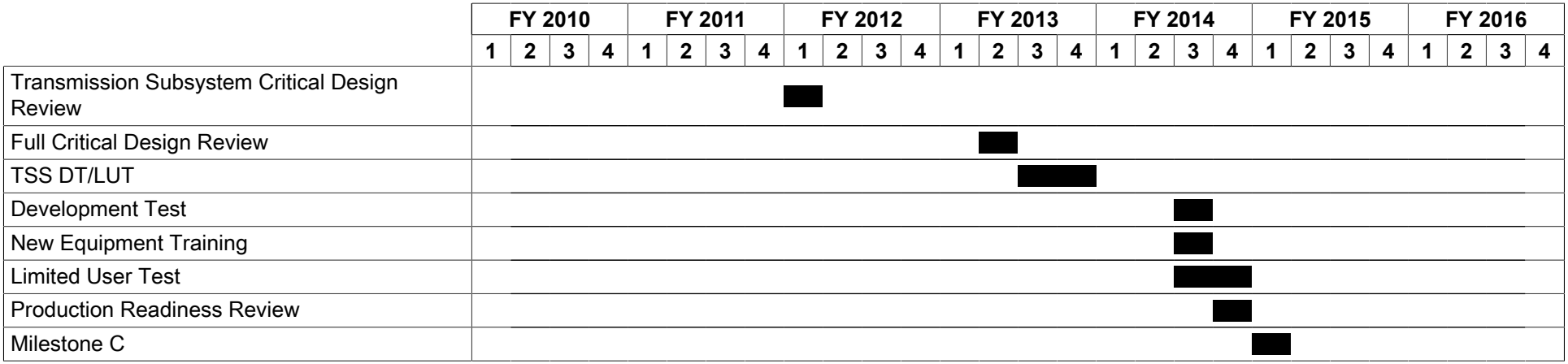

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603782A: *WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL*	**PROJECT** 372: *WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Transmission Subsystem Critical Design Review	1	2012	1	2012
Full Critical Design Review	2	2013	2	2013
TSS DT/LUT	3	2013	4	2013
Development Test	3	2014	3	2014
New Equipment Training	3	2014	3	2014
Limited User Test	3	2014	4	2014
Production Readiness Review	4	2014	4	2014
Milestone C	1	2015	1	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603790A: *NATO Research and Development*						
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	4.848	5.060	4.765	-	4.765	4.908	5.002	5.161	5.001	Continuing	Continuing
691: *NATO RSCH & DEVEL*	4.848	5.060	4.765	-	4.765	4.908	5.002	5.161	5.001	Continuing	Continuing

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, including the NATO Defense Against Terrorism initiatives. 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.

B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	5.022	5.060	5.129	-	5.129
Current President's Budget	4.848	5.060	4.765	-	4.765
Total Adjustments	-0.174	-	-0.364	-	-0.364
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.174	-			
• Adjustments to Budget Years	-	-	-0.364	-	-0.364

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603790A: *NATO Research and Development*	PROJECT 691: *NATO RSCH & DEVEL*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
691: *NATO RSCH & DEVEL*	4.848	5.060	4.765	-	4.765	4.908	5.002	5.161	5.001	Continuing	Continuing
Quantity of RDT&E Articles											

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, including the NATO Defense Against Terrorism initiatives. 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Scientific and Technology Enterprise Management	0.825	0.840	0.860
Articles:	0	0	
Description: Scientific and Technology Enterprise Management (STEM)/International Online (IOL) Development and Implementation NATO/International Cooperative R&D (AR 70-41) and International Acquisition (AR 70-1, AR 70-3)			
FY 2010 Accomplishments: The goal of this program is to expand worldwide allied standardization and interoperability through cooperative research and development (R&D) and technology sharing per SECDEF guidance and especially in support of the U.S. Army. This program partially funds the travel costs and administrative support (studies, analysis, interpretation, equipment, etc.) required to participate in internationally, such as the North Atlantic Treaty Organization (NATO) Army Armaments Group (NAAG), Defense Against Terrorism (DAT) and to pursue new cooperative R&D initiatives and international cooperative agreements such as memoranda of understanding. This program also includes: the United States' share of costs of the NATO Civil Budget, Chapter IX, which funds the NATO Industrial Advisory Group (NIAG) and the Special Fund for Cooperative Planning (U. S. Army is Executive Agent for this NATO bill); partially funds the Five Power Senior National Representatives, Army [SNR (A)], the Technical Cooperative Program, Bilateral SNR(A)s, and Army armaments working groups with many nations.			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603790A: *NATO Research and Development*	PROJECT 691: *NATO RSCH & DEVEL*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
The goal of this program is to expand worldwide allied standardization and interoperability through cooperative research and development (R&D) and technology sharing per SECDEF guidance and especially in support of the U.S. Army. This program funds the travel costs and administrative support (studies, analysis, interpretation, equipment, etc.) required to participate in internationally, such as the North Atlantic Treaty Organization (NATO) Army Armaments Group (NAAG), Defense Against Terrorism (DAT) and to pursue new cooperative R&D initiatives and international cooperative agreements such as memoranda of understanding. This program also includes: the United States' share of costs of the NATO Civil Budget, Chapter IX, which funds the NATO Industrial Advisory Group (NIAG) and the Special Fund for Cooperative Planning (U. S. Army is Executive Agent for this NATO bill); partially funds the Five Power Senior National Representatives, Army [SNR (A)], the Technical Cooperative Program, Bilateral SNR(A)s, and Army armaments working groups with many nations. ***FY 2012 Plans:*** The goal of this program is to expand worldwide allied standardization and interoperability through cooperative research and development (R&D) and technology sharing per SECDEF guidance and especially in support of the U.S. Army. This program funds the travel costs and administrative support (studies, analysis, interpretation, equipment, etc.) required to participate in internationally, such as the North Atlantic Treaty Organization (NATO) Army Armaments Group (NAAG), Defense Against Terrorism (DAT) and to pursue new cooperative R&D initiatives and international cooperative agreements such as memoranda of understanding. This program also includes: the United States' share of costs of the NATO Civil Budget, Chapter IX, which funds the NATO Industrial Advisory Group (NIAG) and the Special Fund for Cooperative Planning (U. S. Army is Executive Agent for this NATO bill); partially funds the Five Power Senior National Representatives, Army [SNR (A)], the Technical Cooperative Program, Bilateral SNR(A)s, and Army armaments working groups with many nations.			
Title: Multilateral Interoperability Program ***Articles:*** ***Description:*** 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 (e.g. AFATDS, FADC2). ***FY 2010 Accomplishments:*** 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 (e.g. AFATDS, FADC2). ***FY 2011 Plans:***	0.686 0	0.667 0	0.677

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603790A: *NATO Research and Development*	PROJECT 691: *NATO RSCH & DEVEL*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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. ***FY 2012 Plans:*** Continued integration work from the Command and Control Systems Interoperability Program 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 (e.g. AFATDS, FADC2).			
Title: Low Level Air Defense Interoperability ***Articles:*** ***Description:*** 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 (shared) assets for automated air picture exchange. ***FY 2010 Accomplishments:*** 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 (shared) assets for automated air picture exchange. ***FY 2011 Plans:*** The objective of this program is to successfully demonstrate Command and Control (C2) interoperability among the participant nations' Short Range Air Defense (shared) assets for automated air picture exchange. ***FY 2012 Plans:*** The objective of this program is to successfully demonstrate Command and Control (C2) interoperability among the participant nations' Short Range Air Defense (shared) assets for automated air picture exchange.	0.220 0	0.225 0	0.209
Title: Multi-National Network Enabled Capabilities ***Articles:*** ***Description:*** Multi-National Network Enabled Capabilities (MNNEC) related Command, Control, Communications, Computers, Intelligence Surveillnace and Reconnaissance (C4ISR)(Potential Partners: United Kingdom, France, Italy, Germany and major NATO Allies) MNNEC would foucs on developing a single solutions standard avoiding development of multiple unique solutions and leverage existing interoperability standards developed by NATO as well as other international forums such as the Five Power Net Centrick PA. A single solution standard will include common doctrine, technical and procedural specifications to make better use of exising information, shared data, leverage national operating picture capabilities and enable the development of	0.547 0	0.540 0	0.550

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012

interoperability of data, databases, applications, security domains and national networks architectures. The MNNEC is more than interoperability of information systems; it is the complete networking of information systems with sensors and shooters focusing on building Net-Centric interoperability among coalition tactical land components operating in a Joint Environment, focused at the Brigade and Below level, but not excluding using the services provided at higher echelons. The MNNEC has a future force focus, endeavoring to define migration strategies for Net-Centric capabilities in the 2010-2025 timeframe with part of the work to determine the time-phased implementations of a Multi-National Network Enabled Capability. The end results would be an integration of national C2/C4ISR systems into an NCES environment to include the NATO Network Enabled Capabilities (NNEC) and the 5 Powers Net Centric Project Agreement.

FY 2010 Accomplishments:

Related to Command, Control, Communications, Computers, Intelligence Surveillnace and Reconnaissance (C4ISR)(Potential Partners: United Kingdom, France, Italy, Germany and major NATO Allies) MNNEC would foucs on developing a single solutions standard avoiding development of multiple unique solutions and leverage existing interoperability standards developed by NATO as well as other international forums such as the Five Power Net Centrick PA. A single solution standard will include common doctrine, technical and procedural specifications to make better use of exising information, shared data, leverage national operating picture capabilities and enable the development of interoperability of data, databases, applications, security domains and national networks architectures. The MNNEC is more than interoperability of information systems; it is the complete networking of information systems with sensors and shooters focusing on building Net-Centric interoperability among coalition tactical land components operating in a Joint Environment, focused at the Brigade and Below level, but not excluding using the services provided at higher echelons. The MNNEC has a future force focus, endeavoring to define migration strategies for Net-Centric capabilities in the 2010-2025 timeframe with part of the work to determine the time-phased implementations of a Multi-National Network Enabled Capability. The end results would be an integration of national C2/C4ISR systems into an NCES environment to include the NATO Network Enabled Capabilities (NNEC) and the 5 Powers Net Centric Project Agreement.

FY 2011 Plans:

Command, Control, Communications, Computers, Intelligence Surveillnace and Reconnaissance (C4ISR)(Potential Partners: United Kingdom, France, Italy, Germany and major NATO Allies) MNNEC would foucs on developing a single solutions standard avoiding development of multiple unique solutions and leverage existing interoperability standards developed by NATO as well as other international forums such as the Five Power Net Centrick PA. A single solution standard will include common doctrine, technical and procedural specifications to make better use of exising information, shared data, leverage national operating picture capabilities and enable the development of interoperability of data, databases, applications, security domains and national networks architectures. The MNNEC is more than interoperability of information systems; it is the complete networking of information systems with sensors and shooters focusing on building Net-Centric interoperability among coalition tactical land components operating in a Joint Environment, focused at the Brigade and Below level, but not excluding using the services

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
provided at higher echelons. The MNNEC has a future force focus, endeavoring to define migration strategies for Net-Centric capabilities in the 2010-2025 timeframe with part of the work to determine the time-phased implementations of a Multi-National Network Enabled Capability. The end results would be an integration of national C2/C4ISR systems into an NCES environment to include the NATO Network Enabled Capabilities (NNEC) and the 5 Powers Net Centric Project Agreement. ***FY 2012 Plans:*** Multi-National Network Enabled Capabilities (MNNEC) related Command, Control, Communications, Computers, Intelligence Surveillnace and Reconnaissance (C4ISR)(Potential Partners: United Kingdom, France, Italy, Germany and major NATO Allies) MNNEC would foucs on developing a single solutions standard avoiding development of multiple unique solutions and leverage existing interoperability standards developed by NATO as well as other international forums such as the Five Power Net Centrick PA. A single solution standard will include common doctrine, technical and procedural specifications to make better use of exising information, shared data, leverage national operating picture capabilities and enable the development of interoperability of data, databases, applications, security domains and national networks architectures. The MNNEC is more than interoperability of information systems; it is the complete networking of information systems with sensors and shooters focusing on building Net-Centric interoperability among coalition tactical land components operating in a Joint Environment, focused at the Brigade and Below level, but not excluding using the services provided at higher echelons. The MNNEC has a future force focus, endeavoring to define migration strategies for Net-Centric capabilities in the 2010-2025 timeframe with part of the work to determine the time-phased implementations of a Multi-National Network Enabled Capability. The end results would be an integration of national C2/ C4ISR systems into an NCES environment to include the NATO Network Enabled Capabilities (NNEC).			
Title: Combat Identification ***Articles:*** ***Description:*** 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 Concept Technology Demonstrator (ACTD), will pursue the NATO Staff Requirement and a STANAG for the Dismounted Soldier ID. ***FY 2010 Accomplishments:*** 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 Concept Technology Demonstrator (ACTD), will pursue the NATO Staff Requirement and a STANAG for the Dismounted Soldier ID. ***FY 2011 Plans:***	0.050 0	0.050 0	0.050

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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Title: Technology Research and Development Projects ***Articles:*** ***Description:*** 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. ***FY 2010 Accomplishments:*** 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. ***FY 2011 Plans:*** Technology Research and Development Projects 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. ***FY 2012 Plans:*** Technology Research and Development Projects (TRDP) (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.	0.932 0	0.980 0	0.809
Title: Senior National Representatives (Army) (SNR-(A))	0.738	0.873	0.725

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Articles:	0	0	

Description: 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. Technology Demonstrations 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 participating NATO nations with a view to assisting future operational and materiel interoperability. Army support of NAAG studies, analysis and technology demonstrations.

FY 2010 Accomplishments:
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. Technology Demonstrations 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 participating NATO nations with a view to assisting future operational and materiel interoperability. Army support of NAAG studies and technology demonstrations.

FY 2011 Plans:
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FY 2012 Plans:
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
participating NATO nations with a view to assisting future operational and materiel interoperability. Army support of NAAG studies, analysis and technology demonstrations.			
Title: Joint Tactical Radio System	0.300	0.270	0.265
Articles:	0	0	
Description: 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.			
FY 2010 Accomplishments: 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.			
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Title: Artillery Command and Control Interoperability	0.350	0.365	0.365
Articles:	0	0	

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: 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. ***FY 2010 Accomplishments:*** Artillery Command and Control Interoperability (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. ***FY 2011 Plans:*** Artillery Command and Control Interoperability (ASCA) (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. ***FY 2012 Plans:*** 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.			
Title: Force Protection Projects	0.200	0.250	0.255
Articles:	0	0	
Description: Force Protection Projects (FPP) (Partners: United Kingdom, France, Germany, Italy, Sweden, Canada): Force Protection Projects will include R&D collaborationon technologies such as Counter Rocket and Mortar (C-RAM) and Counter Improvised Explosive Devices (C-IED). Programs include Military Operations in Urban Terrain (MOUT) and a variety of Defense Against Terrorism (DAT) initiatives such as Defense Against Mortar Attacks (DAMA) and Joint Precision Air Drop System (JPADS). ***FY 2010 Accomplishments:*** Force Protection Projects (Partners; United Kingdom, France, Germany, Italy, Sweden, Canada): Force Protection Projects will include R&D collaborationon technologies such as Counter Rocket and Mortar (C-RAM) and Counter Improvised Explosive			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
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Accomplishments/Planned Programs Subtotals	4.848	5.060	4.765

C. Other Program Funding Summary ($ in Millions)

N/A

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.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STEM/IOL	TBD	RDECOM,:Ft. Belvoir, VA	0.363	-		0.035		-		0.035	Continuing	Continuing	0.000
MIP	Various	PEO C3S,:Ft. Monmouth, NJ	0.796	0.140		0.140		-		0.140	Continuing	Continuing	0.000
Low Level Air Defense Interoperability (LLAPI)	TBD	AMCOM,:Redstone Aresnal, AL	0.345	0.032		-		-		-	Continuing	Continuing	0.000
Shared Tactical GroundPicture (STGP)/Single Integrated Ground Picture (SIGP)	TBD	CECOM,:Ft. Monmouth, NJ	0.072	-		-		-		-	Continuing	Continuing	0.000
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	TBD	CECOM,:Ft. Monmouth, NJ	0.342	-		-		-		-	Continuing	Continuing	0.000
Combat Identification	TBD	CECOM,:Ft. Monmouth, NJ	0.497	0.025		0.025		-		0.025	Continuing	Continuing	0.000
SNR(A)	TBD	ARL,:APG, MD	0.544	0.045		-		-		-	Continuing	Continuing	0.000
TRDP	TBD	REDCOM,:Ft. Belvoir, VA	1.751	0.300		0.310		-		0.310	Continuing	Continuing	0.000
Artillery Command and Control Interoperability (ASCA)	TBD	CECOM,:Ft. Monmouth, NJ	0.106	0.007		0.015		-		0.015	Continuing	Continuing	0.000
JTRS	TBD	PM JTRS,:Ft. Monmouth, NJ	0.098	-		-		-		-	Continuing	Continuing	0.000
Force Protection Projects (FPP)	TBD	RDECOM,:Ft. Belvoir, VA	0.013	0.025		0.050		-		0.050	0.000	0.088	0.000
		Subtotal	4.927	0.574		0.575		-		0.575			0.000

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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Multilateral Interoperability Program (MIP)	TBD	Various:Various	1.706	0.186		0.177		-		0.177	Continuing	Continuing	Continuing
STEM-IOL	TBD	LSS/GDIT,:Fairfax, VA	4.535	0.595		0.595		-		0.595	Continuing	Continuing	Continuing
Low Level Air Defense Interoperability (LLAPI)	TBD	AMCOM,:Redstone Arsenal, AL	1.062	0.120		0.120		-		0.120	Continuing	Continuing	Continuing
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	TBD	CECOM,:Ft. Monmouth, NJ	1.107	-		-		-		-	Continuing	Continuing	Continuing
Combat Identification	TBD	CECOM,:Ft. Monmouth, NJ	0.942	0.025		-		-		-	Continuing	Continuing	Continuing
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	TBD	CECOM,:Ft. Monmouth, NJ	2.594	0.455		0.455		-		0.455	Continuing	Continuing	Continuing
Senior National Representatives (Army) (SNR[A])	Various	ARDEC,:Arlignton, VA	7.210	0.619		0.500		-		0.500	Continuing	Continuing	Continuing
TRDP	Various	Batelle/LMI,:McLean, VA	1.778	0.332		0.194		-		0.194	Continuing	Continuing	Continuing
Artillery Command and Control Interoperability (ASCA)	Various	CECOM,:Fort Monmouth, NJ	1.588	0.220		0.185		-		0.185	Continuing	Continuing	Continuing
Joint Tactical Radio System (JTRS)	Various	PM JTRS,:San Diego, CA	0.742	0.108		0.165		-		0.165	Continuing	Continuing	Continuing
Force Protection Projects (FPP)	Various	RDECOM,:Ft Belvoir, VA	0.100	0.125		0.115		-		0.115	0.000	0.340	Continuing
		Subtotal	23.364	2.785		2.506		-		2.506			

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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MIP	Various	CECOM:Ft. Monmouth, NJ	1.048	0.200		0.200		-		0.200	Continuing	Continuing	Continuing
STEM/IOL	Various	GDIT:Fairfax, VA	1.043	0.130		0.130		-		0.130	Continuing	Continuing	Continuing
Low Level Air Defense Interoperability (LLAPI)	Various	AMCOM,:Redstond Arsenal, AL	0.525	0.049		0.089		-		0.089	Continuing	Continuing	Continuing
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	Various	CECOM,:Fort Monmouth, NJ	0.246	-		-		-		-	Continuing	Continuing	Continuing
Combat Identification	Various	CECOM:Ft Monmouth, Nj	0.589	-		0.025		-		0.025	Continuing	Continuing	Continuing
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	Various	CECOM:Fort Monmouth, NJ	0.745	0.080		0.095		-		0.095	Continuing	Continuing	Continuing
SNR(A)	Various	ARL,:Aberdeen, Md	1.538	0.145		0.080		-		0.080	Continuing	Continuing	Continuing
TRDP	Various	RDECOM,:Ft. Belvoir, VA	1.788	0.333		0.305		-		0.305	Continuing	Continuing	Continuing
Joint Tactical Radio System (JTRS)	Various	PM JTRS,:San Diego, VA	0.385	0.117		0.100		-		0.100	Continuing	Continuing	Continuing
Artillery Command and Control Interoperability (ASCA)	Various	CECOM:Ft Monmouth, Nj	0.410	0.083		0.115		-		0.115	Continuing	Continuing	Continuing
Force Protection Projects (FPP)	Various	RDECOM,:Fort Belvoir, VA	0.010	0.022		0.050		-		0.050	0.000	0.082	Continuing
		Subtotal	8.327	1.159		1.189		-		1.189			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MIP	Various	CECOM:Ft. Monmouth, NJ	0.967	0.160		0.160		-		0.160	Continuing	Continuing	0.000

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APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603790A: *NATO Research and Development*	PROJECT 691: *NATO RSCH & DEVEL*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STEM/IOL	Various	RDECOM,:Various	0.705	0.100		0.100		-		0.100	Continuing	Continuing	0.000
Low Level Air Defense Interoperability (LLAPI)	Various	AMCOM,:Redstone Aresnal, AL	0.208	0.019		-		-		-	Continuing	Continuing	0.000
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	Various	AMSAA,:Ft. Monmouth, NJ	0.134	-		-		-		-	Continuing	Continuing	0.000
Combat Identification	Various	CECOM:Ft Monmouth, NJ	0.534	-		-		-		-	Continuing	Continuing	0.000
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	TBD	CECOM:Ft. Monmouth, NJ	0.498	-		-		-		-	Continuing	Continuing	0.000
SNR(A)	TBD	various:various	1.074	0.120		0.145		-		0.145	Continuing	Continuing	0.000
TRDP	TBD	To Be Determined:to Be Determined	1.010	-		-		-		-	Continuing	Continuing	0.000
ASCA	TBD	CECOM:Ft. Monmouth, NJ	0.249	0.040		0.050		-		0.050	Continuing	Continuing	0.000
Joint Tactical Radio System (JTRS)	TBD	CECOM:Ft. Monmouth, NJ	0.160	0.075		-		-		-	Continuing	Continuing	0.000
Force Protection Projects (FPP)	TBD	RDECOM,:Ft. Belvoir, VA	0.012	0.028		0.040		-		0.040	0.000	0.080	0.000
		Subtotal	5.551	0.542		0.495		-		0.495			0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	42.169	5.060		4.765		-		4.765			

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*						
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	8.203	8.355	7.107	-	7.107	8.510	8.331	7.736	7.626	Continuing	Continuing
B32: *ADV MAINT CONCEPTS/EQ*	8.203	8.355	7.107	-	7.107	8.510	8.331	7.736	7.626	Continuing	Continuing

Note

FY 10: $4,974K for Vectored Thrust Ducted Propeller.

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 enhance the functionality of current and future aircraft by improving the effectiveness of maintenance and servicing operations through validating new maintenance concepts to improve man and machine interfaces, improve aircraft maintenance processes, reduce Operation and Support (O&S) cost and insert diagnostics technologies to replace obsolete and unsupportable equipment.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	8.492	8.355	7.704	-	7.704
Current President's Budget	8.203	8.355	7.107	-	7.107
Total Adjustments	-0.289	-	-0.597	-	-0.597
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	4.974	-			
• SBIR/STTR Transfer	-0.290	-			
• Adjustments to Budget Years	-	-	-0.597	-	-0.597
• Other Adjustments 1	-4.973	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*	PROJECT B32: *ADV MAINT CONCEPTS/EQ*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
B32: *ADV MAINT CONCEPTS/EQ*	8.203	8.355	7.107	-	7.107	8.510	8.331	7.736	7.626	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This Project provides advanced development aviation support of programs that include advanced maintenance concepts and equipment. The FY 2012 budget request funds Aviation Advanced Development which supports Aviation Ground Support Equipment development prototypes that will enhance the functionality of current and future aircraft by improving the effectiveness of maintenance and servicing operations through validating new maintenance concepts to improve man and machine interfaces, improve aircraft maintenance processes, reduce Operation and Support (O&S) costs, 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, redesign and development of the modular Aviation Ground Power Unit (AGPU), Aviation Light Utility Mobile Maintenance Cart (ALUMMC), Aviation - Sets, Kits, Outfits and Tools (A-SKOT), Battle Damage Assessment and Repair (BDAR), Flexible Engine Diagnostic System (FEDS), Hand Held Fire Extinguisher (HHFE), Non-Destructive Test Equipment System (NDTE), Standard Aircraft Towing Systems (SATS), Unit Maintenance Aerial Recovery Kit (UMARK), and development support for tools needed to provide maintenance support to modernized/future force aircraft.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Aviation Ground Power Unit (AGPU)	0.615	1.395	0.618
Articles:	0	0	
Description: Aviation Ground Power Units provide the capability of meeting Army helicopter servicing requirements into the next decade. ***FY 2010 Accomplishments:*** Hydraulic Module Phase I re-design, completion of manifold block erosion analysis and testing. ***FY 2011 Plans:*** Analysis and prototype of hydraulic pump disengage mechanism and hydraulic module re-design. ***FY 2012 Plans:*** Complete Hydraulic Module.			
Title: Aviation Light Utility Mobile Maintenance Cart (ALUMMC)	-	0.705	0.536

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*	PROJECT B32: *ADV MAINT CONCEPTS/EQ*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Articles:		0	
Description: Aviation Light Utility Mobile Maintenance Cart will enhance mission performance of currect forces by reducing an intensive manpower and logistics burden imposed on Army Aviation Units. ***FY 2011 Plans:*** Test and evaluation of products, developmental and operational test plans, test and evaluation master plans; site determination to conduct required test events and procuring product samples. ***FY 2012 Plans:*** Finalization of product evaluation and operational test plans.			
Title: Aviation - Sets, Kits, Outfits and Tools (A-SKOT)	-	1.117	3.360
Articles:		0	
Description: Aviation - Sets, Kits, Outfits and Tools provides standardized tools, kits and outfits which meet transformation modularity, flexibility and mobility requirements for repair of rotary wing aircraft during combat, contingency and training operations. ***FY 2011 Plans:*** Develop Acquisition Strategy, Life Cycle Sustainment Plan, Acquistion Program Baseline, and System Engineering Plans for the Aviation Maintenance Company Capability (AMCC). ***FY 2012 Plans:*** Develop Operational Test Plan, Test and Evaluation Master Plan; determine test site, procure production samples, and Environmental, Safety, and Occupational Health (ESOH) testing for the Aviation Maintenance Company Capability (AMCC).			
Title: Battle Damage Assessment and Repair (BDAR) Block II	0.100	0.075	0.050
Articles:	0	0	
Description: Battle Damage Assessment Repair Block II provides damage assessment and rapid repair to aviation aircraft. ***FY 2010 Accomplishments:*** Composite Kit Development and Demonstration to include systems engineering, logistics support planning and documentation required to design, develop and fabricate a Composite Kit. ***FY 2011 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*	PROJECT B32: *ADV MAINT CONCEPTS/EQ*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Continue Composite Kit Development and Demonstration Testing. ***FY 2012 Plans:*** Complete Composite Kit Development and Demonstration Testing.			
Title: Flexible Engine Diagnostics System (FEDS) ***Articles:*** ***Description:*** Flexible Engine Diagnostics System is a Turboshaft Engine Test Stand that verifies flight readiness/safety of engines removed from aircraft for maintenance. This test stand supports the CH-47, AH-64 and UH-60 aviation aircraft. ***FY 2010 Accomplishments:*** Reliability analysis, protoype build, testing, software development and modernization. ***FY 2011 Plans:*** Completion of the modernization, development and qualification program.	3.176 0	0.400 0	-
Title: Hand Held Fire Extinguisher (HHFE) ***Articles:*** ***Description:*** The Hand Head Fire Extinguisher is being reviewed to find a replacement for the Halon 1301 agent currently fielded on Aviation Rotary Wing aircraft. ***FY 2010 Accomplishments:*** Tested four agents to optimize the replacement of the existing Halon 1301. ***FY 2011 Plans:*** Test FM-200 mixed with sodium bicarbonate.	1.950 0	0.830 0	-
Title: Non-Destructive Test Equipment (NDTE) ***Articles:*** ***Description:*** Non-Destructive Test Equipment provides Army Aviation Maintenance units with an electronic test instrument to inspect aircraft components and structures without complete disassembly or removal of components from the aircraft. ***FY 2010 Accomplishments:***	0.404 0	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*	PROJECT B32: *ADV MAINT CONCEPTS/EQ*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Researched a Computed Radiography Scanning System designed to significantly reduce inspection time and radiation levels associated with film radiography. A Product Item Description, Computed Radiography Technical Capability Assessment Report, X-Ray Source and Ancillary Equipment Technology and Safety Assessment Reports were developed.			
Title: Standard Aircraft Towing System (SATS) ***Articles:*** ***Description:*** Standard Aircraft Towing System fills the need for a standard aircraft towing system that has the capability to reposition all U.S. Army rotary wing aircraft. ***FY 2010 Accomplishments:*** Testing to determine if CABS should be included on the existing Standard Aircraft Towing System,	0.120 0	-	-
Title: Shop Equipment Contact Maintenance (SECM) ***Articles:*** ***Description:*** Shop Equipment Contact Maintenance provides the combat maintainer a contact maintenance vehicle with containerized tools/spares/modules for repair capability on aircraft. ***FY 2010 Accomplishments:*** Developed and tested two SECM production representative units. ***FY 2011 Plans:*** Development and testing of an export power system that will meet Phase II power requirements.	0.026 0	1.130 0	-
Title: Unit Maintenance Aerial Recovery Kit (UMARK) ***Articles:*** ***Description:*** Unit Maintenance Aerial Recovery Kit provides Aviation Support Company and Aviation Maintenance Company units with the ability to quickly rig crash-damaged non-flyable modernized aircraft or aircraft undergoing maintenance for evacuation. ***FY 2010 Accomplishments:*** Modeling & Simulation effort for alternative rigging procedures and completion of the development of UH-60M blade sleeve bags. ***FY 2011 Plans:*** Develop a test plan that will verify rigging procedures. ***FY 2012 Plans:***	0.548 0	1.398 0	1.199

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*	PROJECT B32: *ADV MAINT CONCEPTS/EQ*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Conduct ground and flight testing verification.			
Title: Management Support Services	0.379	0.395	0.385
Articles:	0	0	
Description: Management Support Services in Support of the Aviation Ground Support Equipment Product Management Office. ***FY 2010 Accomplishments:*** Management Support Services. ***FY 2011 Plans:*** Management Support Services. ***FY 2012 Plans:*** Management Support Services.			
Title: Technical Engineering Services	0.389	0.464	0.482
Articles:	0	0	
Description: Technical Engineering Services in support of Aviation Ground Support Equipment Product Management Office. ***FY 2010 Accomplishments:*** Technical Engineering Services. ***FY 2011 Plans:*** Technical Engineering Services. ***FY 2012 Plans:*** Technical Engineering Services.			
Title: RDTE Project Test Support	0.206	0.446	0.477
Articles:	0	0	
Description: RDTE Project Test Support for the Aviation Ground Support Equipment Product Management Office ***FY 2010 Accomplishments:*** RDTE Project Test Support. ***FY 2011 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*	PROJECT B32: *ADV MAINT CONCEPTS/EQ*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
RDTE Project Test Support. ***FY 2012 Plans:*** RDTE Project Test Support.			
Title: Small Business Innovative Research (SBIR)/Small Business Technology Transfer Programs (STTR) ***Articles:*** ***Description:*** SBIR/STTR ***FY 2010 Accomplishments:*** SBIR/STTR	0.290 0	-	-
Accomplishments/Planned Programs Subtotals	8.203	8.355	7.107

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• Aircraft Procurement, Army(APA) SSN: *Aviation Ground Support Equipment, SSN AZ3520*	116.616	141.756	176.212		176.212		104.975	104.108	215.454	Continuing	Continuing

D. 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.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*	PROJECT B32: *ADV MAINT CONCEPTS/EQ*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support Services	Various	AGSE, Redstone Arsenal, AL; Science Applications, Intl. Corp.,:San Diego, CA	-	0.395		0.385		-		0.385	Continuing	Continuing	Continuing
SBIR/STTR Reductions	Various	SBIR/STTR:Reductions	-	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	-	0.395		0.385		-		0.385			

Remarks

None

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AGPU	Various	AMRDEC, Redstone Arsenal, AL; RTTC, Redstone Arsenal, AL; UAH,:Huntsville, AL	10.236	1.395		0.618		-		0.618	Continuing	Continuing	0.000
ALUMMC	TBD	AATD, Ft. Eustis VA, ATC,:Aberdeen Proving Ground, MD	-	0.705		0.536		-		0.536	Continuing	Continuing	0.000
BDAR BLOCK II	Various	AMRDEC,:Redstone Arsenal AL	0.530	0.075		0.050		-		0.050	Continuing	Continuing	0.000
A-SKOT	Various	AMRDEC, Redstone Arsenal, AL; BELZON,:Huntsville, AL	2.203	1.117		3.360		-		3.360	Continuing	Continuing	Continuing
FEDS	Various	AMRDEC, Redstone Arsenal, AL; RTTC, Redstone Arsenal, AL; Gleason Research,:Huntsville, AL	3.379	0.400		-		-		-	Continuing	Continuing	0.000
HHFE	Various		2.255	0.830		-		-		-	Continuing	Continuing	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*	PROJECT B32: *ADV MAINT CONCEPTS/EQ*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		ATC, Aberdeen Proving Ground, MD; AMCOM, G-4,:Redstone Arsenal, AL											
NDTE	Various	AMRDEC,Redstone Arsenal, AL RTTC,:Redstone Arsenal, AL	-	-		-		-		-	Continuing	Continuing	0.000
SATS	Various	AMCOM, Redstone Arsenal, AL; AATD,:Ft. Eustis, VA	2.646	-		-		-		-	Continuing	Continuing	0.000
SECM	Various	TACOM, Detroit MI; ATEC, Redstone Arsenal, AL; JVYS,:Huntsville, AL	4.709	1.130		-		-		-	Continuing	Continuing	0.000
UMARK	Various	AMRDEC, Redstone Arsenal, AL; UAH, Huntsville, AL; JVYS,:Huntsville, AL	2.063	1.398		1.199		-		1.199	Continuing	Continuing	0.000
		Subtotal	28.021	7.050		5.763		-		5.763			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Engineering Services	Various	AATD,:Ft. Eustis, VA	6.088	0.464		0.482		-		0.482	Continuing	Continuing	Continuing
		Subtotal	6.088	0.464		0.482		-		0.482			

Remarks

None

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*	PROJECT B32: *ADV MAINT CONCEPTS/EQ*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
RDT&E Project Test Support	Various	AEC,:Aberdeen Proving Ground, MD	0.748	0.446		0.477		-		0.477	Continuing	Continuing	Continuing
		Subtotal	0.748	0.446		0.477		-		0.477			

Remarks

None

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	34.857	8.355		7.107		-		7.107			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603801A: *Aviation - Adv Dev*	PROJECT B32: *ADV MAINT CONCEPTS/EQ*

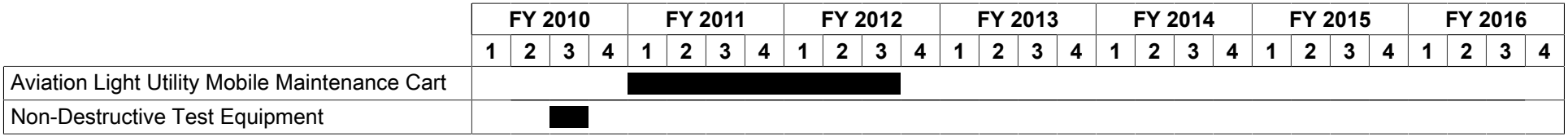

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603801A: *Aviation - Adv Dev*	**PROJECT** B32: *ADV MAINT CONCEPTS/EQ*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Aviation Light Utility Mobile Maintenance Cart	1	2011	3	2012
Non-Destructive Test Equipment	3	2010	3	2010

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	56.153	80.490	19.509	-	19.509	10.850	10.837	11.273	12.966	Continuing	Continuing
526: *MARINE ORIEN LOG EQ AD*	2.110	2.990	2.714	-	2.714	2.806	2.916	3.034	3.078	Continuing	Continuing
G11: *ADV ELEC ENERGY CON AD*	2.547	2.618	7.679	-	7.679	0.428	-	-	1.534	Continuing	Continuing
K39: *Field Sustainment Support AD*	14.690	18.908	2.952	-	2.952	2.938	3.150	3.330	3.070	Continuing	Continuing
K41: *WATER AND PETROLEUM DISTRIBUTION - AD*	3.097	2.586	4.122	-	4.122	2.677	2.785	2.894	2.937	Continuing	Continuing
K42: *MATERIEL SUSTAINMENT SUPPORT AD*	2.835	0.463	-	-	-	-	-	-	-	Continuing	Continuing
L04: *JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD*	30.874	52.925	-	-	-	-	-	-	-	Continuing	Continuing
VR8: *COMBAT SERVICE SUPPORT SYSTEMS - AD*	-	-	2.042	-	2.042	2.001	1.986	2.015	2.347	0.000	10.391

Note

Change Summary Explanation:

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.

Decrease from FY 2011 to FY 2012 reflects Joint Light Tactical Vehicle(JLTV) move from Advance Development to Engineering Development.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	59.662	80.490	14.147	-	14.147
Current President's Budget	56.153	80.490	19.509	-	19.509
Total Adjustments	-3.509	-	5.362	-	5.362
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-3.509	-	5.362	-	5.362

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT 526: *MARINE ORIEN LOG EQ AD*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
526: *MARINE ORIEN LOG EQ AD*	2.110	2.990	2.714	-	2.714	2.806	2.916	3.034	3.078	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Funding supports project advanced component development and prototype equipment for Army watercraft to provide critical capabilities to support full-spectrum land combat operations by extending the Commanders' available maneuver space to conduct tactical port and Joint Logistics Over-the-Shore (JLOTS) operations, take advantage waterborne maneuver and supply routes, and conduct operations through littoral entry points even in the face of access-denial environments. The Army utilizes a combination of ocean-going and inner harbor floating craft, such as tug boats, modular causeway systems and barge derricks, and ocean-going heavy sustainment lift and high speed craft.

FY12 funding will be used to support the Vessel-to-Shore Bridging (VSB). The VSB Initial Capabilities Document has been approved and the funding will be used for follow-on research and development to support the transition of the VSB to an acquisition program. VSB will optimize the throughput capabilities of the Joint High Speed Vessel (JHSV) across extended mudflats/tidal estuaries by providing a more rapid and increased flow of combat power and sustainment through multiple austere theater access points.

FY12 funding will also be used to support the research and development of vessels to replace a tactical port operations landing craft mechanized (LCM-8) vessel and a heavy lift sustainment vessel. The vessels are in their early stages of core requirements development.

Army watercraft systems fleet-wide research and development funding requirements will complete core requirements development and prototype operational testing and military unit assessment for external people pods to accommodate additional temporary vessel berthing. Funding will also be used for Escalation of Force (EoF) force protection enhancements and Army watercraft unique Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) research, development and testing.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: ARMY WATERCRAFT JETA-SPOD	1.401	2.119	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Needs something different from FY11			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT 526: *MARINE ORIEN LOG EQ AD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
JETA-SPOD			
Title: Watercraft - Vessel to Shore Bridging (VSB) Study/Development ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** VSB - Vessel to Shore Bridging Study/Development	-	-	0.462
Title: Watercraft - Landing Craft Mechanized (LCM 8) Study/Development ***Description:*** Landing Craft Mechanized 8 ***FY 2012 Plans:*** LCM 8 - Landing Craft Mechanized 8 Study/Development	-	-	0.461
Title: Watercraft - Heavy Lift Vessel Study/Development ***Description:*** AWS Heavy Lift Vessel ***FY 2012 Plans:*** Heavy Lift Vessel Study/Development	-	-	0.461
Title: Watercraft - People Pods Study/Development ***Description:*** AWS - People Pods ***FY 2012 Plans:*** People Pods Study/Development	-	-	0.461
Title: Watercraft - Force Protection Study/Development ***Description:*** AWS - Force Protection ***FY 2012 Plans:*** Force Protection Study/Development	-	-	0.461
Title: Watercraft - C4ISR Study/Development ***Description:*** AWS - C4ISR ***FY 2012 Plans:***	-	-	0.231

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT 526: *MARINE ORIEN LOG EQ AD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
C4ISR Study/Development			
Title: ARMY WATERCRAFT PROGRAM SUPPORT ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Funds Program Support ***FY 2011 Plans:*** Continues Program Support ***FY 2012 Plans:*** Furute Program Support	0.405 0	0.371 0	0.132
Title: Army Watercraft Master Plan Revision Study/Development ***Description:*** AWS Master Plan Revision ***FY 2012 Plans:*** Master Plan Revision Study/Development	-	-	0.045
Title: WATERCRAFT MARKET SURVEYS AND BUSINESS ANALYSIS ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Watercraft market surveys and business analysis ***FY 2011 Plans:*** Continues Watercraft market surveys and business analysis	0.304 0	0.500 0	-
Accomplishments/Planned Programs Subtotals	2.110	2.990	2.714

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• MA4500: *Modification of In-Service Equipment*	53.713	103.046	61.208		61.208		78.787	73.300	78.600	0.000	514.376

D. Acquisition Strategy

N/A

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT 526: *MARINE ORIEN LOG EQ AD*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	SS/BA	PM Force Projection:TACOM	2.459	0.371		0.132		-		0.132	Continuing	Continuing	Continuing
		Subtotal	2.459	0.371		0.132		-		0.132			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSV - composite prototype hull design	Various	Naval Underwater Warfare Center,:Newport, R.I.	4.211	-		-		-		-	Continuing	Continuing	Continuing
Watercraft market surveys/ business analysis	Various	Volpe, DOT:Washington, DC	0.404	0.500		-		-		-	Continuing	Continuing	Continuing
JETA-SPOD-Vessel to Shore Bridging (VSB)	Various	ERDC,:Washington, DC	8.145	2.119		-		-		-	Continuing	Continuing	Continuing
Force Protection	C/FFPLOE	TBD:TBD	-	-		0.461		-		0.461	0.000	0.461	0.000
C4ISR	C/FFPLOE	TBD:TBD	-	-		0.231		-		0.231	0.000	0.231	0.000
Master Plan Revision	C/FFPLOE	TBD:TBD	-	-		0.045		-		0.045	0.000	0.045	0.000
LCM 8	C/FFPLOE	TBD:TBD	-	-		0.461		-		0.461	0.000	0.461	0.000
Heavy Lift Vessel	C/FFPLOE	TBD:TBD	-	-		0.461		-		0.461	0.000	0.461	0.000
People Pods	C/FFPLOE	TBD:TBD	-	-		0.461		-		0.461	0.000	0.461	0.000
VSB	C/FFPLOE	TBD:TBD	-	-		0.462		-		0.462	0.000	0.462	0.000
		Subtotal	12.760	2.619		2.582		-		2.582			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSV - composite prototype hull design	TBD	CASCOM,:FT. Lee, VA	5.240	-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT 526: *MARINE ORIEN LOG EQ AD*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSV/Matrix Support	TBD	TACOM CBU:Warren, MI	4.366	-		-		-		-	Continuing	Continuing	Continuing
TSV/Matrix Support	TBD	TARDEC,:Warren, MI	0.170	-		-		-		-	Continuing	Continuing	Continuing
TSV/In-house	TBD	PM Force Projection,:Warren, MI	2.190	-		-		-		-	Continuing	Continuing	Continuing
TSV-Demil	TBD	TACOM,:Warren, MI	0.424	-		-		-		-	Continuing	Continuing	Continuing
JETA-SPOD-VSB	TBD	TACOM,:Warren, MI	-	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	12.390	-		-		-		-			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TSV	TBD	DTC/ ATEC:Washington, DC	1.071	-		-		-		-	Continuing	Continuing	Continuing
TSV	TBD	PM WIN-T:Ft. Monmouth, NJ	1.500	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	2.571	-		-		-		-			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	30.180	2.990		2.714		-		2.714			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT G11: *ADV ELEC ENERGY CON AD*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
G11: *ADV ELEC ENERGY CON AD*	2.547	2.618	7.679	-	7.679	0.428	-	-	1.534	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not Applicable for this item.

A. Mission Description and Budget Item Justification

The Mobile Electric Power (MEP) program was established by the Department of Defense to develop modernized, standard families of mobile electric power sources and power distribution systems for all Services throughout the Department of Defense. This Project Office derives concept and technology developments that will improve the performance, mobility, readiness and survivability of the next generation of tactical power sources in support of all Services. It supports initiatives that are essential to the development and fielding of modernized MEP sources from Watts to Megawatts level that comply with environmental statues and provide noise and signature-suppressed, energy-efficient, lightweight, deployable and reliable equipment. FY12 will fund test and evaluation of technologies for Large Advanced Mobile Power Sources (LAMPS), alternative energy, and Intelligent Power Distribution Systems.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Contract Activity	0.711	0.735	6.741
Articles:	0	0	
Description: Continue development of technology supporting the Large Advanced Mobile Power Sources (LAMPS) program, the Small Tactical Electric Power (STEP) programs, Intelligent Power Management and Distribution Systems (IPMDS), and Alternative Energy Sources.*FY12 $7.000 million add for LAMPS development should have been placed in PE 0604804A Project 194 was included under G11 by mistake,			
FY 2010 Accomplishments: Procured various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Specific efforts included a 1 kW JP-8 fueled generator, hybrid/alternative energy power sources, and intelligent power distribution systems.			
FY 2011 Plans: Procure various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Specific efforts will include improved 1 kW JP-8 fueled generator, hybrid/alternative energy power sources, and intelligent power distribution/management systems.			
FY 2012 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Procure various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Specific efforts will include small generator sets, hybrid/alternative energy power sources, and intelligent power distribution/management systems.			
Title: Government System Test and Evaluation	0.180	0.520	0.180
Articles:	0	0	
Description: Continue development of technology supporting the Large Advanced Mobile Power Sources (LAMPS) program, the Small Tactical Electric Power (STEP) programs, Intelligent Power Management and Distribution Systems (IPMDS), and Alternative Energy Sources.			
FY 2010 Accomplishments: Evaluated and tested various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Specific efforts included evaluation of a 1 kW JP-8 fueled generator, hybrid/alternative energy power sources, and intelligent power distribution systems.			
FY 2011 Plans: Evaluation and testing of various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Specific efforts will include performance testing of an improved 1 kW JP-8 fueled generator, hybrid/alternative energy power sources, and intelligent power distribution/management systems.			
FY 2012 Plans: Evaluation and testing of various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. Efforts will support the STEP program and the Tactical Electric Power Capabilities Production Document (TEP CPD). Specific efforts will include performance testing of small generator sets, hybrid/alternative energy power sources, and intelligent power distribution/management systems.			
Title: Other Contracts and Gov't agencies	1.338	1.125	0.506
Articles:	0	0	
Description: Continue development of technology supporting the Large Advanced Mobile Power Sources (LAMPS) program, the Small Tactical Electric Power (STEP) programs, Intelligent Power Management and Distribution Systems (IPMDS), and Alternative Energy Sources.			
FY 2010 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT G11: *ADV ELEC ENERGY CON AD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Evaluated and tested various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Specific efforts included evaluation of a 1 kW JP-8 fueled generator, hybrid/alternative energy power sources, intelligent power distribution systems, and market surveys for 100-200 kW generators. ***FY 2011 Plans:*** Evaluation and testing of various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Specific efforts will include performance testing of a 1 kW JP-8 fueled generator, hybrid/alternative energy power sources, and intelligent power distribution/management systems. ***FY 2012 Plans:*** Evaluation and testing of various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Specific efforts will include performance testing of small generator sets, hybrid/alternative energy power sources, and intelligent power distribution/management systems.			
Title: Government Program Management ***Articles:*** ***Description:*** Continue development of technology supporting the Large Advanced Mobile Power Sources (LAMPS) program, the Small Tactical Electric Power (STEP) programs, Intelligent Power Management and Distribution Systems (IPMDS), and Alternative Energy Sources. ***FY 2010 Accomplishments:*** Evaluated and tested various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Efforts were aimed at resolving technology gaps to meet Army User requirements. Efforts supported the LAMPS and STEP programs and the Tactical Electric Power Capabilities Production Document (TEP CPD). ***FY 2011 Plans:*** Evaluation and testing of various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. Efforts will support the STEP program and the Tactical Electric Power Capabilities Production Document (TEP CPD). Specific efforts will include performance testing of a 1 kW JP-8 fueled generator, hybrid/alternative energy power sources, and intelligent power distribution/ management systems. ***FY 2012 Plans:*** Evaluation and testing of various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. Efforts will support the STEP program and the Tactical Electric Power Capabilities Production Document (TEP CPD). Specific efforts will	0.252 0	0.238 0	0.252

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT G11: *ADV ELEC ENERGY CON AD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
include performance testing of small generator sets, hybrid/alternative energy power sources, and intelligent power distribution/ management systems.			
Title: Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR) ***Articles:*** ***Description:*** Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR) ***FY 2010 Accomplishments:*** Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)	0.066 0	-	-
Accomplishments/Planned Programs Subtotals	2.547	2.618	7.679

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 0604804A: *Logistics and Engineer Equipment - Eng Dev 194*	1.354	7.166	4.199		4.199		0.238	0.022		Continuing	Continuing
• MA9800: *OPA 3, Generators and Associated Eq.*	209.012	151.052	31.897		31.897		61.950	121.118	163.704	Continuing	Continuing

D. Acquisition Strategy

Complete advanced development and transition to Engineering and Manufacturing Development (EMD) phase (Milestone B) and subsequent transition to production (Milestone C).

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT G11: *ADV ELEC ENERGY CON AD*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STEP Components	TBD	PM MEP:Ft. Belvoir, VA	-	0.080		0.080		-		0.080	Continuing	Continuing	Continuing
AMMPS Components	TBD	PM MEP:Ft. Belvoir, VA	-	-		-		-		-	Continuing	Continuing	Continuing
LAMP Components	TBD	PM MEP:Ft. Belvoir, VA	-	0.070		0.070		-		0.070	Continuing	Continuing	Continuing
Alternative Energy	TBD	PM MEP:Ft. Belvoir, VA	-	0.050		0.050		-		0.050	Continuing	Continuing	Continuing
Power Distribution/ Management	TBD	PM MEP:Ft. Belvoir, VA	-	0.052		0.052		-		0.052	Continuing	Continuing	Continuing
Small Business Innovative Research/Small Business Technology Transfer Programs	TBD	TBD:TBD	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	-	0.252		0.252		-		0.252			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STEP Components	Various	CERDEC:Fort Belvoir, VA	-	0.200		0.100		-		0.100	Continuing	Continuing	Continuing
AMMPS Components	Various	CERDEC:Fort Belvoir, VA	-	-		-		-		-	Continuing	Continuing	Continuing
LAMPS Components	Various	CERDEC:Fort Belvoir, VA	-	0.050		6.355		-		6.355	Continuing	Continuing	Continuing
Alternative Energy	Various	NREL:Washington, DC	-	0.200		0.100		-		0.100	Continuing	Continuing	Continuing
Power Distribution/ Management	Various	Multiple Vendors:TBD	-	0.336		0.186		-		0.186	Continuing	Continuing	Continuing
		Subtotal	-	0.786		6.741		-		6.741			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT G11: *ADV ELEC ENERGY CON AD*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STEP Components	TBD	CERDEC:Ft. Lee, VA	-	0.200		0.050		-		0.050	Continuing	Continuing	Continuing
AMMPS Components	TBD	CERDEC:Ft. Lee, VA	-	-		-		-		-	Continuing	Continuing	Continuing
LAMPS Components	TBD	CERDEC:Ft. Lee, VA	-	0.200		0.056		-		0.056	Continuing	Continuing	Continuing
Alternative Energy	TBD	CERDEC:Ft. Lee, VA	-	0.500		0.200		-		0.200	Continuing	Continuing	Continuing
Power Distribution/ Management	TBD	CERDEC:Ft. Lee, VA	-	0.500		0.200		-		0.200	Continuing	Continuing	Continuing
		Subtotal	-	1.400		0.506		-		0.506			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
STEP Components	TBD	CERDEC:Ft. Lee, VA	-	0.030		0.030		-		0.030	Continuing	Continuing	Continuing
AMMPS Components	TBD	CERDEC:Ft. Lee, VA	-	-		-		-		-	Continuing	Continuing	Continuing
LAMPS Components	TBD	CERDEC:Ft. Lee, VA	-	-		-		-		-	Continuing	Continuing	Continuing
Alternative Energy	TBD	CERDEC:Ft. Lee, VA	-	0.050		0.050		-		0.050	Continuing	Continuing	Continuing
Power Distribution/ Management	TBD	CERDEC:Ft. Lee, VA	-	0.100		0.100		-		0.100	Continuing	Continuing	Continuing
		Subtotal	-	0.180		0.180		-		0.180			

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	2.618		7.679		-		7.679			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
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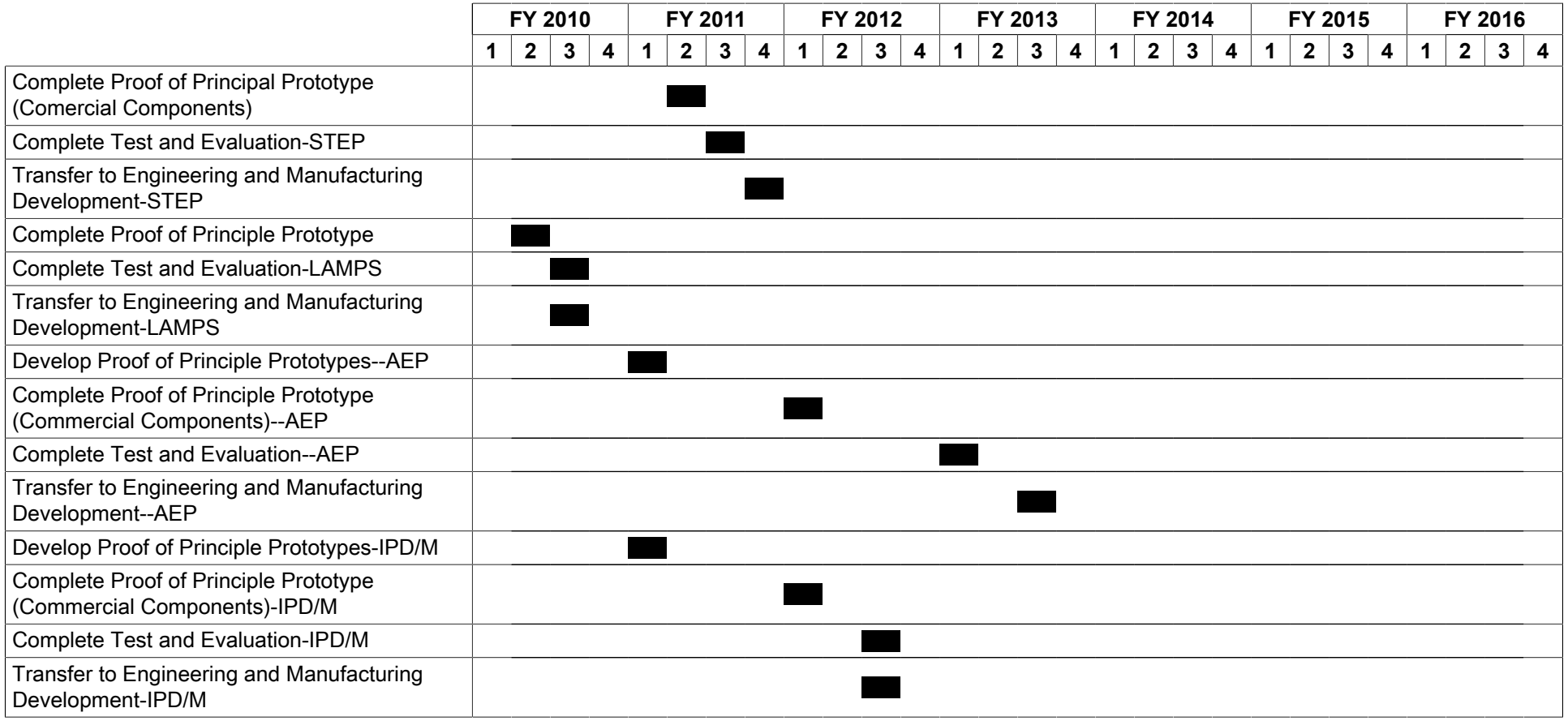

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	**PROJECT** G11: *ADV ELEC ENERGY CON AD*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Complete Proof of Principal Prototype (Comercial Components)	2	2011	2	2011
Complete Test and Evaluation-STEP	3	2011	3	2011
Transfer to Engineering and Manufacturing Development-STEP	4	2011	4	2011
Complete Proof of Principle Prototype	2	2010	2	2010
Complete Test and Evaluation-LAMPS	3	2010	3	2010
Transfer to Engineering and Manufacturing Development-LAMPS	3	2010	3	2010
Develop Proof of Principle Prototypes--AEP	1	2011	1	2011
Complete Proof of Principle Prototype (Commercial Components)--AEP	1	2012	1	2012
Complete Test and Evaluation--AEP	1	2013	1	2013
Transfer to Engineering and Manufacturing Development--AEP	3	2013	3	2013
Develop Proof of Principle Prototypes-IPD/M	1	2011	1	2011
Complete Proof of Principle Prototype (Commercial Components)-IPD/M	1	2012	1	2012
Complete Test and Evaluation-IPD/M	3	2012	3	2012
Transfer to Engineering and Manufacturing Development-IPD/M	3	2012	3	2012

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT K39: *Field Sustainment Support AD*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
K39: *Field Sustainment Support AD*	14.690	18.908	2.952	-	2.952	2.938	3.150	3.330	3.070	Continuing	Continuing
Quantity of RDT&E Articles											

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, camouflage systems to counter emerging enemy threat technologies, 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; which provide improved safety and accuracy while increasing survivability of aircraft, personnel, and equipment. The project supports the development of tactical heater systems that support mobile Joint Service command and control, medical, and maintenance platforms. 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Low Cost Aerial Delivery System (LCADS)	0.855	1.000	-
Articles:	0	0	
Description: LCADS is a modular suite of low cost, expendable parachute/container air items that can be used in lieu of current low and high velocity systems. System includes a low-cost container, high-velocity parachute (70 - 90 fps) and low-velocity parachute (less than 28.5 fps). System is compatible with United States Air Force Aircraft (USAF A/C) and aerial port handling equipment. LCADS is a proven means to execute critical resupply missions without having to place soldiers and ground vehicle convoys on the road.			
FY 2010 Accomplishments: Funds execution of LCADS Preplanned Product Improvement (P3I) effort to expand LCADS/Low Cost Low Altitude (LCLA) capability based upon theater feedback and CASCOM guidance. (i.e. increased LCLA weights and additional A/C certifications).			
FY 2011 Plans: Continues execution of LCADS P3I effort to expand LCADS/LCLA capability based upon theater feedback and CASCOM guidance. (i.e. increased LCLA weights and additional A/C certifications).			
Title: Joint Precision Airdrop System 10,000 pounds (JPADS 10K)	1.441	-	-
Articles:	0		

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: JPADS 10K is a Precision Guided Airdrop system that autonomously navigates along a predetermined glide and flight path to accurately deliver supplies and equipment. It utilizes two primary components, a JPADS 10K air vehicle decelerator connected to an Autonomous Guided Unit (AGU) which interfaces with the USAF JPADS Mission Planner, and has a maximum gross rigged weight of 10,000 lbs. ***FY 2010 Accomplishments:*** Completed JPADS 10K Design Validation (DV) testing.			
Title: Joint Precision Airdrop System 2,400 pounds (JPADS 2K) ***Articles:*** ***Description:*** JPADS 2K is a Precision Guided Airdrop system that autonomously navigates along a predetermined glide and flight path to accurately deliver supplies and equipment. Its two primary components, a decelerator and an Autonomous Guidance Unit (AGU), interface with the USAF JPADS mission planner and has a gross rigged weight of 2,400 lbs. ***FY 2010 Accomplishments:*** Execute JPADS 2K Pre-Planned Product Improvement efforts in response to JUONS from theater. ***FY 2011 Plans:*** Continues the Execution of JPADS 2K Pre-Planned Product Improvement efforts. Transition effort into systems development and demonstration.	4.037 0	1.500 0	-
Title: Advanced Cargo Parachute Release System (ACPRS) ***Articles:*** ***Description:*** The ACPRS will replace the existing M-1 and M-2 cargo parachute release and is intended to decrease the number of inoperable payloads due to rollovers, while also providing a capability to airdrop loads at 500 ft Above Ground Level (AGL). ***FY 2010 Accomplishments:*** Conduct ACPRS Design Validation (DV) and down-select to single contractor. ***FY 2011 Plans:*** Continue the Developmental Testing (DT) and Operational Testing for ACPRS.	2.752 0	2.208 0	-
Title: Advanced Low Velocity Airdrop System Light and Heavy (ALVADS-L or ALVADS-H) ***Articles:***	- 0	5.800 0	1.500

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: ALVADS - Light and Heavy are capable of airdrop operations at an altitude of 500-ft Above Ground Level (AGL) with increased aircraft survivability, and improved accuracy. Light Gross rigged weight of 2,520-22,000 lbs and Heavy Gross rigged weight of 22,001-42,000 lbs. ***FY 2011 Plans:*** Complete ALVADS-L Design Validation (DV) testing. ***FY 2012 Plans:*** Continues ALVADS-L Design Validation (DV) and initiate DT.			
Title: Enhanced Containerized Delivery System (ECDS) ***Articles:*** ***Description:*** ECDS is comprised of a platform and cargo restraint which works in conjunction with existing G-12D recovery parachutes. The system is simple in design, maintenance and operation, reusable at least twelve times, sling loadable, forkliftable, delivers loads up to 10,000 lbs gross rigged weight and incorporates provisions compatible with United States Air Force (USAF) cargo aircraft rail lock systems and Materiel Handling Equipment (MHE) currently in the field. ***FY 2010 Accomplishments:*** Execute ECDS Pre-Planned Product Improvement efforts focused on expanding recovery parachute options to include G-11 recovery parachutes and a standard rigging configuration for C-130 and C-17 aircraft.	0.184 0	-	-
Title: Space Heater Convective 120,000 BTU (SHC 120K) ***Articles:*** ***Description:*** The SHC 120K is a self-powered, thermoelectric heater that operates outside the tent and provides forced hot air circulation without the need for an external power supply (i.e., field generator). The SHC 120K generates its own electrical power, without any moving parts, through the use of thermoelectric modules located inside the combustion chamber that convert waste heat into electricity. The internal generation of electrical power gives the SHC 120K the added capabilities of single switch operation, forced hot air circulation, outside the tent operation, completely automatic safety and temperature controls, built-in troubleshooting diagnostics, operation without the need for a fire guard, and significantly higher combustion efficiencies, all without the need for an external power supply. The heater burns multi-fuels and operates in extreme cold temperatures down to -60oF. ***FY 2010 Accomplishments:***	0.672 0	0.800 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Complete system design and fabricate Engineering Manufacturing Development (EMD) test units for Developmental Testing of SHC 120K. ***FY 2011 Plans:*** Conduct developmental testing and user field evaluation for SHC 120K. Prepare for transition to production and Milestone C decision.			
Title: Human Remains Transfer Case (HRTC) ***Articles:*** ***Description:*** A replacement for the current aluminum case for transporting remains from a theater of operation to Continental United States (CONUS) that incorporates insulation and refrigeration to provide optimal temperature control and eliminate use of ice and the need for reicing enroute. ***FY 2010 Accomplishments:*** Prepared Milestone B and supported development of prototypes and related documentation for next generation HRTC. ***FY 2011 Plans:*** Complete Milestone B and fabricate prototypes and initiate Developmental Tests for next generation HRTC.	0.800 0	1.100 0	-
Title: Joint Modular Intermodal Container System (JMICS) ***Articles:*** ***Description:*** JMIC Program provides a standard series of durable, reusable, user friendly, easy to handle, modular containers with a standard interface that will provide an effective and efficient handling and distribution operation. JMICS can move by air, land, and sea transportation systems for unit and ship deployments and sustainment operations. The JMIC modular approach can, in some cases, replace current outer packaging for munitions and other supplies for movement in the Defense Transportation System (DTS). The JMIC will also complement the services future automated loading systems and automated handling and storage systems along with emerging capabilities such as Seabasing. ***FY 2010 Accomplishments:*** Initiate program of record and obtain Milestone Desicion Authority approval to enter JMIC 3.0K variant into acquisition process at Milestone C. ***FY 2011 Plans:***	1.325 0	3.300 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Conduct development testing (minimal) to support MS C production decision for JMIC 3.0K variant. Obtain Milestone C decision and transition to production.			
Title: Modular Ballistic Protection System (MBPS) ***Articles:*** ***Description:*** MBPS is a lightweight, rapidly deployable and reusable ballistic protection system that can be installed in commonly used military shelters in expeditionary and remote base camps and outposts where more robust forms of ballistic protection (i.e. sandbags, concrete barriers) are not readily available or logistically feasible. ***FY 2010 Accomplishments:*** Conduct Technology Development Efforts focused on maturing MBPS technologies for transitioning to Milestone B and EMD. ***FY 2011 Plans:*** Obtain Milestone B and initiate EMD effort for MBPS.	0.510 0	0.900 0	-
Title: Rapid Rigging and Derigging System (RRDAS) ***Articles:*** ***Description:*** RRDAS creates a roll-on and roll-off capability for rolling stock, reduces exposure time on the drop zone, and reduces reliance on energy-dissipating material (Honeycomb), thus reducing rigging and de-rigging time. ***FY 2011 Plans:*** Obtain MS B and award competitive contracts for prototype systems for RRDAS. ***FY 2012 Plans:*** Obtain MS B and award competitive contracts for prototype systems for RRDAS. Begin DV testing.	- 	2.300 0	1.452
Title: Expeditionary Water Reclamation System ***Articles:*** ***Description:*** The Expeditionary Water Reclamation System is a transportable field wastewater treatment / recycling system that can be used to treat raw wastewater and convert it into potable water for reuse in the field. The effort builds upon private research and development undertaken in FY 2009. ***FY 2010 Accomplishments:*** Award contract to produce a 150 gallon per hour, transportable, water reclamation system. Conduct initial user evaluation.	2.114 0	-	-
Accomplishments/Planned Programs Subtotals	14.690	18.908	2.952

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPA 3, MA7806: *Precision Airdrop*	22.230	21.402	16.207		16.207		18.160	17.450	15.807	Continuing	Continuing
• OPA 3, MA7807: *Containerized Delivery System*	5.744	6.503	6.503		6.503					0.000	18.750
• 643804 VR8: *Combat Service Support Systems AD*			2.042		2.042		1.986	2.015	2.347	Continuing	Continuing
• 654804 L39: *Field Sustainment Support ED*	4.349	5.804	4.230		4.230		2.452	2.392	2.304	Continuing	Continuing
• 654804 VR7: *Combat Service Support Systems*			2.546		2.546		1.635	1.725	1.861	Continuing	Continuing

D. Acquisition Strategy

Accelerate Joint Precision Aerial Delivery System (JPADS) product improvements to transition to Production.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Support	Various	PM Force Sustainment Sys (FSS), Natick:Natick, MA	1.954	0.945		0.202		-		0.202	Continuing	Continuing	Continuing
Project Management Support	Various	PM MEP Ft Belvoir:Ft Belvoir	0.557	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	2.511	0.945		0.202		-		0.202			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	PM Force Sustainment Sys (FSS), Natick:Natick, MA	10.086	2.866		0.150		-		0.150	Continuing	Continuing	Continuing
Soldier Support Equipment	Various	NSC, Natick:Natick, MA	2.780	-		-		-		-	Continuing	Continuing	Continuing
Soldier Support Equipment	Various	Various:Various	6.584	-		-		-		-	Continuing	Continuing	Continuing
LCADS P3I Effort	Various	Various:Various	0.600	0.300		-		-		-	Continuing	Continuing	Continuing
JPADS 2K and 10K product improvements	Various	Various:Various	2.600	1.200		-		-		-	Continuing	Continuing	Continuing
ALVADS Development	Various	Various:Various	3.900	4.000		0.500		-		0.500	Continuing	Continuing	Continuing
RRDAS Development	Various	Various:Various	-	2.000		0.800		-		0.800	Continuing	Continuing	Continuing
Next Generation Human Remains Transfer Case Development	Various	Various:Various	0.760	0.700		-		-		-	Continuing	Continuing	Continuing
JMICS Development	Various	Various:Various	-	1.097		-		-		-	Continuing	Continuing	Continuing
Improved Environmental Control Unit (IECU)	Various	CECOM,:CECOM,	0.664	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	27.974	12.163		1.450		-		1.450			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Improved Environmental Control Unit (IECU)	TBD	CECOM,:Ft Belvoir, VA	0.500	-		-		-		-	0.000	0.500	0.000
		Subtotal	0.500	-		-		-		-	0.000	0.500	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	DTC/ATC:Maryland	2.128	-		-		-		-	Continuing	Continuing	Continuing
Helicopter External/Internal Cargo Delivery	Various	Yuma Proving Ground (YPG), AZ, AEC:Yuma Proving Ground, AZ	12.018	0.200		0.100		-		0.100	Continuing	Continuing	Continuing
RRDAS Design Validation (DV) Testing	Various	YPG, AZ:YPG, AZ	-	-		0.300		-		0.300	Continuing	Continuing	Continuing
ALVADS Testing Design Validation(DV)	Various	YPG, AZ:YPG, AZ	2.600	2.600		0.900		-		0.900	Continuing	Continuing	Continuing
ECDS P3I	Various	DTC/OTC:Various	0.350	0.350		-		-		-	Continuing	Continuing	Continuing
LCADS P3I	Various	DTC, YPG, OTC, FT Bragg:Various	1.457	1.500		-		-		-	Continuing	Continuing	Continuing
JPADS Testing	Various	YPG:Yuma Proving Ground, AZ	0.350	0.350		-		-		-	Continuing	Continuing	Continuing
SHC 120K Developmental Testing and User Field Evaluation	Various	ATC:Various	-	0.400		-		-		-	Continuing	Continuing	Continuing
Human Remains Transfer Case Developmental Testing	Various	ATC:Various	-	0.400		-		-		-	Continuing	Continuing	Continuing
IECU	Various	Various:various	0.643	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	19.546	5.800		1.300		-		1.300			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
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	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	50.531	18.908		2.952		-		2.952			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	**PROJECT** K39: *Field Sustainment Support AD*

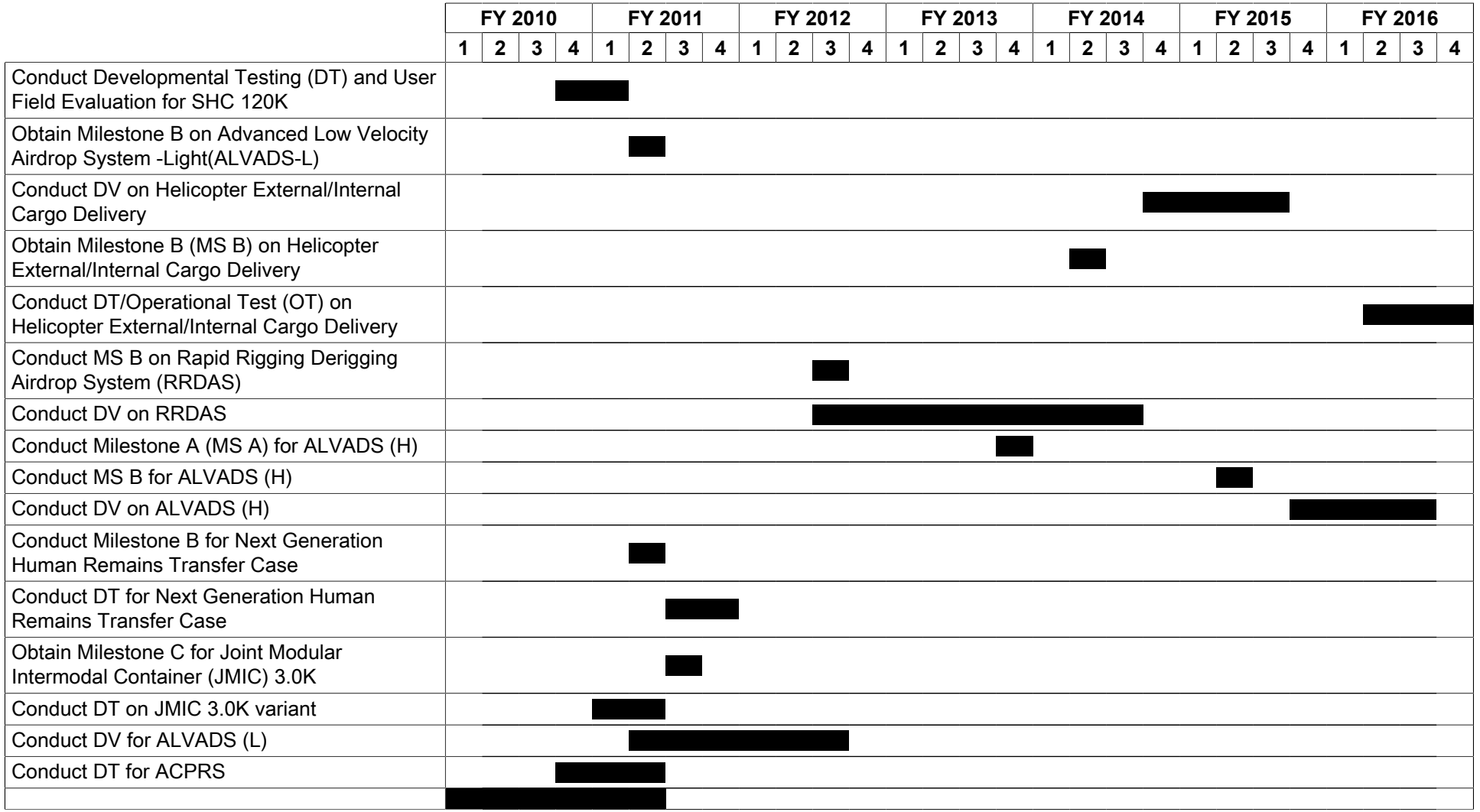

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT K39: *Field Sustainment Support AD*

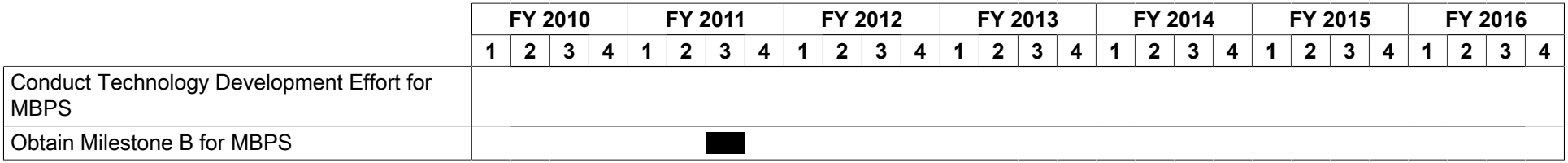

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	**PROJECT** K39: *Field Sustainment Support AD*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Conduct Developmental Testing (DT) and User Field Evaluation for SHC 120K	4	2010	1	2011
Obtain Milestone B on Advanced Low Velocity Airdrop System -Light(ALVADS-L)	2	2011	2	2011
Conduct DV on Helicopter External/Internal Cargo Delivery	4	2014	3	2015
Obtain Milestone B (MS B) on Helicopter External/Internal Cargo Delivery	2	2014	2	2014
Conduct DT/Operational Test (OT) on Helicopter External/Internal Cargo Delivery	2	2016	4	2016
Conduct MS B on Rapid Rigging Derigging Airdrop System (RRDAS)	3	2012	3	2012
Conduct DV on RRDAS	3	2012	3	2014
Conduct Milestone A (MS A) for ALVADS (H)	4	2013	4	2013
Conduct MS B for ALVADS (H)	2	2015	2	2015
Conduct DV on ALVADS (H)	4	2015	3	2016
Conduct Milestone B for Next Generation Human Remains Transfer Case	2	2011	2	2011
Conduct DT for Next Generation Human Remains Transfer Case	3	2011	4	2011
Obtain Milestone C for Joint Modular Intermodal Container (JMIC) 3.0K	3	2011	3	2011
Conduct DT on JMIC 3.0K variant	1	2011	2	2011
Conduct DV for ALVADS (L)	2	2011	3	2012
Conduct DT for ACPRS	4	2010	2	2011
Conduct Technology Development Effort for MBPS	1	2010	2	2011
Obtain Milestone B for MBPS	3	2011	3	2011

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
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COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
K41: *WATER AND PETROLEUM DISTRIBUTION - AD*	3.097	2.586	4.122	-	4.122	2.677	2.785	2.894	2.937	Continuing	Continuing
Quantity of RDT&E Articles											

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 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 theater; and material systems to decrease the logistics foot print and employment time for the transfer of liquid logistics in the theater. 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Continue improvements. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Continue improvements for the Load Handling System Water Tank Rack (Hippo), Lightweight Water Purifier (LWP) and Tactical Water Purification System (TWPS). In FY10 conduct a market investigation for devices to automatically dose and control chlorine levels in water tankers and evaluate potential candidates for performance and suitability for military environment. Evaluate improved reverse osmosis elements and media for removal of arsenic from water.	1.667 0	-	-
Title: Complete evaluations and begin preparing new performance based descriptions. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:***	0.440 0	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Complete evaluations and begin preparing new performance based descriptions for automatic tank gauging, metering devices and portable berms.			
Title: Initiate effort to develop a mobile Water Packaging System. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Perform Market Investigation and support demonstration of a mobile packaging system in the Area of Resistance (AOR). Perform evaluation of commercial water bottling and bagging technologies. ***FY 2012 Plans:*** Initiate effort to develop a mobile Water Packaging System. Conduct market surveys, prepare program documentation and develop Request for Proposal (RFP).	0.550 0	-	1.350
Title: Develop in-line water monitoring equipment and improved hand-held water monitors . ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Develop in-line water monitoring equipment and improved hand-held water monitors for use on the Tactical Water Purification System (TWPS), Lightweight Water Purifier (LWP) and Reverse Osmosis Water Purification Units (ROWPUs).	0.440 0	-	-
Title: Initiate effort to develop a bulk water purification system ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Plans:*** Initiate effort to develop a bulk water purification system. Conduct market surveys, prepare program documents and develop Request For Proposals (RFPs). ***FY 2012 Plans:*** Continue development of a bulk water purification system.	- 0	0.461 0	1.372
Title: Improvements for Family of Fuel System Supply Points (FSSPs) ***Articles:***	- 0	1.425 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	**PROJECT** K41: *WATER AND PETROLEUM DISTRIBUTION - AD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Funding is provided for the following effort ***FY 2011 Plans:*** Continue Fuel Systems improvements for Family of Fuel System Supply Points (FSSPs).			
Title: Water monitoring equipment. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Plans:*** development of in-line water monitoring equipment and hand-held water monitors for use on the Tactical Water Purification Systems (TWPS), Lightweight Water Purifier (LWP) and Reverse Osmosis Water Purification Unit (ROWPU).	-	0.700 0	-
Title: Fuel System Supply Points (FSSPs) ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** Develop prototype mid-term fuel storage container for use in bulk Fuel System Supply Points (FSSPs). Test prototype automated tank gauging for collapsible fabric tanks in FSSPs.	-	-	0.800
Title: Versatile Tank and Pump Unit (VTPU) ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** Product development of the Versatile Tank and Pump Unit (VTPU). Down select components and begin subassemble.	-	-	0.600
Accomplishments/Planned Programs Subtotals	3.097	2.586	4.122

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• Logistics and Engineering Equipment: *Logistics and Engineer Equipment - Engineering Development*	2.405	2.734	1.957		1.957		3.749	3.771	3.804	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT K41: *WATER AND PETROLEUM DISTRIBUTION - AD*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• Water Purification Systems: *Water Purification Systems*	10.168	15.683	3.539		3.539		4.643			Continuing	Continuing
• Distribution Systems, Petroleum & W: *Distribution Systems, Petroleum & Water*	142.309	230.174	58.962		58.962		33.850	22.575		Continuing	Continuing

D. Acquisition Strategy

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

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT K41: *WATER AND PETROLEUM DISTRIBUTION - AD*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Water Purification Components Improvements	Various	TBD:TBD	0.408	-		-		-		-	Continuing	Continuing	Continuing
Water Purification Components Improvements	Various	TARDEC:Warren, MI	0.458	-		-		-		-	Continuing	Continuing	Continuing
Water Purification Components Improvements	Various	MTC:Warren, MI	0.150	-		-		-		-	Continuing	Continuing	0.000
Water Purification Components Improvements	Various	NFESC:Port Hueneme, CA	0.301	-		-		-		-	Continuing	Continuing	0.000
Bulk Water Treatment System	Various	TARDEC:Warren, MI	-	0.050		0.168		-		0.168	Continuing	Continuing	Continuing
Water Quality Monitoring	Various	TARDEC:Warren, MI	-	0.150		-		-		-	Continuing	Continuing	Continuing
Bulk Water Treatment System	Various	NFESC:Port Hueneme, CA	-	0.336		0.100		-		0.100	Continuing	Continuing	Continuing
Packaged Water System (EWPS)	Various	TARDEC:Warren,MI	-	-		0.100		-		0.100	Continuing	Continuing	Continuing
Advanced Petroleum Test Kit	Various	TARDEC,:Warren, MI	0.829	-		-		-		-	Continuing	Continuing	Continuing
Packaged Water System (EWPS)	Various	NFESC:Port Hueneme,CA	-	-		0.250		-		0.250	Continuing	Continuing	Continuing
Advanced Petroleum Test Kit	Various	Micron Optical Incorporated:TBD	0.025	-		-		-		-	Continuing	Continuing	Continuing
Advanced Petroleum Test Kit	Various	NAV AIR,:TBD	0.084	-		-		-		-	Continuing	Continuing	Continuing
Petroleum Quality Analysis System Enhanced	Various	TARDEC:TARDEC Warren, MI	0.155	-		-		-		-	Continuing	Continuing	Continuing
Petroleum Quality Analysis System Enhanced	Various	Rock Island Arsenal:Rock Island, IL	0.877	-		-		-		-	Continuing	Continuing	Continuing
Fuel Systems Components Improvements	Various	TARDEC:Warren, MI	0.301	0.200		-		-		-	Continuing	Continuing	Continuing
Petroleum Qulaity Analysis System Enhanced	Various	TARDEC:Warren, MI	0.155	-		-		-		-	Continuing	Continuing	0.000
Fuel Gauging Improvements	Various	TBD:TBD	0.150	-		0.300		-		0.300	Continuing	Continuing	Continuing
Future Fuel Storage System	Various	TBD:TBD	-	0.550		-		-		-	Continuing	Continuing	Continuing
Bulk Fuel Distribution	Various	TBD:TBD	-	0.600		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT K41: *WATER AND PETROLEUM DISTRIBUTION - AD*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Expeditionary Water Packaging System (EWPS)	C/CPFF	TARDEC:Warren, MI	-	-		1.000		-		1.000	Continuing	Continuing	Continuing
Bulk Water Treatment	C/CPFF	TARDEC:TARDEC Warren, MI	-	-		1.104		-		1.104	Continuing	Continuing	Continuing
Versatile Tank and Pump Unit (VTPU)	Various	TARDEC:Warren, MI	-	-		0.600		-		0.600	Continuing	Continuing	0.000
		Subtotal	3.893	1.886		3.622		-		3.622			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Water Purification Components Improvements	Various	TARDEC:Warren, MI	0.753	-		-		-		-	Continuing	Continuing	Continuing
Water Quality Monitoring	Various	TARDEC:Warren, MI	-	0.150		-		-		-	Continuing	Continuing	Continuing
Bulk Water Treatment System	Various	TARDEC:Warren, MI	-	0.150		-		-		-	Continuing	Continuing	Continuing
Advanced Petroleum Test Kit (PTK)	Various	TARDEC:Warren, MI	0.110	-		-		-		-	Continuing	Continuing	Continuing
Packaged Water System	Various	TARDEC:Warren, MI	-	-		-		-		-	0.150	0.150	Continuing
Fuel Systems Components Improvements	Various	TARDEC:Warren, MI	0.050	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.913	0.300		-		-		-			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Water Purification Components Improvements	Various	TARDEC:Warren, MI	0.639	-		-		-		-	Continuing	Continuing	Continuing
Water Purification Components Improvements	Various	Aberdeen Proving Ground:Aberdeen, MD	-	-		-		-		-	0.200	0.200	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT K41: *WATER AND PETROLEUM DISTRIBUTION - AD*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Water Purification Components Improvements	Various	NFESC:Warren, MI	0.305	-		-		-		-	Continuing	Continuing	Continuing
Water Quality Monitoring	Various	TARDEC:Warren, MI	-	0.100		-		-		-	Continuing	Continuing	Continuing
Advanced Petroleum Test Kit (PTK)	Various	TARDEC,:Warren, MI	0.562	-		-		-		-	Continuing	Continuing	Continuing
Water Quality Monitoring	Various	Aberdeen Proving Ground,MD:APG, MD	-	0.300		-		-		-	Continuing	Continuing	Continuing
Fuel Pumping Assembly Improvements	Various	TARDEC:Warren, MI	0.100	-		0.500		-		0.500	Continuing	Continuing	Continuing
Fuel Systems Components Improvements	Various	Yuma Proving Ground:YPG, AZ	0.209	-		-		-		-	Continuing	Continuing	Continuing
Unit Water Pod (Camel)	Various	Yuma Proving Ground:YPG, AZ	2.049	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	3.864	0.400		0.500		-		0.500			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8.670	2.586		4.122		-		4.122			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	**PROJECT** K41: *WATER AND PETROLEUM DISTRIBUTION - AD*

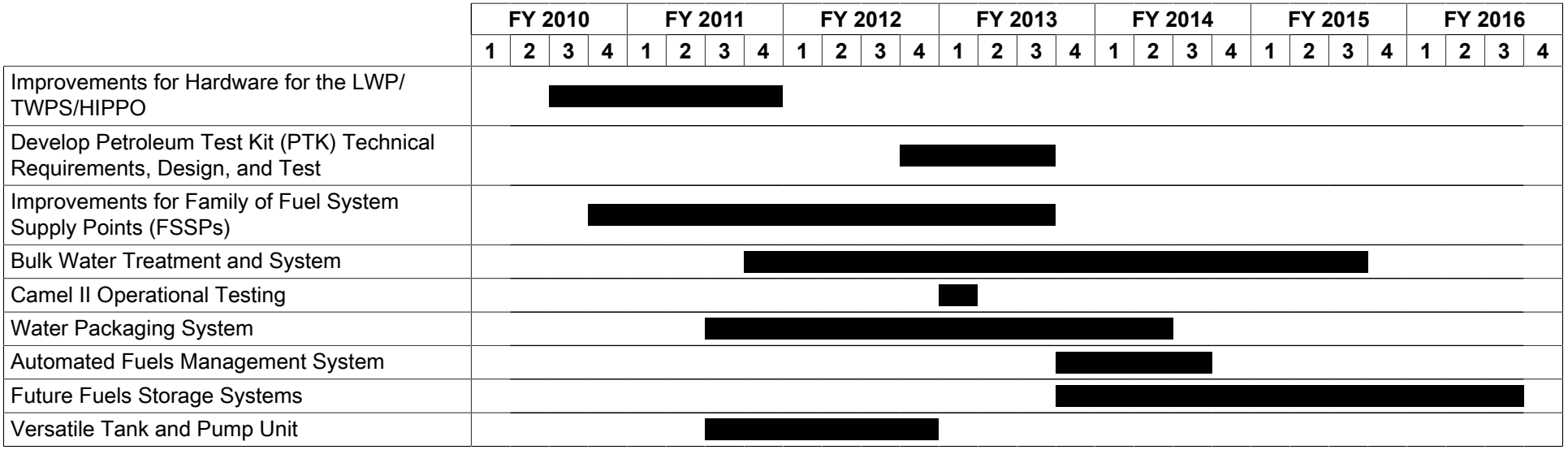

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	**PROJECT** K41: *WATER AND PETROLEUM DISTRIBUTION - AD*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Improvements for Hardware for the LWP/TWPS/HIPPO	3	2010	4	2011
Develop Petroleum Test Kit (PTK) Technical Requirements, Design, and Test	4	2012	3	2013
Improvements for Family of Fuel System Supply Points (FSSPs)	4	2010	3	2013
Bulk Water Treatment and System	4	2011	3	2015
Camel II Operational Testing	1	2013	1	2013
Water Packaging System	3	2011	2	2014
Automated Fuels Management System	4	2013	3	2014
Future Fuels Storage Systems	4	2013	3	2016
Versatile Tank and Pump Unit	3	2011	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT K42: *MATERIEL SUSTAINMENT SUPPORT AD*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
K42: *MATERIEL SUSTAINMENT SUPPORT AD*	2.835	0.463	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project supports Advanced Component Development and Prototypes of new and reformulated paints, paint removers, cleaners and other surface coating materials and processes for weapon systems production and maintenance operations. The project increases operational sustainment and warfighter training capabilities by reducing soldier health risks, environmental impacts and compliance enforcement actions against installations while increasing coatings performance and standardization across the Army. Materials and processes demonstrated under this project are inherently compliant with all applicable National Emissions Standards for Hazardous Air Pollutants that regulate surface coating activities, thereby eliminating the need for Army installations to incur hundreds of millions of dollars in expenses to purchase, install and operate air pollution control devices. This project transitions advanced technologies developed under 0603728A, Environmental Quality Technology Demonstrations (025). The project tests and evaluates Sustainable Painting Operations for the Total Army (SPOTA) at facilities that produce and maintain Combat Support/Combat Service Support systems, Ground Combat Vehicles and other Army equipment. The project expedites technology transition from the laboratory to operational use by demonstrating the capabilities of new materials and processes to fulfill the performance requirements outlined in Material Specifications, Depot Maintenance Work Requirements, Technical Manuals and other technical data. Test and evaluation activities are executed by Research, Development and Engineering Command (RDECOM) centers and laboratories in cooperation with the affected Life Cycle Management Commands, Program Executive Offices and Program Managers. Materials are being demonstrated at ten different Army facilities in order to minimize the disruption of materiel maintenance operations at any one facility.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Chemical Agent Resistant Coatings (CARC) and Non-CARC Paints	1.717	0.251	-
Articles:	0	0	
Description: Qualify, validate and approve reformulated CARC systems and other non-CARC paints and surface coatings. ***FY 2010 Accomplishments:*** Completed qualification testing for improved CARC products and populated qualified products database. ***FY 2011 Plans:*** Validate and approve non-chromate, low volatile organic compound pretreatments.			
Title: Solvents, Thinners and Cleaners	0.205	0.120	-
Articles:	0	0	
Description: Qualify, validate and approve hazardous air pollutant (HAP)-free solvents, thinners and cleaners.			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT K42: *MATERIEL SUSTAINMENT SUPPORT AD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: Issued and coordinated draft of new joint, HAP-free cleaning specification to encompass all successfully demonstrated products. ***FY 2011 Plans:*** Implement alternative products in approved applications.			
Title: Depainting	0.446	0.071	-
Articles:	0	0	
Description: Qualify, validate and approve chemical paint removers containing no methylene chloride or other HAPs. ***FY 2010 Accomplishments:*** Down selected and demonstrated alternative products in remaining vat depainting applications utilizing methylene chloride. ***FY 2011 Plans:*** Approve and implement alternative products for all ground vehicle depainting vats.			
Title: Sealants and Adhesives	0.467	0.021	-
Articles:	0	0	
Description: Qualify, validate and approve reformulated sealants and adhesives for high-use applications. ***FY 2010 Accomplishments:*** Demonstrated HAP-free adhesives for communications / electronics applications and completed first article testing for low HAP rubber-to-metal bonding products. ***FY 2011 Plans:*** Approve and implement all demonstrated alternative adhesives and sealants.			
Accomplishments/Planned Programs Subtotals	2.835	0.463	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT K42: *MATERIEL SUSTAINMENT SUPPORT AD*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• .: *Environmental Quality Technology Mgmt Support (06I)*	0.265	0.042								0.000	0.307

D. Acquisition Strategy

The project transitions demonstrated technology directly into the Army supply system by having National Stock Numbers assigned/reassigned and immediately made available for procurement by the Defense Logistics Agency and the General Services Administration. As acquisition managers approve the new materials and processes for use on their systems, technical writers are specifying them in the appropriate technical publications. The project is managed by the Environmental Acquisition and Logistics Sustainment Program Director at the Headquarters, U.S. Army Research Development and Engineering Command (RDECOM).

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT L04: *JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
L04: *JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD*	30.874	52.925	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Joint Light Tactical Vehicles (JLTV): Funding supports the development and testing of the JLTV Family of Vehicles (FoV), which is being developed as a joint and international system between the Army and Marine Corps, and the Australian Army, participating under a Project Arrangement. The JLTV goal is a FoV with companion trailers capable of performing multiple mission roles that will be designed to provide protected, sustained, networked mobility for personnel and payloads across the full Range of Military Operations (RoMO). JLTV objectives include increased protection and performance over the current fleet; minimizing ownership costs by maximizing commonality, fuel efficiency and other means; and maintaining effective competition throughout the lifecycle. The JLTV FoV includes ten (10) sub-configurations (and companion trailers) in three payload categories. Commonality of components, maintenance procedures, training, etc., between vehicles and trailers is expected to be inherent in FoV solutions within and across Payload Categories to minimize FoV total ownership cost. Unique service requirements have been minimized.

FY10, major budget activities supported completion of ballistic hull testing, vehicle performance testing, user evaluations, reliability testing and prototype live fire evaluations.

During FY11, funds complete the Technology Development phase testing and test report submissions and the initiation of Engineering and Manufacturing Development (EMD) phase. As the program progresses towards EMD, major budget activities will support staffing of the Capabilities Development Document, MS B document preparation, source selection evaluation activities and MS B decision.

RDT&E funding will be provided under a new Program Element - 0604804A, Project L50 for FY12 and out years.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: JLTV Program Management	4.643	-	-
Articles:	0		
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: For salaries, in-house, etc.			
Title: JLTV Variant Prototype Contract Design, Development and Fabrication	17.125	-	-
Articles:	0		

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT L04: *JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** For contract development and design			
Title: JLTV Developmental Test and Evaluation ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** For test support	9.106 0	-	-
Title: Program Management ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Plans:*** For salaries, in-house, etc.	-	5.100 0	-
Title: JLTV Variant Prototype Contract Design, Development and Fabrication ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Plans:*** For contract design and development	-	43.425 0	-
Title: JLTV Developmental Test and Evaluation ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Plans:*** For test support	-	4.400 0	-
Accomplishments/Planned Programs Subtotals	30.874	52.925	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT L04: *JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 0604804A: *Joint Light Tactical Vehicles (JLTV), 0604804A, Army RDTE Project L50*			162.006		162.006		52.049	52.488	52.863	0.000	372.660
• D15603: *Joint Light Tactical Vehicles (JLTV), D15603, Army OPA 1*							592.644	4.182	921.550	1,188.365	2,894.548
• 0603635M: *Marine Corps Ground Combat/Support Systems, 0603635M, RDTE Project 3209*	52.991	31.762	71.847		71.847		34.645	20.043	31.777	0.000	372.028
• 0206221M: *Marine Corps Ground Combat/Support Systems, 0206221M, Production 5095*							14.765	147.754	236.941	0.000	399.460

D. Acquisition Strategy

The JLTV Acquisition Strategy for the Technology Demonstration (TD) phase, FY08-11, is to competitively award multiple contracts. During this phase, the contractors will be required to design the JLTV Family of Vehicles (FoV) to the Preliminary Design Review level and fabricate and test selected prototypes and trailers for payload Categories A, B, and C. The TD phase contracts were awarded on October 29, 2008 under the full and open competition process to BAE Systems Land & Armament Systems-Ground Systems Division; General Tactical Vehicles (A Joint Venture of General Dynamics Land Systems, Inc. and AM General, LLC); and Lockheed Martin Systems Integration. The fabricated prototypes will undergo developmental testing, as well as limited user assessments, in a relevant environment at Government test facilities. The addition of Australian prototypes to the program will further reduce the risk. The goal is to ensure the family of prototypes is mature in terms of supporting technologies and full system integration for MS B approval and entry into Engineering and Manufacturing Development (EMD) phase.

The program transitions from TD phase to EMD phase in the fourth quarter of FY11. During the EMD phase, FY11-15, two full and open competition contracts will be awarded to design, fabricate and test the full range of sub-configurations in sufficient quantities to validate all Capability Development Document requirements. International participation will be offered during this phase. Technology Readiness Level (TRL) 6 or higher is required. The fabricated prototypes will undergo Developmental Test, Reliability, Availability, Maintainability (RAM) testing, Limited User Test and Live Fire Testing. Funding will be provided under a new Program Element - 0604804A, Project L50 for FY12 and out years.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT L04: *JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JLTV Technology Demonstration	C/CPAF	BAE Systems:Santa Clara, CA	32.998	-		-		-		-	Continuing	Continuing	Continuing
JLTV Technology Deomonstration	C/CPFF	General Tactical Vehicles:Sterling Heights, MI	37.567	-		-		-		-	Continuing	Continuing	Continuing
JLTV Technology Demonstration	C/CPFF	Lockheed Martin:Owego, NY	28.684	-		-		-		-	Continuing	Continuing	0.000
JLTV Systems Engineering Design & Development / GFE	Various	TBD:Various	2.292	-		-		-		-	Continuing	Continuing	Continuing
JLTV Engineering & Manufacturing Development Contract/GFE	Various	TBD:Various	-	15.175		-		-		-	Continuing	Continuing	Continuing
JLTV Source Selection and Ballistic Hulls to support the evaluation process	Various	TBD:Various	-	21.400		-		-		-	Continuing	Continuing	Continuing
JLTV Program Management	Various	TACOM:Warren, MI	8.263	5.100		-		-		-	Continuing	Continuing	Continuing
		Subtotal	109.804	41.675		-		-		-			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JLTV Variant Prototype Design	Various	TACOM:Warren, MI	2.750	2.950		-		-		-	Continuing	Continuing	Continuing
JLTV Variant Prototype Design	Various	TARDEC:Warren, MI	5.078	2.500		-		-		-	Continuing	Continuing	Continuing
JLTV Variant Prototype Design	Various	Defense Technical Information Center,:Ft. Belvoir, VA	2.272	0.700		-		-		-	Continuing	Continuing	Continuing
JLTV Variant Prototype Design	Various	Other Government Agencies:Various	1.603	0.500		-		-		-	Continuing	Continuing	Continuing
		Subtotal	11.703	6.650		-		-		-			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT L04: *JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JLTV Developmental Test and Evaluation Support Costs	C/BOA	TBD:Various	1.526	0.515		-		-		-	Continuing	Continuing	Continuing
JLTV Developmental Test and Evaluation	C/BOA	APG/ATC:Aberdeen, MD	3.942	3.785		-		-		-	Continuing	Continuing	Continuing
JLTV Developmental Test and Evaluation	C/BOA	YPG:Yuma, AZ	-	0.300		-		-		-	Continuing	Continuing	Continuing
		Subtotal	5.468	4.600		-		-		-			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	126.975	52.925		-		-		-			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT L04: *JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD*

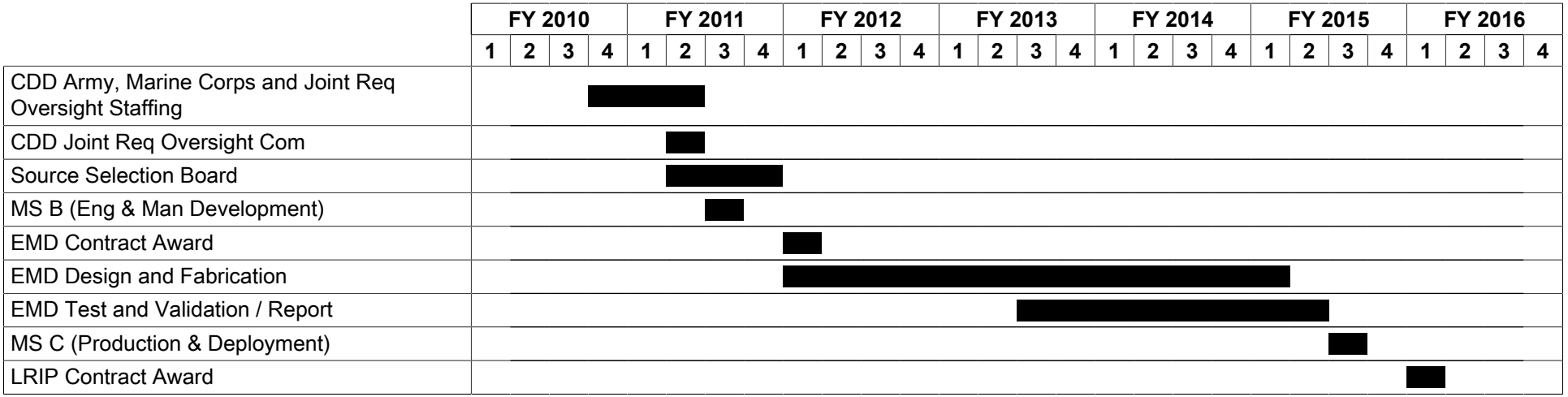

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	**PROJECT** L04: *JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CDD Army, Marine Corps and Joint Req Oversight Staffing	4	2010	2	2011
CDD Joint Req Oversight Com	2	2011	2	2011
Source Selection Board	2	2011	4	2011
MS B (Eng & Man Development)	3	2011	3	2011
EMD Contract Award	1	2012	1	2012
EMD Design and Fabrication	1	2012	1	2015
EMD Test and Validation / Report	3	2013	2	2015
MS C (Production & Deployment)	3	2015	3	2015
LRIP Contract Award	1	2016	1	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT VR8: *COMBAT SERVICE SUPPORT SYSTEMS - AD*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
VR8: *COMBAT SERVICE SUPPORT SYSTEMS - AD*	-	-	2.042	-	2.042	2.001	1.986	2.015	2.347	0.000	10.391
Quantity of RDT&E Articles											

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), base camp subsystems, field service systems, mortuary affairs equipment, heaters, camouflage systems to counter emerging enemy threat technologies, 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 supports Advanced Component Development and Prototyping of Critical tactical support systems that support mobile Joint Service command and control, medical, and maintenance platforms. 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 and reduces sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands in lift, combat zone footprint, and costs for logistical support.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Zero-Footprint Base Camp ***Description:*** Zero-Footprint Base Camp reduces the logistics footprint of the expeditionary base camp system, with the goal being a significant reduction in fuel, water, and power requirements to sustain operations in the field. Operating a base camp such as Force Provider requires a significant amount of logistics support and also produces an enormous amount of by products, both of which cost money, human effort (that means a risk in the form of soldiers on the road), and represents a potential vulnerability. ***FY 2012 Plans:*** Conduct Delopmental Testing and Operational Testing (DT/OT) on Zero-Footprint Base Camp capabilities for Joint base camp systems in support of the Office of Secretary of Defense (OSD) Joint Expeditionary Basing Work Group initiative	-	-	0.981
Title: Net-Zero Energy Efficiency Solutions ***Description:*** Net-Zero Energy Efficiency Solutions reduce the logistics footprint of the expeditionary base camp system, with the goal being a significant reduction in fuel, water, and power requirements to sustain operations in the field. Operating a base camp such as Force Provider requires a significant amount of logistics support and also produces an enormous amount of by products, both of which cost money, human effort (that means a risk in the form of soldiers on the road), and represents a potential vulnerability.	-	-	0.461

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT VR8: *COMBAT SERVICE SUPPORT SYSTEMS - AD*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
FY 2012 Plans: Conduct evaluation on Net-Zero energy efficiency solutions for Force Provider			
Title: Modular Ballistic Protection System (MBPS) ***Description:*** MBPS is a lightweight, rapidly deployable and reusable ballistic protection system that can be installed in commonly used military shelters in expeditionary and remote base camps and outposts where more robust forms of ballistic protection (i.e. sandbags, concrete barriers) are not readily available or logistically feasible. ***FY 2012 Plans:*** Conduct Developmental Testing (DT) on Modular Ballistic Protection System (MBPS).	-	-	0.600
Accomplishments/Planned Programs Subtotals	-	-	2.042

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 643804 K39: *Field Sustainment Support AD*	15.911	18.908	3.200		3.200		3.290	3.397	3.140	Continuing	Continuing
• 654804 L39: *Field Sustainment Support ED*	4.503	5.804	4.245		4.245		2.472	2.431	2.355	Continuing	Continuing
• 654804 VR7: *Combat Service Support Systems*			2.554		2.554		1.648	1.753	1.900	Continuing	Continuing
• M80200: *Force Provider*		41.539	6.228		6.228		0.060			0.000	47.827

D. Acquisition Strategy

Accelerate Base Camp efficiency and safety initiaives to incorporate in deployed camps and/or incorporate during reset of equipment.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	PROJECT VR8: *COMBAT SERVICE SUPPORT SYSTEMS - AD*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Support	Various	PM Force Sustainment Systems:Natick, MA	-	-		0.203		-		0.203	Continuing	Continuing	0.000
		Subtotal	-	-		0.203		-		0.203			0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	Various:Various	-	-		0.939		-		0.939	Continuing	Continuing	0.000
		Subtotal	-	-		0.939		-		0.939			0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	Various:Various	-	-		0.900		-		0.900	Continuing	Continuing	0.000
		Subtotal	-	-		0.900		-		0.900			0.000

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		2.042		-		2.042			0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	**PROJECT** VR8: *COMBAT SERVICE SUPPORT SYSTEMS - AD*

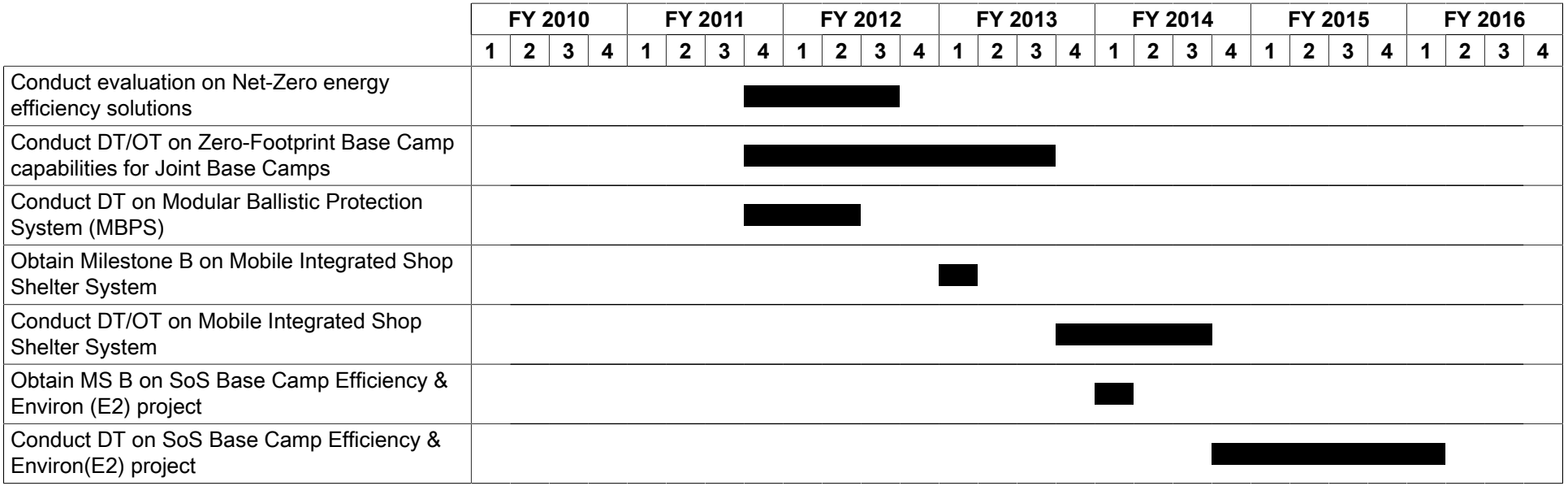

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603804A: *Logistics and Engineer Equipment - Adv Dev*	**PROJECT** VR8: *COMBAT SERVICE SUPPORT SYSTEMS - AD*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Conduct evaluation on Net-Zero energy efficiency solutions	4	2011	3	2012
Conduct DT/OT on Zero-Footprint Base Camp capabilities for Joint Base Camps	4	2011	3	2013
Conduct DT on Modular Ballistic Protection System (MBPS)	4	2011	2	2012
Obtain Milestone B on Mobile Integrated Shop Shelter System	1	2013	1	2013
Conduct DT/OT on Mobile Integrated Shop Shelter System	4	2013	3	2014
Obtain MS B on SoS Base Camp Efficiency & Environ (E2) project	1	2014	1	2014
Conduct DT on SoS Base Camp Efficiency & Environ(E2) project	4	2014	1	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0603805A: *Combat Service Support Control System Evaluation and Analysis*						
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	9.898	14.290	5.258	-	5.258	-	-	-	-	Continuing	Continuing
091: *CBT SVC SPT CONTRL SYS*	9.898	14.290	5.258	-	5.258	-	-	-	-	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.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	9.817	14.290	-	-	-
Current President's Budget	9.898	14.290	5.258	-	5.258
Total Adjustments	0.081	-	5.258	-	5.258
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	0.081	-	5.258	-	5.258

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603805A: *Combat Service Support Control System Evaluation and Analysis*	PROJECT 091: *CBT SVC SPT CONTRL SYS*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
091: *CBT SVC SPT CONTRL SYS*	9.898	14.290	5.258	-	5.258	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

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 Integrated Battle Command Capabilities, training and support to the Joint Land Component Warfighter. As the LOG C2 component of PM BC's products/services enables warfighters to plan, execute and synchronize tactical and operational warfighting functions to include maneuver, fires, logistics, airspace management, and air defense. PM Battle Command also procures a common hardware computing baseline used by a broad range of Army products. 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.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Program Office Management	0.795	0.769	0.737	-	0.737
Articles:	0	0			
Description: Funding is provided for the following effort					
FY 2010 Accomplishments: Program Management Support					
FY 2011 Plans: Continues Program Management Support					
FY 2012 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603805A: *Combat Service Support Control System Evaluation and Analysis*	**PROJECT** 091: *CBT SVC SPT CONTRL SYS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continues program management support.					
Title: Battle Command (BC) Migration	7.803	11.371	3.721	-	3.721
Articles:	0	0			
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** Funding will support the Migration to Battle Command programs ***FY 2011 Plans:*** Continues the migration to Battle Command programs ***FY 2012 Base Plans:*** Continues the migration of Battle Command programs.					
Title: Systems Engineering and Test	1.300	2.150	0.800	-	0.800
Articles:	0	0			
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** Supports System Engineering and Testing ***FY 2011 Plans:*** Continues System Engineering and Testing ***FY 2012 Base Plans:*** Continues System Engineering and Testing					
Accomplishments/Planned Programs Subtotals	9.898	14.290	5.258	-	5.258

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603805A: *Combat Service Support Control System Evaluation and Analysis*	PROJECT 091: *CBT SVC SPT CONTRL SYS*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• BCS3 Other Funding: *Battle Command Sustainment Support System*	31.883	26.306	12.476	10.000	22.476					Continuing	Continuing

D. Acquisition Strategy

In accordance with the U.S. Army Training and Doctrine Command (TRADOC) requirements document approved in 2008, entitled Battle Command Essential Capability, software capability will be developed in 2-year increments as capability sets designed to Collaborate, Collapse and Converge Battle Command products. The product development funded under this R-Form is an integral part of the Army Battle Command System (ABCS), a system of systems, under a strategy designed to optimize opportunity for improved interoperability among the systems, to capture the benefits of competition where possible and to ensure the rapid integration of new capability into warfighter systems. This strategy is designed to reduce the physical footprint, logistics support requirements and increase operational efficiency.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603805A: *Combat Service Support Control System Evaluation and Analysis*	PROJECT 091: *CBT SVC SPT CONTRL SYS*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Management	TBD	To Be Determined:To Be Determined	28.435	0.402		0.737		-		0.737	Continuing	Continuing	Continuing
		Subtotal	28.435	0.402		0.737		-		0.737			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	TBD	Northrop Grumman,:Carson, CA	159.473	-		3.721		-		3.721	Continuing	Continuing	Continuing
Software Development	TBD	Tapestry Solutions,:San Diego, CA	13.262	-		-		-		-	Continuing	Continuing	Continuing
Software Development	C/CPAF	To Be Determined:To Be Determined	0.500	12.284		-		-		-	Continuing	Continuing	Continuing
Training Development	TBD	Lockheed Martin,:Tinton Falls, NJ	13.514	-		-		-		-	Continuing	Continuing	Continuing
ABCS SE&I Effort	TBD	PEO C3T,:Ft. Monmouth, NJ	7.686	-		-		-		-	Continuing	Continuing	Continuing
GFE	Various	Various:Various	3.601	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	198.036	12.284		3.721		-		3.721			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Support	TBD	To Be Determined:To Be Determined	9.036	0.386		-		-		-	Continuing	Continuing	Continuing
CECOM, Matrix	TBD	CECOM:Ft. Monmouth, NJ	5.154	-		-		-		-	0.000	5.154	Continuing
Acquisition Support	TBD	LMI,:Ft. Monmouth, NJ	1.075	-		-		-		-	0.000	1.075	Continuing
		Subtotal	15.265	0.386		-		-		-			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603805A: *Combat Service Support Control System Evaluation and Analysis*	PROJECT 091: *CBT SVC SPT CONTRL SYS*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering and Test	TBD	Northrop Grumman,:Carson, CA	2.933	1.218		0.800		-		0.800	Continuing	Continuing	Continuing
Systems Engineering and Test	TBD	To Be Determined:To Be Determined	-	-		-		-		-	Continuing	Continuing	Continuing
GOVT	TBD	VARIOUS:Various	5.575	-		-		-		-	Continuing	Continuing	Continuing
Dev. Testing & Eval.	TBD	EPG,:Edgewood, MD	1.028	-		-		-		-	Continuing	Continuing	Continuing
Oper. Testing	TBD	ATEC,:Washington, DC	2.633	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	12.169	1.218		0.800		-		0.800			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	253.905	14.290		5.258		-		5.258			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603805A: *Combat Service Support Control System Evaluation and Analysis*	**PROJECT** 091: *CBT SVC SPT CONTRL SYS*

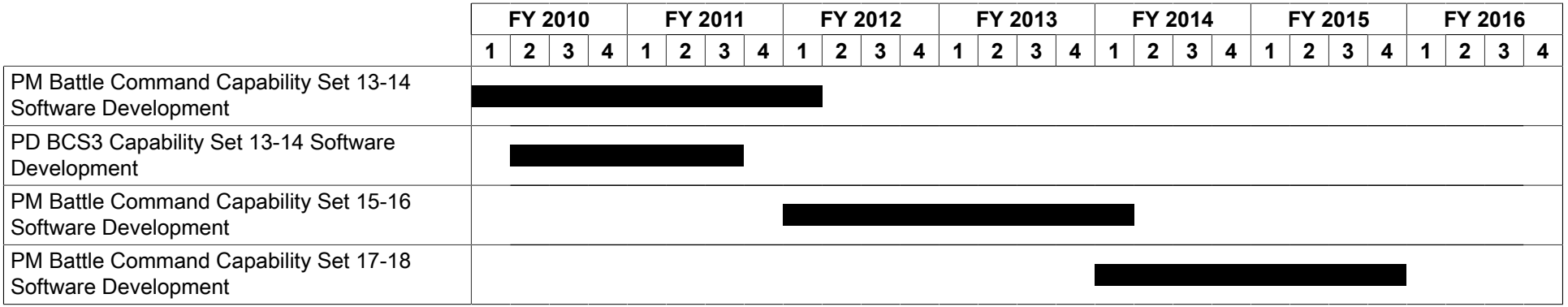

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603805A: *Combat Service Support Control System Evaluation and Analysis*	**PROJECT** 091: *CBT SVC SPT CONTRL SYS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
PM Battle Command Capability Set 13-14 Software Development	1	2010	1	2012
PD BCS3 Capability Set 13-14 Software Development	2	2010	3	2011
PM Battle Command Capability Set 15-16 Software Development	1	2012	1	2014
PM Battle Command Capability Set 17-18 Software Development	1	2014	4	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	32.851	28.132	34.997	-	34.997	23.291	18.736	18.894	21.191	Continuing	Continuing
808: *DOD DRUG & VACC AD*	6.655	7.225	11.569	-	11.569	9.354	9.240	9.459	11.902	Continuing	Continuing
811: *MIL HIV VAC&DRUG DEV*	1.410	2.923	2.348	-	2.348	1.188	0.808	0.824	0.835	Continuing	Continuing
836: *Field Medical Systems Advanced Development*	20.011	17.984	19.465	-	19.465	11.572	8.233	8.611	8.454	Continuing	Continuing
CS4: *MEDICAL SYSTEMS ADV DEV INITIATIVES (CA)*	4.775	-	-	-	-	-	-	-	-	Continuing	Continuing
VS7: *MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - ADV DEV*	-	-	1.615	-	1.615	1.177	0.455	-	-	0.000	3.247

Note

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A. Mission Description and Budget Item Justification

This program element (PE) funds development of medical materiel at the start of an official program of record, within the early system integration portion of the System Development and Demonstration phase of the acquisition life cycle using 6.4 funding. Program efforts support transition of promising Science and Technology candidate medical technologies (drugs, vaccines, medical devices, diagnostics, and mechanisms for detection and control of disease carrying insects) to larger scale testing in humans for safety and effectiveness. Programs are aligned to meet Future Force (F2) requirements stressed within concept documents and organizational structures. The PE provides funding for Food and Drug Administration (FDA) regulated human clinical trials to gain additional information about safety and effectiveness on the path to licensure for use in humans. The Projects supported by this PE are:

(PROJ 836) funds the demonstration and validation of medical products for enhanced combat casualty care and follow-on care, including rehabilitation. This project also funds the human clinical trials that test the safety and effectiveness of biologics, devices and demonstration. Clinical trials are conducted in accordance with U.S. Food and Drug Administration (FDA) regulations. Products from this project will transition to 832.

(PROJ 808) funds development of candidate medical countermeasures for infectious diseases of military relevance. Efforts include vaccines, drugs, diagnostic kits/ devices, and insect control measures. These funds support human clinical efficacy trials of the drug/vaccine in a larger group that are designed to assess performance and to continue safety assessments in a larger group of volunteers. Products from this project will transition to 849.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603807A: *Medical Systems - Adv Dev*

(PROJ 811) funds the development of military relevant human immunodeficiency virus (HIV) medical countermeasures. It provides funding for planning and conducting of human clinical trials in a group of healthy volunteers to assess the drug/vaccine for safety, tolerability, how the drug/vaccine is distributed, metabolized, and excreted from the body, and investigate the appropriate dose for therapeutic use. Products from this project will transition to Project 812.

(PROJ VS7) program upgrades, retrofits, trains, and sustains the 256 Medical Evacuation legacy helicopters that continue to play a major role in Iraq and Afghanistan. The force design will increase the number of air frames in the force from 12 to 15 aircraft for 37 MEDEVAC companies to better meet operation needs. Products from this project will transition to VS8.

This program is managed by U.S. Army Medical Materiel Development Activity (USAMMDA) and U.S. Army Medical Materiel Agency (USAMMA) of the US Army Medical Research and Materiel Command

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	35.886	28.132	37.128	-	37.128
Current President's Budget	32.851	28.132	34.997	-	34.997
Total Adjustments	-3.035	-	-2.131	-	-2.131
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-2.099	-			
• SBIR/STTR Transfer	-0.936	-			
• Adjustments to Budget Years	-	-	-2.131	-	-2.131

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 808: *DOD DRUG & VACC AD*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
808: *DOD DRUG & VACC AD*	6.655	7.225	11.569	-	11.569	9.354	9.240	9.459	11.902	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project funds development of candidate medical countermeasures for infectious diseases of military relevance. These efforts are in: vaccines, drugs, diagnostic kits/devices, and insect control measures. These funds support human clinical efficacy (capacity to produce a desired size of an effect under ideal or optimal conditions) trials of the drug/vaccine in larger groups that are designed to assess how well the drug/vaccine works, and to continue safety assessments in a larger group of volunteers. Funding supports both technical evaluations and human clinical testing to assure the safety and effectiveness of medical diagnostic kits and devices. This work, which is performed in military laboratories or civilian pharmaceutical firms, is directed toward the prevention of disease, early diagnosis, and speeding recovery once diagnosed. All clinical trials are conducted in accordance with U.S. Food and Drug Administration (FDA) regulations, a mandatory obligation for all military products placed into the hands of medical providers or service members. Product development priorities are determined based upon four major factors: (1) the extent and threat 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).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: DoD Drug and Vaccine Advanced Development	6.655	7.225	11.569
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: For Tafenoquine product, down-selected to best site for human safety/efficacy trial and continued laboratory assay development/ validation to understand the human body's immune responses when infected with malaria parasites and as tool for determining future clinical trial enrollment size, and transition the entire Tafenoquine program to project 849. Monitored progress of a new military topical insect repellent candidate in project 810 to determine its suitability for entry into advanced development. For the Infectious Disease Diagnostic (multiple candidates), conducted market research of selected developmental and commercial diagnostic platforms for select infectious diseases of military interest to determine suitability for entry into advanced development. The Dengue Tetravalent Vaccine (DTV) vaccine continues FDA required vaccine potency and stability testing and all other DTV activities are transitioned to project 849 [Dengue is a severe debilitating disease caused by a virus and transmitted by a mosquito]. For the Topical Antileishmanial Cream [Leishmania is a skin-based disease caused by a parasite and transmitted by sand flies], continued a human treatment protocol in the U.S., the partner continued stability testing and produced new clinical drug lots, and project 849 supported the overseas human clinical trials activities of this topical cream. For Leishmania Skin Test (LST),			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 808: *DOD DRUG & VACC AD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
completed the final report for the expanded human safety dose ranging sensitization trial in the U.S., and conducted pre-trial activities for a large scale (>200 subjects) human safety/efficacy trial in a Leishmania endemic region. ***FY 2011 Plans:*** Prepare to accept transition of a new military topical insect repellent from project 810 at Milestone B into Engineering & Manufacturing Development phase. If candidate is ready transition new malaria vaccine candidate from project 810 into Engineering & Manufacturing Development phase. For the Infectious Disease Diagnostic (multiple candidates), prepare to accept transition of project into the Engineering & Manufacturing Development phase of advanced development. The DTV vaccine will continue FDA required vaccine potency and stability testing and all other DTV activities are transitioned to project 849. For Topical Antileishmanial Cream, continue a human treatment protocol in the US, the industry partner continues stability testing of the drug product, and project 849 supports the overseas human trials activities of the topical cream. ***FY 2012 Plans:*** Review evaluations, and human clinical trials of malarial/anti-malarial drugs, vaccines, diagnostics, insect repellents, and grouped infectious disease (Dengue [a severe debilitating disease caused by a virus and transmitted by a mosquito] and Leishmania [a skin-based disease caused by a parasite and transmitted by sand flies]) vaccines, drugs and diagnostics. Will seek industry partner and evaluate and complete down-selection of drug candidates for human trials for prevention or treatment of malaria. Will continue to evaluate the vaccine candidate for dengue with industry partner Sanofi Pasteur. For Topical Antileishmanial Cream, will continue a human treatment protocol in the US, the industry partner continues stability testing of the drug product, and project 849 supports the overseas human trials activities of the topical cream.			
Accomplishments/Planned Programs Subtotals	6.655	7.225	11.569

C. Other Program Funding Summary ($ in Millions)

N/A

D. 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.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 808: *DOD DRUG & VACC AD*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1M individually	Various	Not Applicable:Not applicable	9.316	1.530		1.250		-		1.250	Continuing	Continuing	Continuing
		Subtotal	9.316	1.530		1.250		-		1.250			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1M individually	Various	Not applicable:Not applicable	9.114	1.819		8.269		-		8.269	Continuing	Continuing	Continuing
		Subtotal	9.114	1.819		8.269		-		8.269			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1M individually	Various	Not Applicable:Not applicable	3.820	1.495		1.250		-		1.250	Continuing	Continuing	Continuing
		Subtotal	3.820	1.495		1.250		-		1.250			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1M individually	Various	Not applicable:Not applicable	38.363	2.381		0.800		-		0.800	Continuing	Continuing	Continuing
		Subtotal	38.363	2.381		0.800		-		0.800			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 808: *DOD DRUG & VACC AD*	

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	60.613	7.225		11.569		-		11.569			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 808: *DOD DRUG & VACC AD*

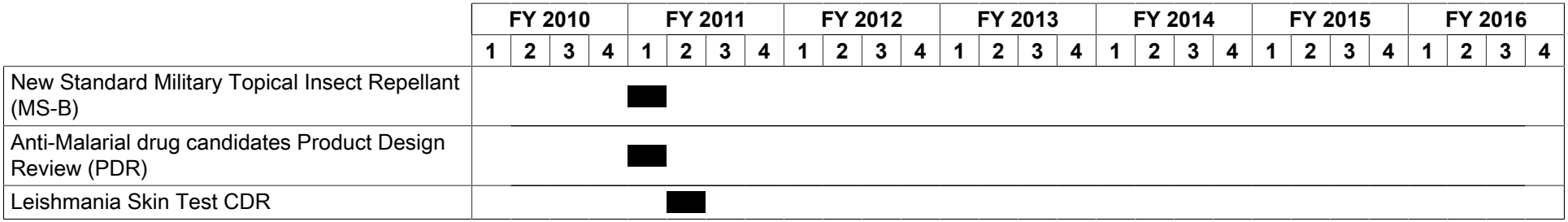

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603807A: *Medical Systems - Adv Dev*	**PROJECT** 808: *DOD DRUG & VACC AD*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
New Standard Military Topical Insect Repellant (MS-B)	1	2011	1	2011
Anti-Malarial drug candidates Product Design Review (PDR)	1	2011	1	2011
Leishmania Skin Test CDR	2	2011	2	2011

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 811: *MIL HIV VAC&DRUG DEV*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
811: *MIL HIV VAC&DRUG DEV*	1.410	2.923	2.348	-	2.348	1.188	0.808	0.824	0.835	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project funds development of militarily relevant human immunodeficiency virus (HIV) medical countermeasures. It provides funding for the planning and conducting of human clinical trials in a group of healthy volunteers to assess the drug/vaccine for safety, tolerability, how the drug/vaccine is distributed, metabolized, and excreted from the body, and to investigate the appropriate dose for therapeutic use. Development efforts are focused on militarily unique needs effecting manning, mobilization, and deployment.

The major contractor is Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD. Research efforts are coordinated with the National Institutes of Health.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Military HIV Vaccine & Drug Development	1.410	2.923	2.348
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Evaluated and down-select drug/vaccine candidates for preliminary human trials and conduct Design Readiness Review (DRR).			
FY 2011 Plans: Seek new industry partnership for selected candidate(s) drug/vaccine for HIV medical treatment/prevention.			
FY 2012 Plans: Perform three inter-related studies to enhance our understanding of precisely how the vaccine strategy used in the safety/efficacy trial completed in 2009 caused vaccine recipients to be protected from infection, including intense laboratory studies using samples from the trial, and commencement of two small clinical vaccine trials to generate data and samples to hopefully define what vaccine responses to try to generate for next increment studies.			
Accomplishments/Planned Programs Subtotals	1.410	2.923	2.348

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 811: *MIL HIV VAC&DRUG DEV*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Test and evaluate commercially developed drug/vaccine candidates in government-managed trials.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 811: *MIL HIV VAC&DRUG DEV*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1M individually.	TBD	Not Applicable:Not Applicable	0.456	0.473		0.473		-		0.473	Continuing	Continuing	Continuing
		Subtotal	0.456	0.473		0.473		-		0.473			

Remarks

Not Applicable

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1M individually	Various	Not applicable:Not applicable	1.215	0.746		0.360		-		0.360	Continuing	Continuing	Continuing
		Subtotal	1.215	0.746		0.360		-		0.360			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1M individually	TBD	Not applicable:Not Applicable	1.215	0.597		0.408		-		0.408	Continuing	Continuing	Continuing
		Subtotal	1.215	0.597		0.408		-		0.408			

Remarks

Not Applicable

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 811: *MIL HIV VAC&DRUG DEV*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	TBD	U.S. Component AFRIMS,:Bangkok	12.200	1.107		1.107		-		1.107	Continuing	Continuing	Continuing
		Subtotal	12.200	1.107		1.107		-		1.107			

Remarks

Not Applicable

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	15.086	2.923		2.348		-		2.348			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603807A: *Medical Systems - Adv Dev*	**PROJECT** 811: *MIL HIV VAC&DRUG DEV*

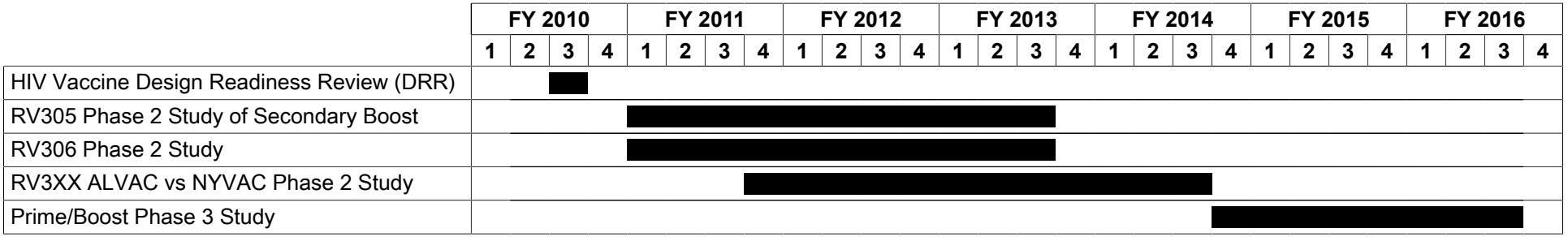

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603807A: *Medical Systems - Adv Dev*	**PROJECT** 811: *MIL HIV VAC&DRUG DEV*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
HIV Vaccine Design Readiness Review (DRR)	3	2010	3	2010
RV305 Phase 2 Study of Secondary Boost	1	2011	3	2013
RV306 Phase 2 Study	1	2011	3	2013
RV3XX ALVAC vs NYVAC Phase 2 Study	4	2011	3	2014
Prime/Boost Phase 3 Study	4	2014	3	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 836: *Field Medical Systems Advanced Development*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
836: *Field Medical Systems Advanced Development*	20.011	17.984	19.465	-	19.465	11.572	8.233	8.611	8.454	Continuing	Continuing
Quantity of RDT&E Articles											

Note

In FY10 Project 837 Soldier Sys Prot-AD has been consolidated into this Project, 836.

Major contractors/intra-governmental agencies include: IGR Enterprises, Inc.; Army Medical Department Board Test Center; SeQual Technologies, Inc.; Ultrasonic Diagnostics, Inc.; HemCon Medical Technologies, Inc.; Hemerus Medical, LLC.; Fast Track Drugs & Biologics, LLC; Clinical Research Management, and Walter Reed Army Institute of Research (WRAIR) and Institute of Surgical Research (ISR) for user evaluation. Other military agencies include Program Executive Office (PEO) Soldier, PEO Combat Service Support, and Naval Undersea Warfare Center.

A. Mission Description and Budget Item Justification

This project funds the demonstration and validation of medical products for enhanced combat casualty care and follow-on care, including rehabilitation. This project funds human clinical trials to test the safety and effectiveness of biologics (products derived from living organisms) and devices necessary to meet medical requirements. When available, commercial-off-the-shelf (COTS) medical products are also tested and evaluated for transition to system development and demonstration. Consideration is also given to reducing the medical logistics footprint through smaller weight, volume, and equipment independence from supporting materials. All clinical trials are conducted in accordance with U.S. Food and Drug Administration (FDA) regulations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Field Medical Systems Advanced Development	20.011	17.984	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Conducted human trials to assess intranasal ketamine drug effects on a subject's judgment. Antiplaque Gum: transitioned from project 840 and conducted a small human safety and dose escalation study in health adults. Environmental Sentinel Biomonitor (ESB): transitioned increment 1 from project 837 and increment 2 from technology development project FH4, initiated development of increment 2 ESB system for use in conjunction with field water facilities. Field tested one Ceramic Oxygen Generator system for the Force Provider Early Entry Combat Support Hospital (CSH). Transitioned Ultrasonic brain Imager product to project 832 for Systems Development and Demonstration.			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 836: *Field Medical Systems Advanced Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Total Intravenous Anesthesia (TIVA): Perform clinical trials and submit required documents for FDA clearance/approval. Auto Critical Care System (ACCLS): Conduct validation testing and Army DT/OT/AWC. Submit the 510K for FDA review for modified devices. Urinary Facilitation Device: Testing, reports, and review for FDA approval. PEAK Surgical System (Plasma Blade): if preclinical results are favorable, conduct environmental testing and identify any needed design modifications to produce a fieldable unit. Pursue additional regulatory approvals as needed. Plasma Knife: if preclinical results are favorable, conduct environmental testing and identify any needed design modifications to produce a fieldable unit. Pursue additional regulatory approvals as needed. Hydrosurgery System: Conduct operational and environmental testing. Remote Diagnostic Access (RDA): Develop software, conduct testing, and refinement for MOC Sensor Modual Development phase. Treatment Table for PM, HBCT Medical Mission Package for Treatment Variants: Tansition to Project 832. Refrigerator for PM, HBCT for Medical Mission Package for Treatment Variant: Transition to Project 832. Shock and Vibration Isolation System for Patient Litters in Ground and Air Medical Evacuation Vehicles: Transition to Project 832. Shelter for PM, HBCT for Medical Mission Package for Treatment Variant: Transition to Project 832. Passive Cold Chain Capability for Temperature Sensitive Medical Materiel: Transition to Project 832. The intranasal ketamine drug effects study transition to project 832 for Systems Development and Demonstration.			
Title: Field Medical Systems Advanced Development - PM Medical Devices ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** Non-invasive Multi-Analyte Monitor submission for RFP in 2QFY12 for the use of Infra Red Spectrometry to assess analyte concentration in blood. Hydration Meter: will conduct validation testing in 4Q. Plasma Knife: Will transition product to 6.5 funding in PE 832 line. Eye Tracking System for Assessing Concussions is a traumatic brain injury diagnostic tool that begins clinical trial to move to FDA submission in 1Q FY. Fibrinogen Bandages will use an antimicrobial irrigation solution to protect blast injury wound sites from bacterial infection. 2Q FY12 final review of Good Manufacturing Practice (GMP) will be conducted for movement forward to FDA submission. Cardiopulmonary Enhancement: conduct multiple collaborative clinical protocols to review arrest and life threatening trauma devices for enhanced treatment.	-	-	7.428
Title: Field Medical Systems Advanced Development - PM Pharmaceuticals ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** Cryopreserved Platelets (CPP) (use of cryopreserved platelets for control of severe bleeding): Will conduct clinical safety evaluations and conduct good manufacturing practices preliminary validation studies of the product. The Freeze-dried Plasma	-	-	7.759

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 836: *Field Medical Systems Advanced Development*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
(FDP) Program (hemorrhage treatment candidate): Will conduct preliminary clinical evaluations and conduct good manufacturing practices preliminary validation studies.			
Title: Field Medical systems Advanced Development - PM Integrated Clinical Systems (ICS) ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** Will conduct final testing of Phase IV of the Remote Diagnostic Access (RDA). Will Develop a universal security compliant access portal to serve as a standardized compliance wrapper for all vendors, medical technology, and even IT management products that may traverse between the .com and .mil networks. The Milestone Decision Authority (MDA) is scheduled to review the RDA project in March 2011 for continuation or termination.	-	-	0.888
Title: Field Medical Systems Advanced Development - PM Medical Support Systems ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** Treatment Table and Blood Refrigerator prototypes for PM HBCT will be finished and prepared for testing. Shock and Vibration Litter Isolation data analysis will be presented to the MDA for decision to transition to 832. New cold chain technologies will be explored for MES set inclusion. Quad fold litter, litter straps, and hands-free litter system from RFIs will continue to be explored and transition to 832. New ISO shelter panels will be tested in FY12 and transitioned back into ISO shelter specification for future shelter buys. Testing of Trauma Tiered Medical Bag will be accomplished and transition to PEP soldier. Soft-walled shelter development will continue to finalize Force Provider modules for use in Combat Support Hospitals. Prototype Water and Waste Water Management system will be developed and transitioned to 832 for testing.	-	-	3.390
Accomplishments/Planned Programs Subtotals	20.011	17.984	19.465

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Develop in-house or industrial prototypes in government-managed programs to meet military and regulatory requirements for production and fielding.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 836: *Field Medical Systems Advanced Development*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $M individually.	Various	Not Applicable:Not applicable	33.721	0.944		2.540		-		2.540	Continuing	Continuing	Continuing
		Subtotal	33.721	0.944		2.540		-		2.540			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/FFP	Clinical Research Management:Hinckley, Ohio	-	1.133		-		-		-	Continuing	Continuing	Continuing
Product Development	TBD	Allied Technologies & Consulting LLC:Frederick, MD	3.365	2.000		-		-		-	Continuing	Continuing	Continuing
Product Development	TBD	Aquila Alaska Corporation:Aquila Alaska	1.200	-		-		-		-	Continuing	Continuing	Continuing
Product Development	Various	HemCon Medical Technologies:Tigard, Oregon	-	-		8.000		-		8.000	0.000	8.000	0.000
Product Development	Various	Not Applicable:Not Applicable	20.618	-		-		-		-	Continuing	Continuing	Continuing
Development of Platelet Derived Hemostatic agent	Various	Fast Track Drugs & Biologics:Frederick, MD	-	-		1.500		-		1.500	0.000	1.500	0.000
Product Development	Various	ALL Product:Various	-	-		1.000		-		1.000	0.000	1.000	0.000
		Subtotal	25.183	3.133		10.500		-		10.500			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 836: *Field Medical Systems Advanced Development*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $M individually.	Various	Not Applicable:Not applicable	33.721	5.253		0.969		-		0.969	Continuing	Continuing	Continuing
		Subtotal	33.721	5.253		0.969		-		0.969			

Remarks

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

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1 Million individually.	C/UCA	Not applicable:Not applicable	13.091	8.654		5.456		-		5.456	Continuing	Continuing	Continuing
		Subtotal	13.091	8.654		5.456		-		5.456			

Remarks

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

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	105.716	17.984		19.465		-		19.465			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT 836: *Field Medical Systems Advanced Development*

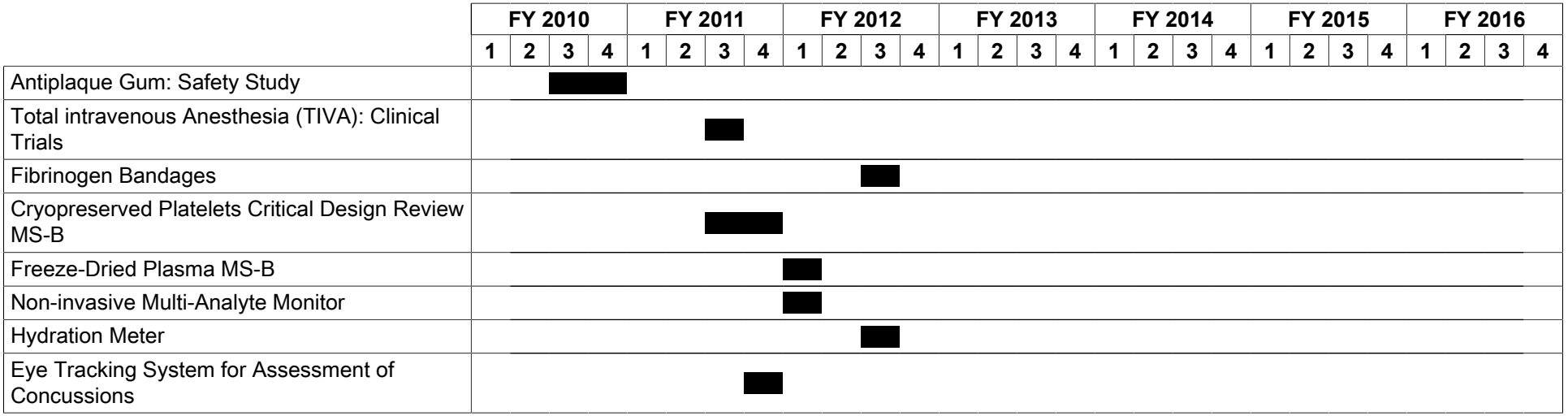

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603807A: *Medical Systems - Adv Dev*	**PROJECT** 836: *Field Medical Systems Advanced Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Antiplaque Gum: Safety Study	3	2010	4	2010
Total intravenous Anesthesia (TIVA): Clinical Trials	3	2011	3	2011
Fibrinogen Bandages	3	2012	3	2012
Cryopreserved Platelets Critical Design Review MS-B	3	2011	4	2011
Freeze-Dried Plasma MS-B	1	2012	1	2012
Non-invasive Multi-Analyte Monitor	1	2012	1	2012
Hydration Meter	3	2012	3	2012
Eye Tracking System for Assessment of Concussions	4	2011	4	2011

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT CS4: *MEDICAL SYSTEMS ADV DEV INITIATIVES (CA)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
CS4: *MEDICAL SYSTEMS ADV DEV INITIATIVES (CA)*	4.775	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Congressional Interest Item funding for medical systems advanced development initiatives.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Wireless Medical Monitoring System	2.400	-	-
Articles:	0		
Description: This is a Congressional Interest Item.			
FY 2010 Accomplishments: Conducted advanced development research in Wireless Medical Monitoring System			
Title: Quality Systems Program for FDA Regulation Activities	1.175	-	-
Articles:	0		
Description: This is a Congressional Interest Item.			
FY 2010 Accomplishments: Conducted advanced development research of a Quality Systems Program for FDA Regulation Activities			
Title: Model for Green Laboratories and Clean Rooms	1.200	-	-
Articles:	0		
Description: This is a Congressional Interest Item.			
FY 2010 Accomplishments: Conducted advanced development research and study for a Model for Green Laboratories and Clean Rooms			
Accomplishments/Planned Programs Subtotals	4.775	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT CS4: *MEDICAL SYSTEMS ADV DEV INITIATIVES (CA)*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT VS7: *MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - ADV DEV*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
VS7: *MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - ADV DEV*	-	-	1.615	-	1.615	1.177	0.455	-	-	0.000	3.247
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Original models of Army Black Hawk MEDEVAC helicopters continue to play a major role in maintaining high US troop survival rates in Iraq and Afghanistan by evacuating wounded troops in less than one-hour. In 2009 a VCSA-approved force design update increased the number of air frames in the force from 12 to 15 aircraft for 37 MEDEVAC companies to better meet operational needs. In 2010, the AMEDD accepted life-cycle management of the MEDEVAC MEP from PEO Aviation. In order to achieve required operational capability and enhance commonality across the MEDEVAC fleet, the MEDEVAC MEP program upgrades, retrofits, trains, and sustains the 256 MEDEVAC legacy helicopters to achieve the medical capability provided by the HH-60M, which is factory built for the MEDEVAC mission.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: MEDEVAC Mission Sensor Foward Looking Infrared (FLIR) ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** MEDEVAC Mission Sensor (MMS) FLIR for UH-60 aircraft. One of the requirements for the UH-60A/L MEDEVAC is a sensor system that will assist the pilots in locating patient pick-up points and assist them in maintaining situational awareness in night and adverse weather conditions. The MMS is currently being qualified for use on the HH-60M aircraft. This system will be installed on UH-60 aircraft using the proven Sponson-Mount FLIR system, which is currently being used in OEF for the MEDEVAC mission. The funds will develop and test a Medical Mission Sensor FLIR prototype on the UH-60A/L.	-	-	0.575
Title: Environmental Control System for MEDEVAC aircraft ***Description:*** Funding is provided for the following effort ***FY 2012 Plans:*** The HH-60A/L/M has an environmental control system to assist in regulating the cabin temperature. This system will help prevent injury and loss of life to patients due to heat stress or hypothermia during transport. The system will also provide improved crew comfort in extreme environmental conditions, particularly high temperatures. The system will utilize the component-qualified 2-Pallet ECS developed for the HH-60M and develop and test a prototype installation for the UH-60A/L.	-	-	0.509
Title: Telemedicine for MEDEVAC aircraft	-	-	0.531

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT VS7: *MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - ADV DEV*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Description: Funding is provided for the following effort ***FY 2012 Plans:*** Telemedicine is an on going requirement for US Army MEDEVAC, to allow the patient care-giver at point of injury or during transport to access the knowledge and expertise of a more qualified care-giver at a remote location, and to provide patient data to the receiving facility prior to patient arrival, allowing the facility more time to prepare for intensive care patients. The program will develop, install, and test a telemedicine system for the UH-60A/L family of aircraft.			
Accomplishments/Planned Programs Subtotals	-	-	1.615

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Develop in-house or industrial prototypes in government-managed programs to meet military MEDEVAC and regulatory requirements for production and fielding.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT VS7: *MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - ADV DEV*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1 Million individually	TBD	APM MEDEVAC PEO Aviation:Huntsville, AL	-	-		0.176		-		0.176	0.000	0.176	0.000
		Subtotal	-	-		0.176		-		0.176	0.000	0.176	0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1Million individually	Various	APM MEDEVAC PEO Aviation:Huntsville, AL	-	-		1.140		-		1.140	0.000	1.140	0.000
		Subtotal	-	-		1.140		-		1.140	0.000	1.140	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1M individually	TBD	APM MEDEVAC PEO Aviation:Huntsville, AL	-	-		0.100		-		0.100	0.000	0.100	0.000
		Subtotal	-	-		0.100		-		0.100	0.000	0.100	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than $1Million individually	TBD	APM MEDEVAC PEO Aviation:Huntsville, AL	-	-		0.199		-		0.199	0.000	0.199	0.000
		Subtotal	-	-		0.199		-		0.199	0.000	0.199	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603807A: *Medical Systems - Adv Dev*	PROJECT VS7: *MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - ADV DEV*

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		1.615		-		1.615	0.000	1.615	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603807A: *Medical Systems - Adv Dev*	**PROJECT** VS7: *MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - ADV DEV*

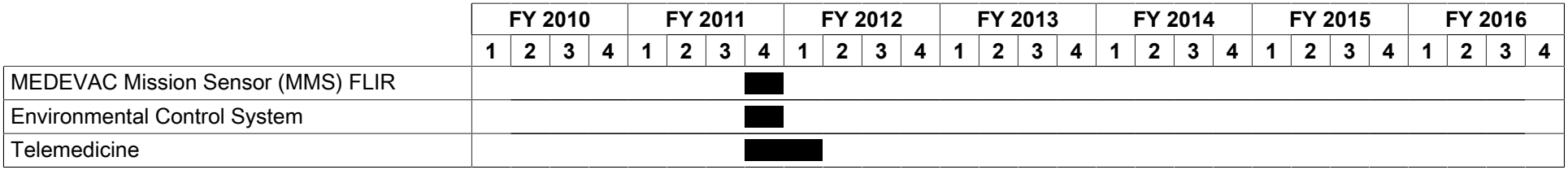

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603807A: *Medical Systems - Adv Dev*	**PROJECT** VS7: *MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - ADV DEV*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MEDEVAC Mission Sensor (MMS) FLIR	4	2011	4	2011
Environmental Control System	4	2011	4	2011
Telemedicine	4	2011	1	2012

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*							
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	75.833	48.323	19.598	-	19.598	18.368	16.344	14.860	13.509	Continuing	Continuing
S49: *GROUND SOLDIER SYSTEM (GSS)*	55.951	36.093	0.020	-	0.020	0.022	-	-	-	Continuing	Continuing
S51: *AIRCREW INTEGRATED SYS AD*	2.136	0.141	0.134	-	0.134	0.139	0.146	0.153	0.155	Continuing	Continuing
S52: *SOLDIER SUPPORT EQUIPMENT - AD*	-	-	6.107	-	6.107	4.531	1.900	-	-	0.000	12.538
S53: *CLOTHING AND EQUIPMENT*	6.794	7.106	6.985	-	6.985	7.163	6.573	6.657	5.376	Continuing	Continuing
S54: *SMALL ARMS IMPROVEMENT*	5.085	4.983	4.506	-	4.506	4.640	4.853	5.100	5.040	Continuing	Continuing
S55: *Counter-Defilade Target Engagement*	5.867	-	-	-	-	-	-	-	-	Continuing	Continuing
VS4: *SOLDIER PROTECTIVE EQUIPMENT*	-	-	1.846	-	1.846	1.873	2.872	2.950	2.938	0.000	12.479

Note

Change Summary Explanation:

Fiscal Year 2010: Program Increase - $2.048 million below threshold reprogramming from Program Element 654601 for Air Warrior Advanced Development.

Fiscal Year 2012: Program Decrease - $38.163 million realigned to higher priority requirements.

A. Mission Description and Budget Item Justification

This Program Element (PE) for Advanced Component Development and Prototypes manages the Soldier as a system in order to increase combat effectiveness, test and deliver tangible products that save Soldier's lives, and improve Soldier's quality of life. It evaluates, develops, and tests emerging technologies and critical Soldier support systems to reduce technology risk.

Project S49 funding (Ground Soldier System) integrates multiple components and leverages emerging technologies to provide overmatching operational capabilities to ground combat Soldiers.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*

Project S51 funding (Aircrew Integrated Systems) supports component development and prototyping of critical Soldier support systems and other combat service support equipment that will improve unit sustainability and combat effectiveness.

Project S52 funding (Soldier Support Equipment) supports system development and testing for the Gunshot Detection (GSD) Program of Record commencing in FY 2012. The GSD will provide passive detection, computer based signal processing, aural and visual indication to help troops locate a hostile shooter.

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.

Project S54 funding (Small Arms Improvement) provides funds to develop, demonstrate and evaluate emerging technology for integration of systems, subcomponents and prototypes designed to enhance lethality, target acquisition, fire control, training effectiveness and reliability for current and future small arms weapon systems and ammunition.

Project S55 funding (Counter-Defilade Target Engagement) provides funds to develop, demonstrate and evaluate technology for integration of systems and subcomponents to enhance hit probability to defeat defilade and point area targets at the squad level.

Project VS4 funding (Soldier Protective Equipment) supports efforts to evaluate integrated technologies and representative or prototype systems that help expedite Individual Soldier Ballistic Protection technology transition from the laboratory to operational use.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	73.785	48.323	57.761	-	57.761
Current President's Budget	75.833	48.323	19.598	-	19.598
Total Adjustments	2.048	-	-38.163	-	-38.163
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	2.048	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-38.163	-	-38.163

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S49: *GROUND SOLDIER SYSTEM (GSS)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S49: *GROUND SOLDIER SYSTEM (GSS)*	55.951	36.093	0.020	-	0.020	0.022	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Nett Warrior (NW) program [named in honor of Medal of Honor recipient COL Robert Nett], previously known as Ground Soldier System (GSS), is an integrated dismounted leader situational awareness (SA) system for use during combat operations. The system provides unparalleled situational awareness and understanding to the dismounted leader allowing for faster and more accurate decisions in the tactical fight. This translates into Soldiers being at the right place, at the right time, with the right equipment making them more effective, more lethal, and more survivable in the execution of their combat mission. The Increment I of the NW program focuses on the development of the SA system, improved navigation, and reduced fratricide through the visualization of friendly forces. Under this project three contractors are competing with different Nett Warrior prototype designs.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Developmental Engineering, Prototyping, Systems Engineering and Program Management Support	42.852	11.000	0.020
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Continued developmental engineering, competitive prototyping with three contractors, systems engineering, assessment, competitive contractor testing (with three contractors) and program management support for Nett Warrior (NW).			
FY 2011 Plans: Continue developmental engineering, competitive prototyping with three contractors, manufacturing, and systems engineering, assessment, competitive contractor testing (with three contractors) and program management support for Nett Warrior (NW).			
FY 2012 Plans: Development of smaller size and reduced weight technologies for selected Nett Warrior components.			
Title: Below Threshold Reprogramming	2.100	-	-
Articles:	0		

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S49: *GROUND SOLDIER SYSTEM (GSS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** Below Threshold Reprogramming (BTR) to provide funds to JPEO JTRS to modify SFF-B for NW integration.			
Title: Governmental Test and Evaluation (T&E) Activities	10.999	18.000	-
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** Continued Governmental T&E Activities by conducting Developmental Tests, Limited User Tests, and Operational Test. ***FY 2011 Plans:*** Continue Governmental T&E Activities by conducting Developmental Tests, Limited User Tests, and Operational Test.			
Title: Prepare for Milestone C	-	7.093	-
Articles:		0	
Description: Funding is provided for the following effort ***FY 2011 Plans:*** Continue competitive testing with three contractors, assessment, and prepare for Milestone C.			
Accomplishments/Planned Programs Subtotals	55.951	36.093	0.020

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• OPA 3, R80501: *OPA 3, R80501, Ground Soldier System*	1.803	110.524	184.072		184.072		475.395	458.582	330.635	Continuing	Continuing
• RDT&E, PE 0604827A S75: *RDT&E, PE 0604827A S75 - Ground Soldier Ensemble*			25.484		25.484		52.710	41.868	26.167	0.000	190.858

D. Acquisition Strategy

The NW Increment I acquisition concept, which implemented the Office of the Secretary of Defense (OSD) guidance on competition in prototyping, takes the NW program from the approved MS A through the current Technology Development (TD) Phase to a MS C allowing the maximum competition.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603827A: *Soldier Systems - Advanced Development*	**PROJECT** S49: *GROUND SOLDIER SYSTEM (GSS)*

Following the MS A Decision on February 19, 2009, three contracts were awarded on April 15, 2009 for the TD Phase. The TD Phase consisted of two parts: Part 1 - prototyping, Part 2 - integration/refinement. During Part 1 of TD, three contractors designed and fabricated Contractor Furnished Equipment, integrated Government Furnished Property and tested their systems during contractor and government testing to prove compliance with performance requirements. During Part 2 of TD, the contractors' systems underwent formal ATEC Developmental Testing (DT) to evaluate the ability to achieve technical requirements, and a Limited User Test (LUT) was conducted to gain an operational assessment of operational requirements. Based on the results of the testing and FY11 CRA impacts to Other Procurement Army funding, Nett Warrior will continue development to reduce size, weight and power, conduct an abbreviated operational assessment, and adjust the Milestone C to FY12.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S49: *GROUND SOLDIER SYSTEM (GSS)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Soldier Warrior oversight of NW program	MIPR	PM Soldier Warrior:Ft. Belvoir, VA	7.125	13.403		0.020		-		0.020	Continuing	Continuing	Continuing
PM Soldier Warrior software integration of NW program	MIPR	Various:Various	-	3.640		-		-		-	Continuing	Continuing	0.000
SBIR/SBTTR	TBD	N/A:N/A	0.698	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	7.823	17.043		0.020		-		0.020			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Develop, Integrate and Prototype NW Increment I	C/CPFF	Raytheon Company,:McKinney, TX 75071-2813	5.494	-		-		-		-	Continuing	Continuing	Continuing
Develop, Integrate and Prototype NW Increment I	C/CPFF	General Dynamics C4 Systems, Inc,:Scottsdale, AZ 85257-3812	4.993	-		-		-		-	Continuing	Continuing	Continuing
Develop, Integrate and Prototype NW Increment I	C/CPFF	Rockwell Collins, Inc,:Cedar Rapids, IA 52498-0505	5.345	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	15.832	-		-		-		-			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Nett Warrior support	MIPR	Various:Various	1.490	1.050		-		-		-	Continuing	Continuing	Continuing
		Subtotal	1.490	1.050		-		-		-			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S49: *GROUND SOLDIER SYSTEM (GSS)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Testing Organizations	MIPR	ATEC, TTC/YPG/ DTC/EPT/ARL-SLAD, etc.:Various	1.412	18.000		-		-		-	Continuing	Continuing	Continuing
		Subtotal	1.412	18.000		-		-		-			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	26.557	36.093		0.020		-		0.020			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603827A: *Soldier Systems - Advanced Development*	**PROJECT** S49: *GROUND SOLDIER SYSTEM (GSS)*

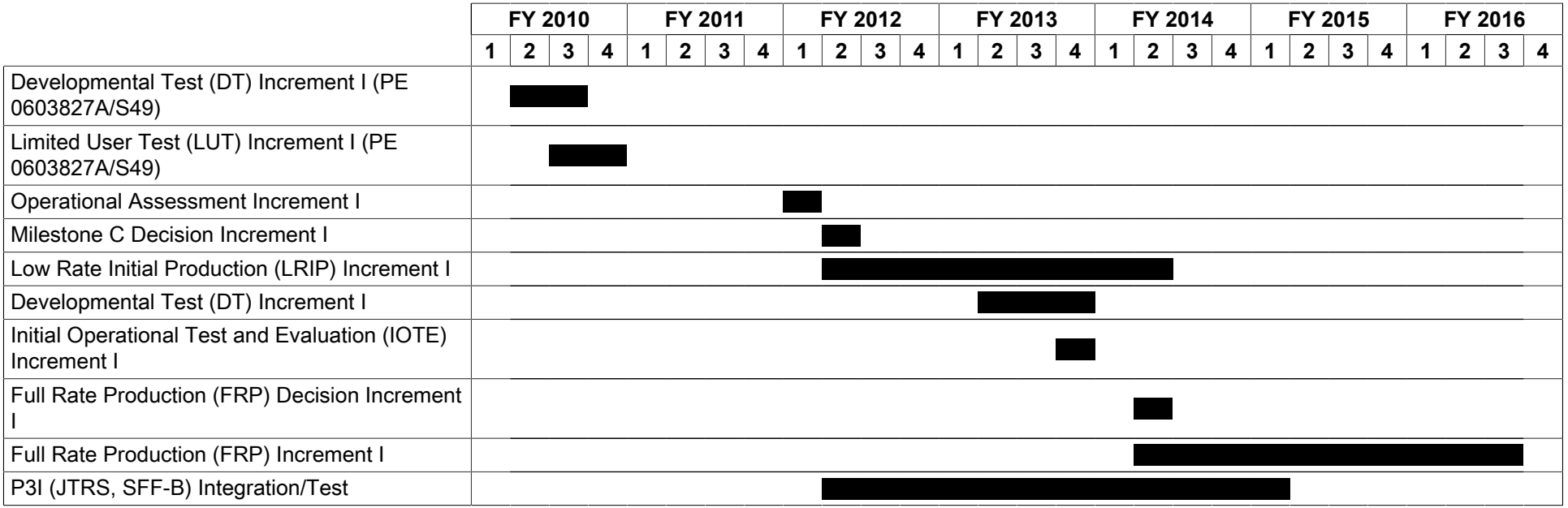

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603827A: *Soldier Systems - Advanced Development*	**PROJECT** S49: *GROUND SOLDIER SYSTEM (GSS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Developmental Test (DT) Increment I (PE 0603827A/S49)	2	2010	3	2010
Limited User Test (LUT) Increment I (PE 0603827A/S49)	3	2010	4	2010
Operational Assessment Increment I	1	2012	1	2012
Milestone C Decision Increment I	2	2012	2	2012
Low Rate Initial Production (LRIP) Increment I	2	2012	2	2014
Developmental Test (DT) Increment I	2	2013	4	2013
Initial Operational Test and Evaluation (IOTE) Increment I	4	2013	4	2013
Full Rate Production (FRP) Decision Increment I	2	2014	2	2014
Full Rate Production (FRP) Increment I	2	2014	3	2016
P3I (JTRS, SFF-B) Integration/Test	2	2012	1	2015

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S51: *AIRCREW INTEGRATED SYS AD*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S51: *AIRCREW INTEGRATED SYS AD*	2.136	0.141	0.134	-	0.134	0.139	0.146	0.153	0.155	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project supports the transition to Engineering Manufacturing Development from advanced component development and prototyping of critical aircrew support systems with improved 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, and Light Utility Helicopter. These programs include Air Soldier System and equipment which are unique and necessary for the sustainment, survivability, and performance of Army aircrews and troops on the future integrated battlefield by reduction of aviator equipment weight and bulk and improved situational awareness tools development that are required based upon capabilities gaps identified during recent combat operations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Aircrew Integrated Systems (ACIS) Advanced Development	2.136	0.141	0.134
Articles:	0	0	
Description: Continue advanced component development and prototyping of critical aircrew support systems technology improvements and advanced development and risk reduction effort required for transition to engineering development.			
FY 2010 Accomplishments: Continued advanced component development of Air Soldier System technology improvements and advanced development effort transition to engineering development to include Wearable Environmental Cooling, Integrated Wearable Power, additional fixed wavelengths of Laser Eye Protection, and improved helmet technologies for concentration of the early developmental effort.			
FY 2011 Plans: Continue advanced component development of Air Soldier System technology improvements and advanced development effort transition to engineering development to include Wearable Environmental Cooling, Integrated Wearable Power, additional fixed wavelengths of Laser Eye Protection, and improved helmet technologies.			
FY 2012 Plans: Continue advanced component development of Air Soldier System technology improvements and advanced development effort transition to engineering development to include Wearable Environmental Cooling, Integrated Wearable Power, additional fixed			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S51: *AIRCREW INTEGRATED SYS AD*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
wavelengths of Laser Eye Protection, and improved helmet technologies and begin 3-Dimensional Audio and Head Tracking developmenal effort.			
Accomplishments/Planned Programs Subtotals	2.136	0.141	0.134

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDTE, Engineering Manufacturing Dev: *RDTE, A PE 0604601A PROJ S61-SDD*	12.181	10.295	18.946		18.946		19.253	22.280	12.760	Continuing	Continuing
• Procurement, APA: *Aircraft Procurement, Army SSN AZ3110 - ACIS*	66.053	52.423	82.883		82.883		47.670	102.011	116.056	Continuing	Continuing

D. Acquisition Strategy

In a series of developmental program increments, technologies developed under the Air Soldier System program integrate capabilities including optimized survival equipment, Wearable Environmental Control System with integrated portable power, integrated Soldier-worn electronics suite, wireless aircraft and survival and evasion communications cabability, a fully compliant Modular Integrated Helmet and Display System (MIHDS), Chemical, Biological (CB) eye and respiratory protection, digital day/night Heads Up Display common to all Army aircraft platforms and optimized laser eye protection, waste disposal system and reduced weight and bulk. The MIHDS will provide a day (as well as night) heads up display, external audio, don in flight CB protection and advanced laser eye protection. This development effort is accomplished through a combination of contractor and governmental agencies managed within the Air Warrior Product Manager's Office. Continued effort provides for Air Warrior Product Manager's Office analysis and evaluation of emerging aircrew safety, survivability, and human performance improvement technologies for application to Army aircrew requirements. These programs are planned to transition into Engineering Manufacturing Development as the Advanced Development effort is completed.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S52: *SOLDIER SUPPORT EQUIPMENT - AD*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S52: *SOLDIER SUPPORT EQUIPMENT - AD*	-	-	6.107	-	6.107	4.531	1.900	-	-	0.000	12.538
Quantity of RDT&E Articles											

Note

New start in FY 2012

A. Mission Description and Budget Item Justification

The system provides passive detection, computer-based signal processing, and both aural and visual indications to help troops locate a hostile shooter. The GDS reports relative shooter azimuth, range, and elevation from incoming small arms fire. The GDS is able to detect shots fired while stationary and mobile up to 35 mph in open terrain. The system displays shooter detection data, in terms of distance, azimuth and elevation to target, by both visual and aural means.

The FY12 funds will be used for System Characterization and Technology Readiness Level (TRL) determination. The System Characterization Study will ascertain the performance of industry systems, will enhance Government knowledge of the benefits of Acoustic, RADAR and Infrared (IR) technologies with respect to detecting incoming gunshots. The study will aid the Government in determining Technology maturity and readiness. The information will feed the development of all the engineering documentation and the Acquisition Requirements Package (ARP).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: System Characterization Study ***Description:*** Study to be conducted to ascertain system performance, Technology Readiness Level (TRL) and Analysis of Alternatives (AoA) and associated PMO. ***FY 2012 Plans:*** The FY12 funds will be used for a System Characterization study to be conducted by the Armament Research Development & Engineering Center (ARDEC) Acoustic Center of Excellence (ACoE). This study will ascertain system performance, Technology Readiness Level (TRL) and Analysis of Alternatives (AoA). This information will be used in development mature Engineering Documentation.	-	-	3.177
Title: Engineering Documentation ***Description:*** Development of required engineering documentation for this POR and associated PMO. ***FY 2012 Plans:***	-	-	1.749

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S52: *SOLDIER SUPPORT EQUIPMENT - AD*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
The FY12 funds will be used for the development of a Performance Specification, Interface Control Document (ICD) and Performance Work Statement (PWS).			
Title: Engineering Services and Test Support ***Description:*** Acquire engineering services to support the study to ascertain TRL level and associated PMO. ***FY 2012 Plans:*** The FY12 funds will be used to support the System Characterization Study. Additionally, the funds will support Subject Matter Experts (SME) in RADAR, IR and Acoustic technologies to provide analysis and support to the System Characterization.	-	-	1.181
Accomplishments/Planned Programs Subtotals	-	-	6.107

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• BA3301 Gunshot Detection OPA2: *SSN: BA3301 Gunshot Detection System (GDS) Program of Record*			3.921		3.921		9.067	3.709	42.641	890.900	952.517

D. Acquisition Strategy

The FY12 funds will be used for System Characterization and Technology Readiness Level (TRL) determination. The System Characterization Study will ascertain the performance of industry systems, will enhance Government knowledge of the benefits of Acoustic, RADAR and Infrared (IR) technologies with respect to detecting incoming gunshots. The study will aid the Government in determining Technology maturity and readiness. The information will feed the development of all the engineering documentation and the Acquisition Requirements Package (ARP). Based upon outcome from this RDTE effort, PM FLIR intends to conduct a Full and Open Competition and award an FFP production contract to support the Program of Record.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S52: *SOLDIER SUPPORT EQUIPMENT - AD*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Office Support Services	TBD	PM FLIR:Ft. Belvoir, VA	-	-		0.947		-		0.947	0.000	0.947	0.000
		Subtotal	-	-		0.947		-		0.947	0.000	0.947	0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Characterization Study	MIPR	ARDEC Acoustic Center of Excellence:Picatinny, NJ	-	-		2.230		-		2.230	0.000	2.230	0.000
		Subtotal	-	-		2.230		-		2.230	0.000	2.230	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Documentation	Various	TBD:TBD	-	-		1.749		-		1.749	0.000	1.749	0.000
Engineering Services and Test Support	Various	TBD:TBD	-	-		1.181		-		1.181	0.000	1.181	0.000
		Subtotal	-	-		2.930		-		2.930	0.000	2.930	0.000

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		6.107		-		6.107	0.000	6.107	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603827A: *Soldier Systems - Advanced Development*	**PROJECT** S52: *SOLDIER SUPPORT EQUIPMENT - AD*

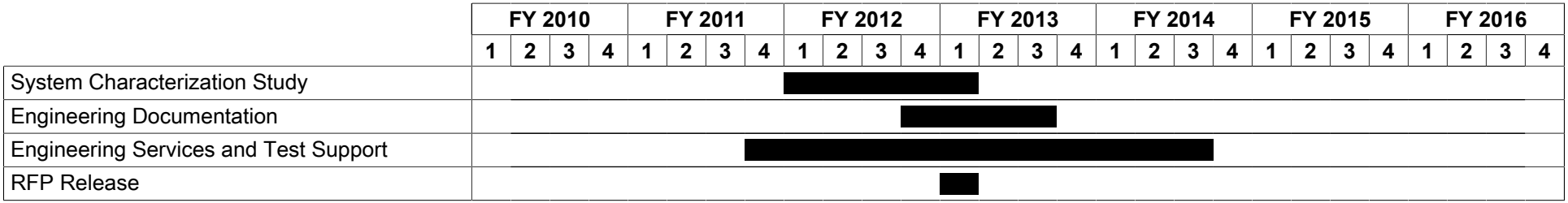

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603827A: *Soldier Systems - Advanced Development*	**PROJECT** S52: *SOLDIER SUPPORT EQUIPMENT - AD*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
System Characterization Study	1	2012	1	2013
Engineering Documentation	4	2012	3	2013
Engineering Services and Test Support	4	2011	3	2014
RFP Release	1	2013	1	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S53: *CLOTHING AND EQUIPMENT*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S53: *CLOTHING AND EQUIPMENT*	6.794	7.106	6.985	-	6.985	7.163	6.573	6.657	5.376	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This funding supports efforts to evaluate and integrate technologies and representative or prototype systems that help expedite Soldier uniform and clothing technology transition from the laboratory to operational use. Efforts will focus on proving 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. It funds efforts to investigate new technologies and domestically available fabrics with Flame Resistance, moisture wicking and insect protection technologies. New technologies will be investigated to monitor health and improve Soldier lethality, survivability, reduce weight, and improve affordability, mobility and comfort in combat and training/admin environments.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Individual Soldier Ballistic Protection Moves to Program Element 0603827 VS4 in FY12	4.233	3.818	-
Articles:	0	0	
Description: Increase the Warfighter lethality and mobility by optimizing Soldier protection while effectively managing all life cycle aspects of Personal Protective Equipment (PPE). ***FY 2010 Accomplishments:*** Continued to design, test and evaluate modular hard body armor solutions for mission tailorable PPE. Purchased new room-temperature clay prototypes that are at Army Test Command (ATC) for testing and evaluation. Completed initial ceramic residual stress testing on selected prototypes. Data will help manufacturers reduce cracking after impact by projectiles. Completed dynamic testing on ballistic materials. Data will further improve the ballistic performance and help manufacturers to understand dynamic response to their fibers. ***FY 2011 Plans:*** Continue to design, test and evaluate modular hard and soft armor solutions for mission tailorable PPE including Plate Carriers and Concealable Body Armor. Develop, test and evaluate self-diagnostic capability for ballistic insert integrity and transiton to Engineering and Manufacturing Development (EMD). Continue to evaluate and improve Soldier PPE including extremity protection from emerging ballistic/blast threats. Conduct extensive Enhanced Combat helmet (ECH) characterization (ballistic, compression, impact, accelerated aging, composite integrity and durability) testing. Continue to assess Advanced Combat Helmet/Enhanced Combat Helmet (ACH/ECH) non-ballistic impact preotection technology. Continue to assess helmet sensor technologies to improve accuracy, reliability of data capture, storage and distribution.			
Title: Soldier Uniforms and Clothing	1.405	2.153	4.000

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S53: *CLOTHING AND EQUIPMENT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Articles:	0	0	
Description: Develop and provide superior and sustainable integrated clothing for the Soldier in a rapidly changing global environment. ***FY 2010 Accomplishments:*** Conducted permethrin treatment and Pyroman testing on the Army Combat Uniform (ACU) for inclusion in the FY13 Clothing bag, and Operation Enduring Freedom Camouflage Pattern (OCP) Flame Resistant (FR) ACUs. Conducted user evaluation on permethrin treated FR ACUs (at Ft Polk). Conducted quality assurance burn testing from random prototype samples. Conducted commercial of-the-shelf (COTS) burns on developmental materials. Conducted system level burns with integrated products. ***FY 2011 Plans:*** Investigate new technologies and domestically available fabrics relevant to flame resistance, Fire Resistant Environmental Ensemble (FREE) improvements and T-shirts. Investigate new technologies to monitor health and improve Soldier lethality, survivability, reduce weight and improve affordability and mobility and comfort in combat and training/admin environments. Perform FR and permethrin testing. Investigate mountain combat boot improvements. ***FY 2012 Plans:*** Continue to mature new technology to reduce Soldier load and weight. Science &Technology (S&T) efforts are on-going to test prototypes made of fine gauge domestic wool to provide a natural Flame Resistant (FR) and no melt, no drip fabric that provides warmth when wet. S&T effort will transition to S53 in FY 12. Improve infrared performance and colorfastness of clothing to improve signature management. Test Permethrin treatment for use in the Improved Combat Vehicle Crewman Coverall (iCVC) and non-FR Army Combat Uniforms.			
Title: Individual Equipment	0.979	0.900	2.985
Articles:	0	0	
Description: Develop and provide superior and sustainable integrated individual equipment for the Soldier in a rapidly changing global environment. ***FY 2010 Accomplishments:*** Investigated new technologies to improve survivability, reduced weight and improve affordability, mobility and comfort of individual equipment both in combat and training/admin environments. ***FY 2011 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S53: *CLOTHING AND EQUIPMENT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Investigate new technologies and fabrics relative to Soldier equipment such as load bearing equipment, gloves and Nuclear, Biological, Chemical (NBC) gear. Conduct early user evaluation of Soldier on-the-move hydration systems. Conduct Limited user Evaluation (LUE) on improved Soldier Knee and Elbow protection System (SKEPS). ***FY 2012 Plans:*** Materiel change effort to update universal parachutist's kit to accommodate the larger T-11 parachute. Materiel change development of Knee and Elbow pads to improve durability, fit and comfort while reducing weight. Improve concealment through integration of new technologies to manage infrared signature of fabrics, including nylon used in existing individual equipment. Testing of the Individual Water Treatment Device (IWTD) Increment II (desalinization of sea water or salt water) will support transition of technology to EMD in FY13.			
Title: Small Business Innovative Research/Small Business Technology Transfer Programs ***Articles:*** ***Description:*** Small Business Innovative Research/Small Business Technology Transfer Programs ***FY 2010 Accomplishments:*** Small Business Innovative Research/Small Business Technology Transfer Programs	0.177 0	-	-
Title: Soldier Cooling ***Articles:*** ***Description:*** Soldier Cooling ***FY 2011 Plans:*** Conducted trade-off analysis and initial integration providing Soldiers enhanced ability to conduct extended mission in extreme (hot) environments.	-	0.235 0	-
Accomplishments/Planned Programs Subtotals	6.794	7.106	6.985

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 0604601A/S60: *Clothing and Equipment*	10.942	9.711	5.951		5.951		1.915	1.967	2.057	Continuing	Continuing
• 121017: *Central Funding and Fielding*	70.305	71.664	74.940		74.940		78.177	80.240	93.221	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S53: *CLOTHING AND EQUIPMENT*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• MA7801: *Advanced Tactical Parachute System*	39.066	41.591	52.185		52.185		45.922	44.234	29.729	Continuing	Continuing

D. Acquisition Strategy

Programs will pursue normal transition to Engineering and Manufacturing Development (EMD) and production. This Project will continue to exercise competitively awarded contracts using best value source selection procedures.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S53: *CLOTHING AND EQUIPMENT*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
In-House Support	TBD	PM SPIE:Ft. Belvoir, VA	9.195	1.390		1.438		-		1.438	Continuing	Continuing	Continuing
		Subtotal	9.195	1.390		1.438		-		1.438			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Support	Various	NSRDEC:Natdic, MA	9.195	1.020		1.152		-		1.152	Continuing	Continuing	Continuing
Development Contracts	TBD	Various:Various	13.887	2.830		3.000		-		3.000	Continuing	Continuing	Continuing
		Subtotal	23.082	3.850		4.152		-		4.152			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Misc Support Costs	MIPR	Various:Various	5.048	0.550		-		-		-	Continuing	Continuing	Continuing
		Subtotal	5.048	0.550		-		-		-			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing Costs	TBD	various:Various	9.195	1.316		1.395		-		1.395	Continuing	Continuing	Continuing
		Subtotal	9.195	1.316		1.395		-		1.395			

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	46.520	7.106		6.985		-		6.985			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S53: *CLOTHING AND EQUIPMENT*	

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S53: *CLOTHING AND EQUIPMENT*

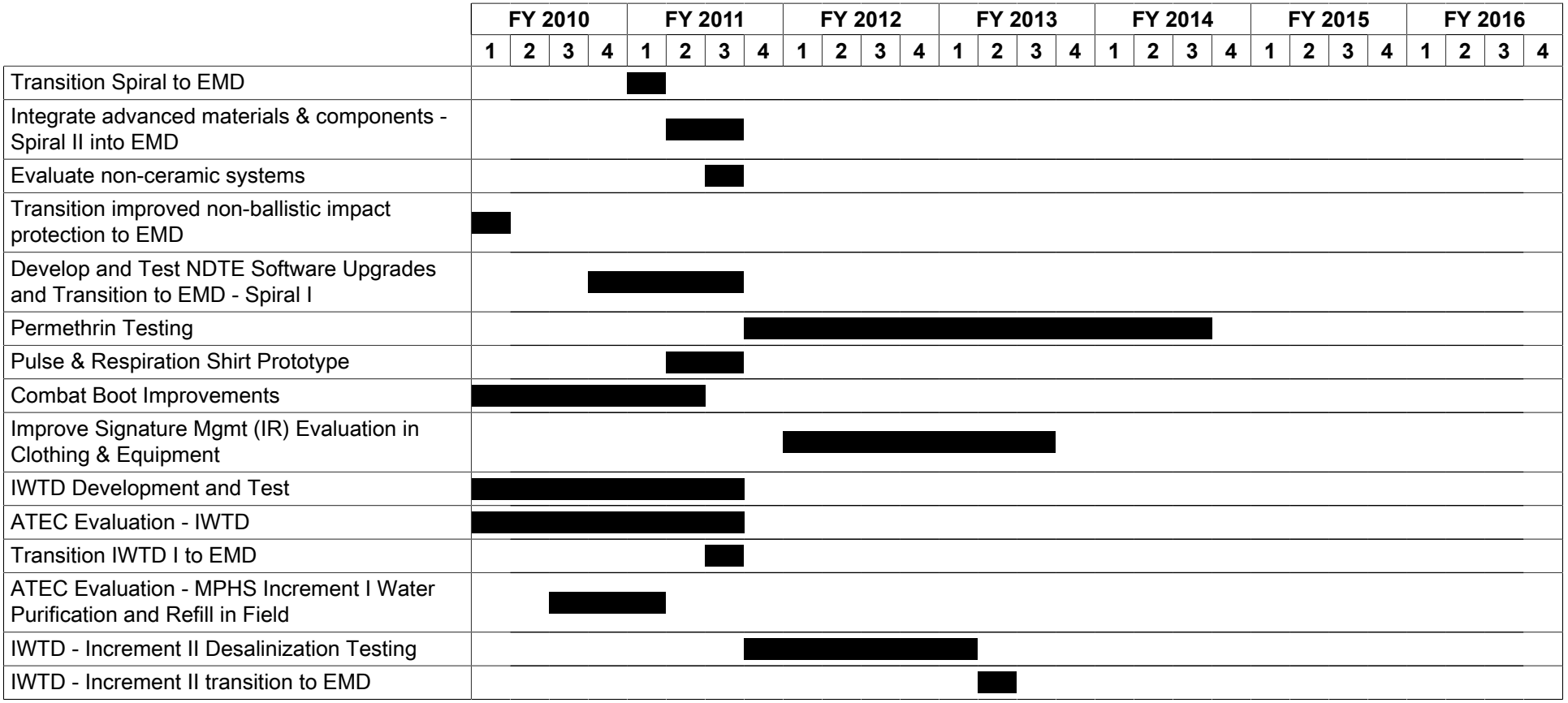

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603827A: *Soldier Systems - Advanced Development*	**PROJECT** S53: *CLOTHING AND EQUIPMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Transition Spiral to EMD	1	2011	1	2011
Integrate advanced materials & components - Spiral II into EMD	2	2011	3	2011
Evaluate non-ceramic systems	3	2011	3	2011
Transition improved non-ballistic impact protection to EMD	1	2010	1	2010
Develop and Test NDTE Software Upgrades and Transition to EMD - Spiral I	4	2010	3	2011
Permethrin Testing	4	2011	3	2014
Pulse & Respiration Shirt Prototype	2	2011	3	2011
Combat Boot Improvements	1	2010	2	2011
Improve Signature Mgmt (IR) Evaluation in Clothing & Equipment	1	2012	3	2013
IWTD Development and Test	1	2010	3	2011
ATEC Evaluation - IWTD	1	2010	3	2011
Transition IWTD I to EMD	3	2011	3	2011
ATEC Evaluation - MPHS Increment I Water Purification and Refill in Field	3	2010	1	2011
IWTD - Increment II Desalinization Testing	4	2011	1	2013
IWTD - Increment II transition to EMD	2	2013	2	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S54: *SMALL ARMS IMPROVEMENT*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S54: *SMALL ARMS IMPROVEMENT*	5.085	4.983	4.506	-	4.506	4.640	4.853	5.100	5.040	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Small Arms Improvement program provides funds to study, develop, demonstrate and evaluate emerging technology for integration of systems, subcomponents and prototypes with weapons/ammunition. Small arms include weapons/ammunition ranging up to 40 millimeter. Current and future efforts focus on improvements designed to enhance lethality, target acquisition, fire control, training effectiveness and reliability of weapons/ammunition. Focus areas include studying, developing, demonstrating and evaluating light-weight materials, concealants, scouting, observation, lethal and non-lethal ammunition, and equipment. Benefits include continuous improvements to weapons, fire control equipment, optics, training devices, component mounts, weapon mounts, ammunition, Modular Handgun, Suppressors, Lead Free Barrel Twist, Light Weight Machine Gun and Sub-Compact Weapons. New starts in FY2012 consists of the following new initiative; Weapon Design of Caseless/ Cased Telescoped Ammunition Technologies, Lightweight Weapons, Modular Handgun Systems testing, development and competition and recompete of Rifle Combat Optics.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: New Weapons	-	0.058	0.005
Articles:		0	
Description: Description: Development of new small arms weapons			
FY 2011 Plans: Evaluate on-going weapon initiatives. FY 2011 Plans: Evaluate on-going initiatives of the Joint Service Small Arms Program (JSSSAP). Provide program management guidance to support future Capability Development Documents.			
FY 2012 Plans: Initiate new weapons program. FY 2012 Plans: Transition Advanced Technology Development of Caseless/Cased Telescoped Ammunition and/or Lightweight weapons initiatives from Joint Service Small Arms Program to PM Soldier Weapons.			
Title: Small Arms Weapons Enhancements	1.439	1.925	2.558
Articles:	0	0	
Description: Description: Enhancement developments of Small Arms Weapons			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S54: *SMALL ARMS IMPROVEMENT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: Initiated new activities to enhance Small Arms Weapons FY 2010 Accomplishments: Initiated the evaluation of a Machine Gun Coolant and started a Recoil Mitigation Study program. ***FY 2011 Plans:*** Continue on-going and initiate new activities to enhance Small Arms Weapons FY 2011 Plans: Continue evaluation of machine gun coolant and recoil mitigation. Initiate new evaluation of barrel twist to enhance the performance of small arms weapons using lead free ammunition. Initiate small arms suppressors program. ***FY 2012 Plans:*** Continue on-going and initiate new activities to enhance Small Arms Weapons FY 2012 Plans: Conduct simulation and limited tests of barrel twist to optimize lead free ammunition. Continue engineering, development and evaluation of suppressors, modular handguns and sniper weapons.			
Title: Ammunition ***Articles:*** ***Description:*** Description: Small arms ammunition improvement. ***FY 2010 Accomplishments:*** Improvement of Small Caliber Cartridge and High Explosive Air Burst munitions. FY 2010 Accomplishments: Transitioned the improved Small Caliber 9mm program to PEO Ammunition. Continued on-going High Explosive Air Burst munitions activities to improve engineering designs and fuze performance. ***FY 2011 Plans:*** High Explosive Air Burst (HEAB) munitions. FY 2011 Plans: Transition HEAB fuze enhancements to Engineering Manufacturing Development.	0.060 0	0.025 0	-
Title: Combat Optics ***Articles:*** ***Description:*** Description: Improvement of Small Arms Combat Optics ***FY 2010 Accomplishments:*** Reticule evaluation FY 2010 Accomplishments: Evaluated new reticules for combat optics ***FY 2011 Plans:***	0.069 0	0.025 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S54: *SMALL ARMS IMPROVEMENT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Reticule evaluation FY 2011 Plans: Transition potential reticule upgrades to Small Arms Improvements Engineering Manufacturing Development program.			
Title: Fire Control	3.376	2.950	1.943
Articles:	0	0	
Description: Description: Small Arms Fire Control			
FY 2010 Accomplishments: Integrated small arms fire control program. FY 2010 Accomplishments: Leveraged technology from the Counter Defilade Target Engagement (CDTE) Weapon System to initiate an enhanced integrated small arms fire control system.			
FY 2011 Plans: Integrated small arms fire control program. FY 2011 Plans: Continue development and engineering of the integrated small arms fire control system.			
FY 2012 Plans: Integrated small arms fire control program. FY 2012 Plans: Test and evaluate prototype designs.			
Title: Small Business Innovative Research/Small Business Technology Transfer Programs.	0.141	-	-
Articles:	0		
Description: Description: Small Business Innovative Research/Small Business Technology Transfer Programs.			
FY 2010 Accomplishments: Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR) FY 2010 Accomplishments: Army allocation to SBIR/STTR program.			
Accomplishments/Planned Programs Subtotals	5.085	4.983	4.506

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDTE S63: *RDTE S63, Program Element 0604601A - Infantry Support Weapons*	9.653	19.805	18.168		18.168		14.364	14.207	14.374	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S54: *SMALL ARMS IMPROVEMENT*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDTE 627: *RDTE 627, Program Element 0603607A - Joint Service Small Arms Program*	8.683	9.151	7.686		7.686		7.729	7.866	8.012	Continuing	Continuing

D. Acquisition Strategy

Primary strategy is to study, develop, demonstrate and evaluate emerging technologies that will ultimately lead to enhancing/improving the small arms inventory.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S54: *SMALL ARMS IMPROVEMENT*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Allot	PM Soldier Weapons:PM Soldier Weapons	0.705	0.370		0.340		-		0.340	Continuing	Continuing	Continuing
		Subtotal	0.705	0.370		0.340		-		0.340			

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware Development	Various	Various:Various	4.076	1.468		1.302		-		1.302	Continuing	Continuing	Continuing
		Subtotal	4.076	1.468		1.302		-		1.302			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering	PO	Various:Various	2.299	1.890		1.688		-		1.688	Continuing	Continuing	Continuing
		Subtotal	2.299	1.890		1.688		-		1.688			

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Testing	MIPR	Various:Various	2.066	1.255		1.176		-		1.176	Continuing	Continuing	Continuing
		Subtotal	2.066	1.255		1.176		-		1.176			

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	9.146	4.983		4.506		-		4.506			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S54: *SMALL ARMS IMPROVEMENT*	

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S54: *SMALL ARMS IMPROVEMENT*

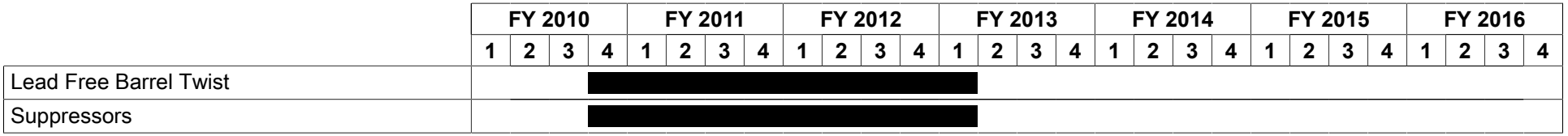

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S54: *SMALL ARMS IMPROVEMENT*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Lead Free Barrel Twist	4	2010	1	2013
Suppressors	4	2010	1	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S55: *Counter-Defilade Target Engagement*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
S55: *Counter-Defilade Target Engagement*	5.867	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Maneuver Center of Excellence (MCoE), FT Benning, GA (User Community) identifies the Counter Defilade Target Engagement (CDTE) as their number one material solution to mitigate a critical capability gap for our Soldiers in combat (defeating defilade targets from 15-500m). The XM25 CDTE system provides the Infantry Soldier with a leap-ahead overmatch capability that will dramatically increase lethality, range, and capability through the use of a family of low-velocity programmable 25mm ammunition. The XM25 CDTE fires 25mm munitions including high-explosive airburst (HEAB), armor-piercing, breaching, less-than-lethal, and training rounds. The XM25 comes with a target acquisition/fire control that integrates thermal capability with direct-view optics laser rangefinder, compass, fuze setter, ballistic computer, laser pointer and illuminator and internal display. The XM25 has a 500-meter point target range and a 700-meter area target range capable of defeating defilade (hidden) targets.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Design, Develop and Fabricate ***Articles:*** ***Description:*** Description: Design, Develop and Fabricate ***FY 2010 Accomplishments:*** Design, Develop and Fabricate FY2010 Accomplishments: Design, develop, fabricate and implement technical and producible improvements to the CDTE weapon system design to achieve Milestone B.	5.190 0	-	-
Title: Engineering Evaluation and Training Development ***Articles:*** ***Description:*** Description: Engineering Evaluation and Training Development ***FY 2010 Accomplishments:*** Engineering Evaluation and Training Development	0.553 0	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT S55: *Counter-Defilade Target Engagement*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: Engineering evaluation to include, verification and validation of system performance requirements; and for the development of training solutions and it's successful implementation.			
Title: Program Management	0.124	-	-
Articles:	0		
Description: Description: Program Management ***FY 2010 Accomplishments:*** Program Management FY2010 Accomplishments: Program management, organize,coordinate and control program activities to comply with contract requirements and timely delivery of the required products and services.			
Accomplishments/Planned Programs Subtotals	5.867	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• RDTE: PE 0604601A, Project S62: *RDTE: PE 0604601A, Project S62*	7.276	34.416	18.798		18.798					0.000	61.093
• WTCV: G16100: *WTCV: G16100*			16.046		16.046		70.321	70.285	70.217	0.000	260.959
• AMMO: E92500: *AMMO: E92500*			3.399		3.399		10.166	15.676	32.162	0.000	65.851

D. Acquisition Strategy

The XM25 CDTE achieved Milestone B December 2010, transitioning to Engineering and Manufacturing Development (EMD) phase. The EMD phase will complete development of the XM25 CDTE and verify training solution for Milestone C approval in FY 2013. Research and Development acquisition strategy is to use sole source contracting with ATK (formerly known as Alliant Techsystems), Plymouth, MN.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT VS4: *SOLDIER PROTECTIVE EQUIPMENT*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
VS4: *SOLDIER PROTECTIVE EQUIPMENT*	-	-	1.846	-	1.846	1.873	2.872	2.950	2.938	0.000	12.479
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This funding supports efforts to evaluate and integrate technologies and representative or prototype systems that help expedite Individual Soldier Ballistic Protection technology transition from the laboratory to operational use. It continues incremental improvement of body armor to reduce Soldier load and improve comfort/ functionality based on operational feedback. It will advance efforts to mature manufacturing readiness levels of advanced high performance fibers and composites for next-generation combat helmets, and support transition to Engineering and Manufacturing Development. It continues to increase eyewear ballistics/blast protection, and incorporate advancements in laser eye protection as well as advancements in variable transition lens technology into ballistic goggles and spectacles.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Soldier Protective Equipment	-	-	1.846
Description: Newly established funding line. Effort was previously executed in Program Element 0603827 S53. Effort is to increase the Warfighter lethality and mobility by optimizing Soldier protection while effectively managing all life cycle aspects of Personal Protective Equipment (PPE) ***FY 2012 Plans:*** Initiate Integrated Systems Design (ISD) of Soldier Protection Mission Tailorable Body Armor (MTBA) to replace current generation of Improved Outer Tactical Vest (IOTV), Plate Carrier and Helmets for transition to EMD in FY13. Conduct technology demonstrations (Soldier Protection Demonstrations, blast & ballistic characterization, etc.) to support refinement of critical system characteristics, including system performance (weight, ballistic/blast protection, flexibility and modularity) for integrated head & face protection capability. Continue to evaluate subsystem technologies across Soldier PPE including extremity protection from emerging ballistic/blast threats, reduce weight, bulk and increase durability and reliability and transition maturing technologies to EMD.			
Accomplishments/Planned Programs Subtotals	-	-	1.846

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 654601: *Soldier Protective Equipment VS5*			3.986		3.986		3.967	3.784	3.762	0.000	19.487

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT VS4: *SOLDIER PROTECTIVE EQUIPMENT*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 121017: *Central Funding & Fielding CFF*			74.940		74.940		78.177	80.240	93.221	0.000	405.291

D. Acquisition Strategy

Programs will pursue normal transition to Engineering and Manufacturing Development (EMD) and production. This Project will continue to exercise competitively awarded contracts using best value source selection procedures.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT VS4: *SOLDIER PROTECTIVE EQUIPMENT*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
In House Support	TBD	PM SPE:Ft. Belvoir, VA	-	-		0.100		-		0.100	0.000	0.100	0.000
		Subtotal	-	-		0.100		-		0.100	0.000	0.100	0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Spt	MIPR	NSRDEC:NSRDEC Natick, MA	-	-		0.346		-		0.346	Continuing	Continuing	0.000
Development Contracts	TBD	Various:various	-	-		0.700		-		0.700	0.000	0.700	0.000
		Subtotal	-	-		1.046		-		1.046			0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Misc Support Costs	TBD	Various:various	-	-		0.300		-		0.300	0.000	0.300	0.000
		Subtotal	-	-		0.300		-		0.300	0.000	0.300	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing Costs	TBD	Various:Various	-	-		0.400		-		0.400	0.000	0.400	0.000
		Subtotal	-	-		0.400		-		0.400	0.000	0.400	0.000

	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		1.846		-		1.846			0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT VS4: *SOLDIER PROTECTIVE EQUIPMENT*	

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603827A: *Soldier Systems - Advanced Development*	PROJECT VS4: *SOLDIER PROTECTIVE EQUIPMENT*

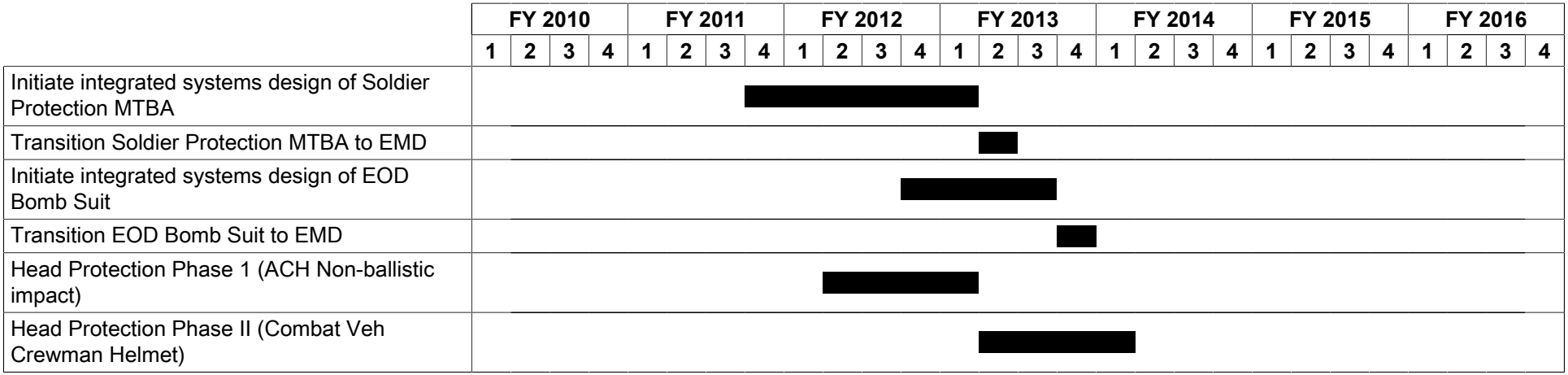

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603827A: *Soldier Systems - Advanced Development*	**PROJECT** VS4: *SOLDIER PROTECTIVE EQUIPMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Initiate integrated systems design of Soldier Protection MTBA	4	2011	1	2013
Transition Soldier Protection MTBA to EMD	2	2013	2	2013
Initiate integrated systems design of EOD Bomb Suit	4	2012	3	2013
Transition EOD Bomb Suit to EMD	4	2013	4	2013
Head Protection Phase 1 (ACH Non-ballistic impact)	2	2012	1	2013
Head Protection Phase II (Combat Veh Crewman Helmet)	2	2013	1	2014

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603850A: *Integrated Broadcast Service*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	1.469	0.970	1.496	-	1.496	1.540	0.102	-	-	Continuing	Continuing
472: *INTEGRATED BROADCAST SERVICE (MIP)*	1.469	0.970	1.496	-	1.496	1.540	0.102	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Joint Tactical Terminal (JTT) Product Management Office (PMO) supports all Joint services and Special Operations Command (SOCOM). The Integrated Broadcast Service (IBS) is the worldwide Department of Defense (DoD) standard network for transmitting tactical and strategic intelligence and targeting data to all echelons of Joint Service operational users. The JTT PMO's role is to consolidate and replace existing IBS terminal functionality and capability with a common family of Integrated Broadcast Service-Modules (CIBS-M) - both hardware and software - and to expedite execution of the IBS Technical Transition Plan (TTP). The JTT family of systems currently consists of the JTT-Senior, JTT-Briefcase, JTT-IBS and CIBS-M IBS broadcast receiver/transceiver devices. The TTP is a comprehensive refresh effort of the entire IBS network focused on rearchitecting the broadcast from its current multi-broadcast, multi-data format structure, to a single broadcast (Common Interactive Broadcast - CIB) and single data format (Common Message Format - CMF). The JTT/CIBS-M family of systems is a critical component of the TTP as these systems are the only IBS receiver/transceiver devices in the DoD being modernized to support both the new consolidated broadcast architecture and the National Security Agencies (NSA) crypto modernization mandate. The JTT family of system upgrades is imperative/essential to execute the over-the-air broadcast portion of the TTP in the near term to avoid a complete cessation of IBS data flow via the existing over-the-air IBS broadcast networks. The JTT/CIBS-M family of modules will be the official IBS producer, ensuring continued IBS interoperability to a variety of tactical receivers across DoD and the services throughout the TTP implementation period and beyond. This program funds the design, development, test and evaluation of JTT/CIBS-M hardware and software modules, as well as implementing performance enhancements to the family of JTT equipment. This is necessary to ensure crypto modernization compliance and to facilitate migration to a rearchitected CIB and CMF-based IBS broadcast structure. Funds also support JTT/CIBS-M training, equipping and supporting the Warfighter with improved Joint Readiness and Interoperability.

FY12 Funds support the continued development, integration and testing of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard DoD Network and NSA Certification.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0603850A: *Integrated Broadcast Service*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	1.468	0.970	-	-	-
Current President's Budget	1.469	0.970	1.496	-	1.496
Total Adjustments	0.001	-	1.496	-	1.496
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	0.001	-	1.496	-	1.496

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603850A: *Integrated Broadcast Service*	PROJECT 472: *INTEGRATED BROADCAST SERVICE (MIP)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
472: *INTEGRATED BROADCAST SERVICE (MIP)*	1.469	0.970	1.496	-	1.496	1.540	0.102	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Joint Program Office (JPO) for IBS Terminals supports all Services and Special Operations Command (SOCOM). The Integrated Broadcast Service (IBS) is the worldwide Department of Defense (DoD) standard network for transmitting time-sensitive tactical and strategic intelligence and targeting data to all echelons of Joint Service operational users. The JPO's role is to consolidate and replace existing IBS terminal functionality and capability, and to expedite execution of the IBS Technical Transition Plan (TTP). The JTT family of systems currently consists of the JTT-Senior, JTT-Briefcase, and JTT-IBS. The TTP is a comprehensive refresh effort of the entire IBS network focused on rearchitecting the broadcast from its current multi-broadcast, multi-data format structure, to a single broadcast (Common Interactive Broadcast - CIB) and single data format (Common Message Format - CMF). The JTT family of systems is a critical component of the TTP as these systems are the only IBS receiver/transceiver devices in the DoD being modernized to support both the new consolidated broadcast architecture and the National Security Agency's (NSA) crypto modernization mandate. The JTT upgrades must execute the over-the-air broadcast portion of the TTP in the near term to avoid a complete cessation of IBS data flow via the existing over-the-air IBS broadcast networks. The JTT will be the official IBS producer system, ensuring continued IBS interoperability to a variety of tactical receivers across DoD and the services throughout the TTP implementation period and beyond. This program funds the design, development, test and evaluation of JTT hardware and software modules, as well as implementing performance enhancements to the family of JTT equipment. This is necessary to ensure crypto modernization compliance and to facilitate migration to a rearchitected CIB and CMF-based IBS broadcast structure. Funds also support JTT training, equipping and supporting the Warfighter with improved Joint Readiness and Interoperability.

FY12 Funds support the development, integration, and testing of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard DoD Network.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: JTT IBS CIB Development, Integration and Test	1.469	0.970	1.496
Articles:	0	0	
Description: Development and integration of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard DoD Network and NSA Certification			
FY 2010 Accomplishments: JTT IBS CIB Development, Integration and Test			
FY 2011 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0603850A: *Integrated Broadcast Service*	PROJECT 472: *INTEGRATED BROADCAST SERVICE (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
JTT Senior Upgrade; Development and integration of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard DoD Network ***FY 2012 Plans:*** JTT IBS CIB development, integration, and test of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard DoD Network			
Accomplishments/Planned Programs Subtotals	1.469	0.970	1.496

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• V29600 Other Procurement, Army -JTT: *V29600 Other Procurement, Army - JTT/CIBS-M (Tiara)*	4.929	3.321	4.657		4.657					0.000	12.907

D. Acquisition Strategy

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 migrating to the CIB/CMF and continue the legacy broadcasts. Funds support the integration, of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard Department of Defense (DoD) Network. Development for JTT-Senior upgrade kit COMSEC and CIB software, as well as JTT-IBS CIB software.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 ITEM NOMENCLATURE PE 0604131A: *TRACTOR JUTE*						
COST ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	15.609	-	15.609	13.468	7.107	7.229	1.389	Continuing	Continuing
DT1: *TRACTOR JUTE*	-	-	15.609	-	15.609	13.468	7.107	7.229	1.389	Continuing	Continuing

Note

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A. Mission Description and Budget Item Justification

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program (SAP) Annual Report to Congress

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	15.609	-	15.609
Total Adjustments	-	-	15.609	-	15.609
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	15.609	-	15.609

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0604131A: *TRACTOR JUTE*	PROJECT DT1: *TRACTOR JUTE*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
DT1: *TRACTOR JUTE*	-	-	15.609	-	15.609	13.468	7.107	7.229	1.389	Continuing	Continuing
Quantity of RDT&E Articles											

Note

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A. Mission Description and Budget Item Justification

This program is being reported in accorance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program (SAP) Annual Report to Congress

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: . ***Description:*** DT1 ***FY 2012 Plans:*** SAP	-	-	15.609
Accomplishments/Planned Programs Subtotals	-	-	15.609

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Not Applicable

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305205A: *Long Endurance Multi-Intelligence Vehicle (LEMV)*

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	-	93.000	42.892	-	42.892	25.915	25.902	25.886	-	Continuing	Continuing
LE4: *LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)*	-	93.000	42.892	-	42.892	25.915	25.902	25.886	-	Continuing	Continuing

Note

Change Summary Explanation: FY2011: Funding for the Long Endurance Multi-Intelligence Vehicle (LEMV) was moved from program element (PE) 0603308A to 0305205A.

A. Mission Description and Budget Item Justification

This program element (PE) evaluates unmanned aerial vehicle (UAV) prototype systems that provide increased flight and/or mission duration for Intelligence, Surveillance, and Reconnaissance (ISR) and communications capabilities. These systems include the aerial platform integrated with existing and/or developmental payloads. Project LE4 is developing the Long Endurance Multi-intelligence Vehicle (LEMV), which is a hybrid airship prototype integrated with existing and developmental ISR and communications payloads to improve persistent surveillance and assured communications capabilities. Hybrid airship platform endurance is dependent on weather conditions and payload weight, but the LEMV prototype system is expected to increase endurance to 21 days on average assuming 20 knot winds.

The LEMV was funded in PE 0603308A Project 978 in FY10.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	93.000	43.000	-	43.000
Current President's Budget	-	93.000	42.892	-	42.892
Total Adjustments	-	-	-0.108	-	-0.108
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.108	-	-0.108

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305205A: *Long Endurance Multi-Intelligence Vehicle (LEMV)*	PROJECT LE4: *LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)*	

COST ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
LE4: *LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)*	-	93.000	42.892	-	42.892	25.915	25.902	25.886	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Long Endurance Multi-Intelligence Vehicle (LEMV) is a technology demonstration effort to improve persistent surveillance and assured communications using a platform with significantly improved endurance over existing systems. The LEMV platform is a hybrid airship that achieves vertical lift from helium contained within its hull making it lighter-than-air and from traditional engine propulsion that produces thrust to provide lift. The LEMV prototype is expected to achieve 21 day endurance in 20 knot continuous winds, carry 2500 pounds of multiple surveillance and communication payloads, operate at a maximum altitude of 20,000 feet Mean Sea Level, and provide 16 kilowatts (kW) of power to the payload. The LEMV system is recoverable and reusable. The LEMV system prototype and associated technologies will be evaluated during a Joint Military Utility Assessment (JMUA) in an operational environment upon completion of developmental testing.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: LEMV System Development ***Articles:*** ***Description:*** This effort develops a hybrid airship prototype integrated with payloads, ground control stations, and support equipment. ***FY 2011 Plans:*** Complete system design through critical design review; complete fabrication of hybrid airship, to include hull, air vehicle systems, propulsion systems, mission payload modules, and rigid structures; obtain and integrate sensor and communications payloads; continue and complete development of data processing software; complete fabrication of ground control stations; complete fabrication of support equipment; and integrate all major subsystems.	-	93.000 0	-
Title: Test and Certifications ***Description:*** This effort conducts developmental testing, information assurance accreditation, and airworthiness certifications. ***FY 2012 Plans:*** Will complete interoperability certification; will continue to monitor information assurance accreditation baseline; and will complete developmental testing, to include flight tests and endurance demonstration.	-	-	4.500
Title: Joint Military Utility Assessment (JMUA) ***Description:*** This effort prepares and conducts the JMUA, to include training and transportation to the JMUA location.	-	-	38.392

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305205A: *Long Endurance Multi-Intelligence Vehicle (LEMV)*	PROJECT LE4: *LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2012 Plans: Will transport LEMV system to JMUA location; will complete training for JMUA personnel; will begin phased JMUA activities; and will provide initial JMUA report and recommended Tactics, Techniques, and Procedures.			
Accomplishments/Planned Programs Subtotals	-	93.000	42.892

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• 0603308: *LEMV*	79.583									0.000	79.583

D. Acquisition Strategy

Army received approval to acquire the LEMV under an Other Transaction Authority (OTA). Extensive market research determined that this hybrid airship has never been manufactured as a full-scale functioning system and critical hybrid airship technology at the system and subsystem level is mainly available from non-traditional Department of Defense contractors. An OTA agreement was preferred in order to gain access to critical technology within the Non-Traditional industrial community in this area and to promote competition. The OTA Agreement was competitively awarded using a competitive Request for Proposal process. A Joint Military Utility Assessment (JMUA) will be conducted in theatre following the system development and transport. A Material Development Decision (MDD) is expected 90-180 days after completion of the JUMA Phase 1.

E. Performance Metrics

Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305205A: *Long Endurance Multi-Intelligence Vehicle (LEMV)*	PROJECT LE4: *LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	Various:various	-	-		3.892		-		3.892	0.000	3.892	0.000
		Subtotal	-	-		3.892		-		3.892	0.000	3.892	0.000

Remarks

Effective FY2011, funding for the Long Endurance Multi-Intelligence Vehicle (LEMV) was moved from Program Element (PE) 0603308A to 0305205A.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Design, development, and sub-system integration	Various	Various:Various	-	50.000		-		-		-	Continuing	Continuing	Continuing
Sub-system risk reduction, trade studies & competitive agreement award	Various	Various:Various	-	5.000		-		-		-	Continuing	Continuing	Continuing
Developmental/Operational testing	Various	Various:Various	-	30.000		7.500		-		7.500	Continuing	Continuing	Continuing
Military Utility Assessment	Various	Various:Various	-	-		25.000		-		25.000	0.000	25.000	0.000
		Subtotal	-	85.000		32.500		-		32.500			

Remarks

Awarded OTA to Northrop Grumman on 14 June 2010. Executed option to build first airship.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government and SETA Support	Various	Various:various	-	8.000		2.000		-		2.000	Continuing	Continuing	Continuing
		Subtotal	-	8.000		2.000		-		2.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	R-1 ITEM NOMENCLATURE PE 0305205A: *Long Endurance Multi-Intelligence Vehicle (LEMV)*	PROJECT LE4: *LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2011 Cost	FY 2011 Award Date	FY 2012 Base Cost	FY 2012 Base Award Date	FY 2012 OCO Cost	FY 2012 OCO Award Date	FY 2012 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	Various	Various:Various	-	-		4.500		-		4.500	0.000	4.500	0.000
		Subtotal	-	-		4.500		-		4.500	0.000	4.500	0.000

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	93.000		42.892		-		42.892			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305205A: *Long Endurance Multi-Intelligence Vehicle (LEMV)*	**PROJECT** LE4: *LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)*

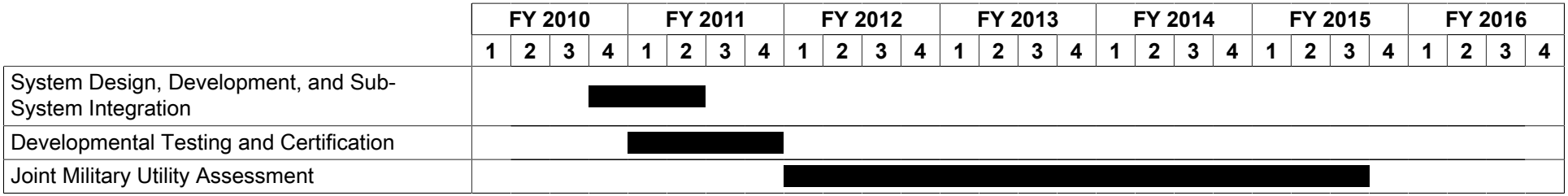

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 ITEM NOMENCLATURE** PE 0305205A: *Long Endurance Multi-Intelligence Vehicle (LEMV)*	**PROJECT** LE4: *LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
System Design, Development, and Sub-System Integration	4	2010	2	2011
Developmental Testing and Certification	1	2011	4	2011
Joint Military Utility Assessment	1	2012	3	2015