Department of Defense
Fiscal Year (FY) 2012 Budget Estimates

February 2011

Army

Justification Book Volume 7

Research, Development, Test & Evaluation, Army

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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

10-Feb-2011

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

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
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

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
			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				

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

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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

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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)

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Appropriation 2040: Research, Development, Test & Evaluation, Army

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160	07	0102419A	Aerostat Joint Project Office	Volume 7 - 33
161	07	0203347A	Intelligence Support to Cyber (ISC) - MIP	Volume 7 - 44
162	07	0203726A	Adv Field Artillery Tactical Data System	Volume 7 - 47
163	07	0203735A	Combat Vehicle Improvement Programs	Volume 7 - 63
164	07	0203740A	Maneuver Control System	Volume 7 - 86
165	07	0203744A	Aircraft Modifications/Product Improvement Programs	Volume 7 - 96
166	07	0203752A	Aircraft Engine Component Improvement Program	Volume 7 - 131
167	07	0203758A	Digitization	Volume 7 - 140
168	07	0203759A	Force XXI Battle Command, Brigade and Below (FBCB2)	Volume 7 - 147
169	07	0203801A	Missile/Air Defense Product Improvement Program	Volume 7 - 154
170	07	0203802A	Other Missile Product Improvement Programs	Volume 7 - 163
171	07	0203808A	TRACTOR CARD	Volume 7 - 166
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Budget Activity 07: Operational Systems Development
Appropriation 2040: Research, Development, Test & Evaluation, Army

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177	07	0303141A	Global Combat Support System	Volume 7 - 212
178	07	0303142A	SATCOM Ground Environment (SPACE)	Volume 7 - 232
179	07	0303150A	WWMCCS/Global Command and Control System	Volume 7 - 246
180	07	0305204A	Tactical Unmanned Aerial Vehicles	Volume 7 - 255
181	07	0305208A	Distributed Common Ground/Surface Systems	Volume 7 - 296
182	07	0305219A	MQ-1 Sky Warrior - Army UAV (MIP)	Volume 7 - 311
183	07	0305232A	RQ-11 Raven	Volume 7 - 320
184	07	0305233A	RQ-7 Shadow UAV	Volume 7 - 325
185	07	0307207A	Aerial Common Sensor (ACS)	Volume 7 - 335
187	07	0708045A	End Item Industrial Preparedness Activities	Volume 7 - 343

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Program Element Title	Program Element Number	Line Item	Budget Activity	Page
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Aerostat Joint Project Office	0102419A	160	07	Volume 7 - 33
Aircraft Engine Component Improvement Program	0203752A	166	07	Volume 7 - 131
Aircraft Modifications/Product Improvement Programs	0203744A	165	07	Volume 7 - 96
Combat Vehicle Improvement Programs	0203735A	163	07	Volume 7 - 63
Digitization	0203758A	167	07	Volume 7 - 140
Distributed Common Ground/Surface Systems	0305208A	181	07	Volume 7 - 296
End Item Industrial Preparedness Activities	0708045A	187	07	Volume 7 - 343
Force XXI Battle Command, Brigade and Below (FBCB2)	0203759A	168	07	Volume 7 - 147
Global Combat Support System	0303141A	177	07	Volume 7 - 212
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Intelligence Support to Cyber (ISC) - MIP	0203347A	161	07	Volume 7 - 44
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Program Element Title	Program Element Number	Line Item	Budget Activity	Page
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RQ-11 Raven	0305232A	183	07	Volume 7 - 320
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SATCOM Ground Environment (SPACE)	0303142A	178	07	Volume 7 - 232
Security and Intelligence Activities	0303028A	175	07	Volume 7 - 185
TRACTOR CARD	0203808A	171	07	Volume 7 - 166
Tactical Unmanned Aerial Vehicles	0305204A	180	07	Volume 7 - 255
WWMCCS/Global Command and Control System	0303150A	179	07	Volume 7 - 246
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Master Exhibit R-1
(Listing by Budget Activity, then Program Element Number)

BA# 07: Operational Systems Development

Line#	BA#	PE#	PE Title	Cost ($ in Millions) FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
158	07	0603778A	MLRS PRODUCT IMPROVEMENT PROGRAM	26.624	51.619	66.641	-	66.641
159	07	0603820A	Weapons Capability Modifications UAV	-	-	24.142	-	24.142
160	07	0102419A	Aerostat Joint Project Office	317.132	372.493	344.655	-	344.655
161	07	0203347A	Intelligence Support to Cyber (ISC) - MIP	-	2.360	-	-	-
162	07	0203726A	Adv Field Artillery Tactical Data System	29.127	24.622	29.546	-	29.546
163	07	0203735A	Combat Vehicle Improvement Programs	169.400	204.481	53.307	-	53.307
164	07	0203740A	Maneuver Control System	36.131	25.540	65.002	-	65.002
165	07	0203744A	Aircraft Modifications/Product Improvement Programs	240.323	134.999	163.205	-	163.205
166	07	0203752A	Aircraft Engine Component Improvement Program	0.767	0.710	0.823	-	0.823
167	07	0203758A	Digitization	8.218	6.329	8.029	-	8.029
168	07	0203759A	Force XXI Battle Command, Brigade and Below (FBCB2)	-	3.935	-	-	-
169	07	0203801A	Missile/Air Defense Product Improvement Program	37.731	24.280	44.360	-	44.360
170	07	0203802A	Other Missile Product Improvement Programs	3.979	-	-	-	-
171	07	0203808A	TRACTOR CARD	19.249	14.870	42.754	-	42.754
172	07	0208053A	Joint Tactical Ground System	13.189	12.403	27.630	-	27.630
173	07	0208058A	Joint High Speed Vessel (JHSV)	2.961	3.153	3.044	-	3.044
175	07	0303028A	Security and Intelligence Activities	17.348	-	2.854	-	2.854
176	07	0303140A	Information Systems Security Program	61.313	54.784	61.220	-	61.220

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

BA# 07: Operational Systems Development

				Cost ($ in Millions)				
Line#	**BA#**	**PE#**	**PE Title**	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
177	07	0303141A	Global Combat Support System	138.764	125.569	100.505	-	100.505
178	07	0303142A	SATCOM Ground Environment (SPACE)	32.453	33.694	12.104	-	12.104
179	07	0303150A	WWMCCS/Global Command and Control System	13.683	13.024	23.937	-	23.937
180	07	0305204A	Tactical Unmanned Aerial Vehicles	262.655	54.300	40.650	-	40.650
181	07	0305208A	Distributed Common Ground/Surface Systems	191.253	119.202	44.198	-	44.198
182	07	0305219A	MQ-1 Sky Warrior - Army UAV (MIP)	-	123.156	137.038	-	137.038
183	07	0305232A	RQ-11 Raven	-	1.599	1.938	-	1.938
184	07	0305233A	RQ-7 Shadow UAV	-	7.805	31.940	-	31.940
185	07	0307207A	Aerial Common Sensor (ACS)	115.432	-	-	-	-
187	07	0708045A	End Item Industrial Preparedness Activities	106.259	61.098	59.297	-	59.297
Total: Operational Systems Development				1,843.991	1,476.025	1,388.819	-	1,388.819

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*							
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	26.624	51.619	66.641	-	66.641	85.162	90.213	59.279	31.640	Continuing	Continuing
090: *MLRS HIMARS*	1.918	3.367	6.132	-	6.132	6.124	6.221	6.011	4.876	Continuing	Continuing
093: *Multi-Launch Rocket System (MLRS)*	6.350	3.691	15.883	-	15.883	13.236	8.663	0.979	0.993	Continuing	Continuing
784: *GUIDED MLRS*	7.864	2.582	2.543	-	2.543	34.690	44.561	23.176	25.771	Continuing	Continuing
78G: *GMLRS ALTERNATIVE WARHEADS*	10.492	41.979	42.083	-	42.083	31.112	30.768	29.113	-	0.000	185.547

Note

Change Summary Explanation: Funding - FY 2010: Inflation Adjustments; FY 2012: Funds used to develop increased crew survivability for the Multiple Launch Rocket System (093) and other inflation adjustments.

A. Mission Description and Budget Item Justification

The M142 High Mobility Artillery Rocket System (HIMARS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system that fully supports more deployable, affordable and lethal, Brigade Combat Teams, Fires Brigade, Modular Forces, and Joint Expeditionary Forces. The HIMARS launcher is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) and Army Tactical Missile System (ATACMS) Family of Munitions (AFOM) engaging targets with precision out to ranges of 300 kilometers. HIMARS satisfies the Army's digitization requirements by interfacing with the Advanced Field Artillery Tactical Data System (AFATDS) fire support command and control system. The HIMARS product improvement program provides funding for research, development, and integration efforts necessary for sustainment, obsolescence mitigation, reliability improvements, incorporation of advanced automotive, armor, armament and system hardware and software technologies, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The HIMARS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications.

The Multiple Launch Rocket and Missile System (MLRS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, Precision Strike weapon system that is organic/assigned to Fires Brigades supporting Brigade Combat Teams. The MLRS launcher provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. The launcher is complimented by the MLRS Family of Munitions (MFOM) to include the Guided Multiple Launch Rocket System (GMLRS), and the Army Tactical Missile System (ATACMS) Family of Munitions (AFOM), capable of engaging targets up to a range of 300 kilometers. The MLRS product improvement program provides funding for research, development, and integration efforts to the MLRS necessary for sustainment, obsolescence mitigation, reliability improvements, incorporation of advanced automotive, armor, armament and system hardware and software technologies, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The MLRS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications via Joint Variable Message Format.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*

Guided Multiple Launch Rocket System (GMLRS) munitions are the Army's primary organic Joint Expeditionary, all-weather, all-terrain, 24/7, tactical precision guided rockets employed by modular Fires Brigades supporting Brigade Combat Teams, Divisions, Joint Special Operations Force, Joint Force Combatant Commanders, and is also a key component of the Marine Corps Future Fighting Effort. GMLRS is the primary munitions for units fielded with the High Mobility Artillery Rocket System (HIMARS) and Multiple Launch Rocket System (MLRS) M270A1 rocket and missile launcher platforms. GMLRS integrates a guidance and control package and an improved rocket motor achieving greater range and precision accuracy requiring fewer rockets to defeat targets, thereby reducing the logistics burden. The two fielded variants are GMLRS with Dual Purpose Improved Conventional Munitions (DPICM /Increment 1) and GMLRS Unitary a 200-pound class high explosive warhead (Increment 2). The GMLRS Unitary is a modification to the GMLRS DPICM integrating a multi-mode fuze and high explosive warhead making it an all-weather, low collateral damage, precision rocket. This modification expands the MLRS target set into urban and complex environments by adding, point, proximity and delay fuzing modes, and supports Troops in Contact (TIC). A third variant of GMLRS, the Alternative Warhead (AW/Increment 3) (currently in Technology Development), is scheduled to enter Engineering Manufacturing Development in 1QFY12; with the Production and Deployment beginning in 2QFY15. The GMLRS AW is being developed to replace DPICM and meet requirements outlined in a 25 JUN 2008 DoD Cluster Munitions Policy, which requires all cluster munitions by 2019 to produce less than 1% Unexploded Ordinance on the battlefield. As of FY10, the AW Program has been managed and funded under project code, 78G.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	27.549	51.619	54.018	-	54.018
Current President's Budget	26.624	51.619	66.641	-	66.641
Total Adjustments	-0.925	-	12.623	-	12.623
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-0.925	-	12.623	-	12.623

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 090: *MLRS HIMARS*	

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
090: *MLRS HIMARS*	1.918	3.367	6.132	-	6.132	6.124	6.221	6.011	4.876	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The M142 High Mobility Artillery Rocket System (HIMARS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, precision strike weapon system that fully supports more deployable, affordable and lethal, Brigade Combat Teams, Fires Brigade, Modular Forces, and Joint Expeditionary Forces. The HIMARS launcher is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM) and Army Tactical Missile System (ATACMS) Family of Munitions (AFOM) engaging targets with precision out to ranges of 300 kilometers. HIMARS satisfies the Army's digitization requirements by interfacing with the Advanced Field Artillery Tactical Data System (AFATDS) fire support command and control system. The HIMARS product improvement program provides funding for research, development, and integration efforts necessary for sustainment, obsolescence mitigation, reliability improvements, incorporation of advanced automotive, armor, armament and system hardware and software technologies, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The HIMARS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications. HIMARS has been deployed to both Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) with great success by both US Army and Marine Corps units.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: MLRS Production Improvement Program-HIMARS	1.918	3.367	6.132
Articles:	0	0	
Description: Continue system design and Production Qualification Testing, conduct Functional Configuration Audit, and develop Integrated Logistics Products; integrate and test Horizontal Technology Insertion (HTI) upgrades including Increased Crew Protection Cab, Enhanced Command and Control, Improved Initialization, Obsolescence Mitigation, Tactical Fire Control, Embedded Training Launcher Loader Module electric drive, Diagnostics/Prognostics, Alternate Coupling, Situational Awareness, Long Range Communication and future munition integration. Perform technical assessments, concept studies, cost reduction, risk reduction, field issue resolution and required documentation.			
FY 2010 Accomplishments: Development of unique components for Long Range Communications, Driver Vision Enhancement, and Blue Force Tracking was mostly completed. Software updates were developed, tested and certified. Analysis and design for implementation of obsolescent components was conducted for the fire control system including Fire Control Display. Enhanced ballistic transparent armor progressed through 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 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 090: *MLRS HIMARS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Complete testing and integration efforts for Long Range Communications, Driver Vision Enhancement, Blue Force Tracking and Fire Control Display. Effort will be required to maintain C4I/Interoperability certification and Network Interoperability certification. Technical assessments and concept studies in the areas of automotive and hardware/software technologies and improved transportability will be conducted to support evolving mission requirements, planning for technology insertion and continued obsolescence mitigation. ***FY 2012 Plans:*** The focus of FY2012 program is execution of development activities for additional improved crew protection against emerging threats and enhancements to communications and battle command. Continued effort will be required to maintain C4I/ Interoperability certification and Network Interoperability certification. Technical assessments and concept studies in the areas of automotive and hardware/software technologies and improved transportability will be conducted to support evolving mission requirements, planning for technology insertion and continued obsolescence mitigation.			
Accomplishments/Planned Programs Subtotals	1.918	3.367	6.132

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
• C02901: *HIMARS Launcher*	208.416	211.517	31.674		31.674		0.338	0.344	0.350	0.000	472.866
• C67501: *HIMARS Modifications*	70.890	39.371	11.670		11.670		15.324	15.490	15.731	Continuing	Continuing
• CA0289: *HIMARS Modifications: Initial Spares*	1.786	1.856								0.000	3.642
• CA0288: *Initial Spares, HIMARS*	9.748	9.706	0.937		0.937		1.238	1.260	1.284	1.284	26.676

D. Acquisition Strategy

HIMARS follow-on HTI efforts include the Increased Crew Protection, Enhanced Command and Control, Improved Initialization, and Long Range Communications.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 090: *MLRS HIMARS*

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 Program Management	Various	PFRMS Project Office:Redstone Arsenal, Alabama	9.016	0.147		0.199		-		0.199	Continuing	Continuing	Continuing
		Subtotal	9.016	0.147		0.199		-		0.199			

Remarks

PFRMS - Precision Fires Rocket and Missile Systems

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
Risk Reduction/Maturation Contract	SS/CPIF	LMMFC:Texas	110.202	-		-		-		-	Continuing	Continuing	Continuing
Path through Operational Test	SS/CPFF	LMMFC:Texas	11.455	-		-		-		-	Continuing	Continuing	Continuing
Battle Command	SS/CPFF	CECOM, STRICOM, AMRDEC, Techrizon, LMMFC:Various	12.281	2.516		5.075		-		5.075	Continuing	Continuing	Continuing
Work Directives/ Chassis and Cab	TBD	TACOM (S&S):Warren, Michigan	5.561	-		-		-		-	Continuing	Continuing	Continuing
Other Government Agencies (OGA)	Various	AMCOM/ GSA & RSA:Various	17.025	0.294		0.337		-		0.337	Continuing	Continuing	Continuing
Increased Crew Protection	SS/CPFF	LMMFC:Texas	25.462	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	181.986	2.810		5.412		-		5.412			

Remarks

TACOM - Tank Automotive & Armaments Command; AMCOM - Aviation & Missile Command
RSA - Redstone Arsenal Alabama; STRICOM - Simulation Training and Instrument Command
S&S - Stewart & Stevenson; GSA - General Services Administration
LMMFC - Lockheed Martin Missile and Fire Control
TBD - To Be Determined; N/A - Not Applicable
CECOM - US Army Communication - Electronics Command
AMRDEC - Aviation and Missile Research Development and Engineering Center

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 090: *MLRS HIMARS*	

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
SS - Sole Source; CPIF - Cost Plus Incentive Fee; CPAF - Cost Plus Award Fee CPFF - Cost Plus Fixed Fee; UA - Unit of Action													

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
Support Contract	C/CPFF	Camber Research, S3, TMI:Various	3.259	0.299		0.311		-		0.311	Continuing	Continuing	Continuing
		Subtotal	3.259	0.299		0.311		-		0.311			

Remarks

S3 - Systems Studies Simulation, Inc., TMI - Tec Masters Inc

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	Fort Hood Texas, ATEC, APG MD, WSMR, RTTC RSA.:Various	43.232	0.111		0.210		-		0.210	Continuing	Continuing	Continuing
		Subtotal	43.232	0.111		0.210		-		0.210			

Remarks

APG MD - Aberdeen Proving Ground, Maryland
WSMR NM - White Sands Missile Range, New Mexico
RTTC RSA - Redstone Technical Test Center, Redstone Arsenal, Alabama
ATEC - US Army Test and Evaluation Command

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 090: *MLRS HIMARS*

	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	237.493	3.367		6.132		-		6.132			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 093: *Multi-Launch Rocket System (MLRS)*	

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
093: *Multi-Launch Rocket System (MLRS)*	6.350	3.691	15.883	-	15.883	13.236	8.663	0.979	0.993	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Multiple Launch Rocket and Missile System (MLRS) is a full spectrum, combat proven, all weather, 24/7 lethal and responsive, Precision Strike weapon system that is organic/assigned to Fires Brigades supporting Brigade Combat Teams. The MLRS launcher provides critical missile precision strike, operational shaping fires, counterfire, and close support destructive and suppressive fires. The launcher is complimented by the MLRS Family of Munitions (MFOM) to include the Guided Multiple Launch Rocket System (GMLRS), and the Army Tactical Missile System (ATACMS) Family of Munitions (AFOM), capable of engaging targets up to a range of 300 kilometers. The MLRS product improvement program provides funding for research, development, and integration efforts to the MLRS necessary for sustainment, obsolescence mitigation, reliability improvements, incorporation of advanced automotive, armorment and system hardware and software technologies, and decreasing the logistics footprint. This effort includes performing technical assessments, concept studies, and risk reduction efforts for incorporation of future requirements. The MLRS product improvement program maintains compliance with Intra-Army Interoperability and Digital Communications via Joint Variable Message Format.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: MLRS Product Improvement Program	6.350	3.691	15.883
Articles:	0	0	
Description: The MLRS product improvement program ensures compliance as defined in the Department of Defense (DoD) Information Technical Standards. Funding is provided to several Government Agencies/Laboratories each Fiscal Year in support of this program. Support efforts also include Enhanced C2, Interoperability Certifications, obsolescence mitigation, increased crew protection, automotive updates and hardware/software enhancements, and Information Assurance compliance. All efforts are directed toward preservation of platform viability and readiness to accept technology insertion as capability enhancements and obsolescence mitigations are developed. Perform Command, Control, Communications, Computers, and Intelligence (C4I)/Interoperability Certification Tests, Improved Operational Timeline, and Conduct Network Interoperability Testing/Certification. Perform technical assessments, concept studies, obsolescence mitigation, crew protection, automotive and hardware/software enhancements, and risk reduction. ***FY 2010 Accomplishments:*** Executed development efforts for Long Range Communications, Driver Vision Enhancement, and Blue Force Tracker. MLRS Fire Control System Software V7.08C introduced functional updates to improve the communication interface between the M270A1 fire control system and precision guided rocket and missile munitions fired from the launch platform. Software was developed,			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 093: *Multi-Launch Rocket System (MLRS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
verified, formally tested, and certified. MLRS Fire Control System Software V7.09 introduced functional updates to load and execute missions with both Guided Unitary rockets and Army TACMS missiles loaded onto a single M270A1, and to interface with an AN/PC-150 (UF) receiver/transmitter. Software suite was developed, verified, formally tested, and certified by the PM. Analysis and design for implementation of obsolescent components was conducted (including fire control system electronic components, Auxiliary Power Unit/Environmental Control Unit update, and mechanical components common with the Bradley vehicle). Concept activities related to crew protection and fire control system updates were executed. ***FY 2011 Plans:*** Continue concept studies supporting product improvement program - including prototyping of new fire control system hardware/ software architecture. Complete analyses supporting definition of requirements for improved crew protection cab. Perform Technical assessments and concept studies in the areas of automotive and hardware/software technologies, to support evolving mission requirements, planning for technology insertion, and continued obsolescence mitigation. ***FY 2012 Plans:*** Execute development activities to improve crew protection with a new cab and enhanced chassis blast protection that includes design activities with formal PDR and CDR. Maintain C4I/Interoperability certification and Network Interoperability certification. Conduct technical assessments and concept studies in the areas of automotive and hardware/software technologies to support evolving mission requirements, planning for technology insertion, and continued obsolescence mitigation.			
Accomplishments/Planned Programs Subtotals	6.350	3.691	15.883

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
• MLRS Mods (C67500): *MLRS Mods(C67500)*	22.423	8.217	8.236		8.236		32.136	33.158	32.703	Continuing	Continuing
• MLRS Mod Initial Spares (CA0265): *MLRS Mod Initial Spares (CA0265)*	0.200	1.014	1.031		1.031		1.069	1.072	1.062	Continuing	Continuing

D. Acquisition Strategy

The MLRS product improvement program is currently conducting concept studies and development efforts including Enhanced C2, Interoperability Certifications, obsolescence mitigation, increased crew protection, automotive updates and hardware/software enhancements, and Information Assurance compliance.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 093: *Multi-Launch Rocket System (MLRS)*

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 093: *Multi-Launch Rocket System (MLRS)*

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 Program Management	SS/FP	PFRMS Proj Ofc, Redstone Arsenal, Alabama:Redstone Arsenal, Alabama	3.740	0.340		0.340		-		0.340	Continuing	Continuing	Continuing
		Subtotal	3.740	0.340		0.340		-		0.340			

Remarks

PFRMS - Precision Fires Rocket and Missile Systems
SS/FP Sole Source Fixed Price

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
Contract	SS/FP	LMMFC-D:Texas	22.670	-		-		-		-	Continuing	Continuing	Continuing
Other Government Agencies OGA	SS/FP	FT SILL OK, CECOM-NJAMRDEC-RSA AL,:various	11.297	2.126		0.500		-		0.500	Continuing	Continuing	Continuing
MLRS Improvement Contract	TBD	TBD:TBD	-	-		14.436		-		14.436	0.000	14.436	0.000
		Subtotal	33.967	2.126		14.936		-		14.936			

Remarks

SS/FP - Sole Source Fixed Price LMMFC-D - Lockheed Martin Missile and Fire Control-Dallas
TBD - To Be Determined
N/A - Not Applicable AMRDEC - United States Army Research, Development, and Engineering Command
RSA AL - Redstone Arsenal, Alabama OK - Oklahoma
CECOM - United States Army Communication - Electronics Command

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
Support Contract	Various	Multiple:Multiple	2.128	0.725		0.457		-		0.457	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 093: *Multi-Launch Rocket System (MLRS)*

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
		Subtotal	2.128	0.725		0.457		-		0.457			

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, Joint Interoperability Test Certificate	SS/FP	CTSF, Ft. Hood:Texas	1.737	0.500		0.150		-		0.150	Continuing	Continuing	Continuing
Test Support	SS/FP	AMCOM, RTTC, Redstone Arsenal, Alabama:Redstone Arsenal, Alabama	1.033	-		-		-		-	Continuing	Continuing	Continuing
Test Support	SS/FP	WSMR, New Mexico:New Mexico	0.442	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	3.212	0.500		0.150		-		0.150			

Remarks

CTSF - Central Test Support Facility
AMCOM - Army Missile Command
RTTC-Redstone Technical Test Center
WSMR - White Sands Missile Range
SS/FP Sole Source Fixed Price

	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	43.047	3.691		15.883		-		15.883			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 093: *Multi-Launch Rocket System (MLRS)*

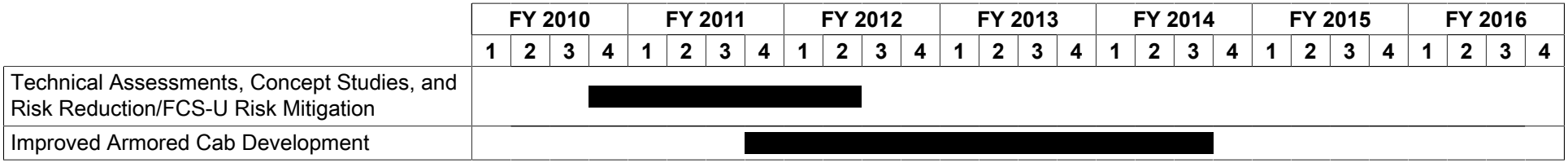

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 093: *Multi-Launch Rocket System (MLRS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Technical Assessments, Concept Studies, and Risk Reduction/FCS-U Risk Mitigation	4	2010	2	2012
Improved Armored Cab Development	4	2011	3	2014

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
784: *GUIDED MLRS*	7.864	2.582	2.543	-	2.543	34.690	44.561	23.176	25.771	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Guided Multiple Launch Rocket System (GMLRS) munitions are the Army's primary organic Joint Expeditionary, all-weather, 24/7, tactical precision guided rockets employed by modular Fires Brigades supporting Brigade Combat Teams, Divisions, Joint Special Operations Force, and Joint Force combatant commanders and is also a key component of the Marine Corps Future Fighting Effort. GMLRS is the primary munitions for units fielded with the High Mobility Artillery Rocket System (HIMARS) and Multiple Launch Rocket System (MLRS) M270A1 rocket and missile launcher platforms. GMLRS provides close, medium, and long range precision and area fires to destroy, suppress, and shape threat forces and protect friendly forces against the following: cannon, mortar, rocket and missile artillery, light materiel and armor, personnel, command and control, and air defense surface targets. GMLRS integrates guidance and control packages and an improved rocket motor achieving greater range and precision accuracy, requiring fewer rockets to defeat targets, thereby reducing the logistics burden. The two fielded variants are GMLRS with Dual Purpose Improved Conventional Munitions (DPICM/Increment 1) and GMLS Unitary (U/Increment 2), a 200-pound class high explosive warhead. The GMLRS-U is the only variant currently in production, integrating a multi-mode fuze and high explosive warhead making it an all-weather, low collateral damage, precision strike rocket. GMLRS-U expands the MLRS target set into urban and complex environments by adding, point, proximity and delay fuzing modes. With over 1900 rockets fired in support of Overseas Contingency Operations (OCO), the GMLRS-U rocket has demonstrated high effectiveness and low collateral damage while supporting Troops in Contact (TIC). A third variant of GMLRS, the Alternative Warhead (AW/Increment 3), is being developed to replace DPICM and meet requirements outlined in a 25 JUN 2008 Cluster Munitions Policy, which requires all cluster munitions by 2019 to produce less than 1% Unexploded Ordinance (UXO) on the battlefield. Enhanced GMLRS technology improvements will provide the following: (1) enhanced operational capability and flexibility across the target set, (2) potential cost savings across weapon system life cycle through obsolescence initiatives, (3) test equipment commonality and reduced user effort for sustainment operations with enhancements to the MLRS Common Test Equipment (MCTE), (4) future insensitive munitions (IM) technology studies, and (5) optimize and extend ranges and scalable effects to reduce collateral damage, as per emerging requirements currently in the Joint Capability Integration and Development System (JCIDS) process.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Assess and improve GMLRS rockets.	1.552	1.734	1.526
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Assess rocket design/seek improvements in reliability.			
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 784: *GUIDED MLRS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Continue to assess GMLRS rocket design and seek improvements in reliability as necessary. ***FY 2012 Plans:*** Continue to assess and improve GMLRS rockets.			
Title: Conduct development engineering for IM program. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Testing of IM motors. ***FY 2012 Plans:*** Additional IM improvements investigation.	3.281 0	-	0.381
Title: Investigate obsolescense/cost reduction opportunities/second source suppliers. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Conducted development engineering; perform integration and test of multi-mode fuzes and potential alternate warhead solutions while monitoring the industry to mitigate obsolescense and investigate cost reductions through alternate sources of procurement. ***FY 2011 Plans:*** Conduct development engineering; perform integration and test of multi-mode fuzes and potential alternate warhead solutions while monitoring the industry to mitigate obsolescense and investigate cost reductions through alternate sources of procurement. ***FY 2012 Plans:*** Continue the development engineering; performing integration of multi-mode fuzes and potential alternate warhead solutions while assessing the industry to mitigate obsolescense and investigate cost reductions through alternate sources of procurement.	0.853 0	0.848 0	0.636
Title: Testing ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:***	2.178 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 test support and evaluation activities.			
Accomplishments/Planned Programs Subtotals	7.864	2.582	2.543

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
• GMLRS: *GMLRS*	353.311	291.041	314.167		314.167		337.058	336.733	373.181	Continuing	Continuing

D. Acquisition Strategy

The MLRS Product Improvement Program project is intended to support streamlined product improvement initiatives as they are identified by the material developer or combat developer. This project also supports insensitive munition (IM) activities to improve the overall posture of the system all the way down to component level. The product office also leverages this project to investigate and develop alternative material changes to improve the GMLRS family of munitions. Future initiatives could include a service life extension program to extend the shelf life of the GMLRS rocket.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 784: *GUIDED MLRS*

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 Program Management	TBD	PFRMS Project Office,:RSA	26.498	0.599		-		-		-	Continuing	Continuing	Continuing
		Subtotal	26.498	0.599		-		-		-			

Remarks

TBD-To Be Determined; Cont.-Continuing; PFRMS - Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal, Alabama

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
EMD DPICM Contract	SS/CPAF	LMMFCS:Dallas, TX	91.194	-		-		-		-	Continuing	Continuing	Continuing
Other Government Agencies	TBD	AMCOM/ AMRDEC,:RSA	76.086	0.338		-		-		-	Continuing	Continuing	Continuing
EMD Unitary Contract/Multiple	SS/CPFF	LMMFCS:Dallas, TX	270.525	1.388		2.282		-		2.282	Continuing	Continuing	Continuing
		Subtotal	437.805	1.726		2.282		-		2.282			

Remarks

EMD-Engineering and Maunfacturing Development; DPICM - Dual Purpose Improved Conventional Munitions; SS/CPAF-Sole Source/Cost Plus Award Fee; SS/CPFF-Sole Source/ Cost Plus Fixed Fee; Cont.-Continuing; LMMFCS - Lockheed Martin Missile and Fire Control System; TX - Texas; AMCOM-Aviation and Missile Command; TBD-To Be Determined; AMRDEC - U.S. Army Research, Development and Engineering Command; RSA - Redstone Arsenal, Alabama

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
Support Contract	C/CPFF	Camber Research/S3/ TMI,:Alabama	20.196	0.257		0.261		-		0.261	Continuing	Continuing	Continuing
		Subtotal	20.196	0.257		0.261		-		0.261			

Remarks

C/CPFF-Cost/Cost Plus Fixed Fee; Cont.-Continuing; S3-Systems Studies Simulation, Inc.; TMI-Tec Masters, Inc.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 784: *GUIDED MLRS*	

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	TBD	WSMR,:NM	106.683	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	106.683	-		-		-		-			

Remarks

TBD-To Be Determined; Cont.-Continuing; WSMR, NM - White Sands Missile Range, New Mexico

	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	591.182	2.582		2.543		-		2.543			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 784: *GUIDED MLRS*

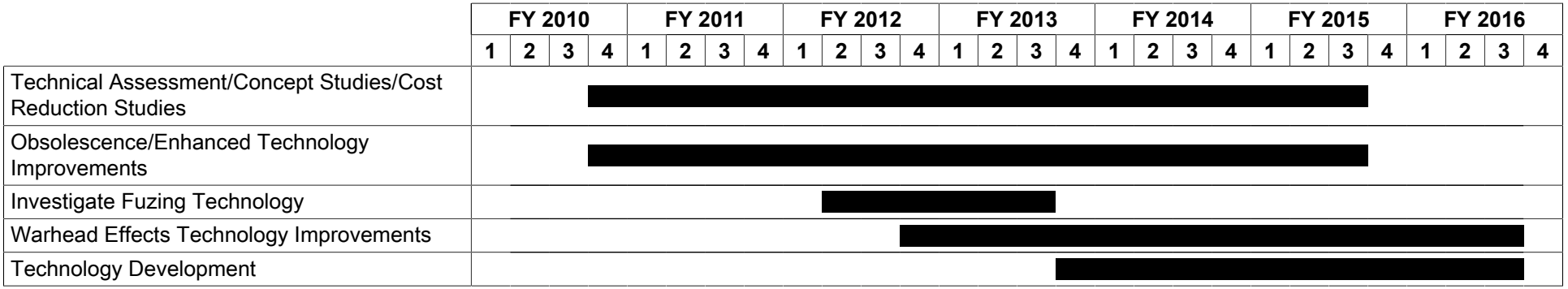

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 784: *GUIDED MLRS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Technical Assessment/Concept Studies/Cost Reduction Studies	4	2010	3	2015
Obsolescence/Enhanced Technology Improvements	4	2010	3	2015
Investigate Fuzing Technology	2	2012	3	2013
Warhead Effects Technology Improvements	4	2012	3	2016
Technology Development	4	2013	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 78G: *GMLRS ALTERNATIVE WARHEADS*	

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
78G: *GMLRS ALTERNATIVE WARHEADS*	10.492	41.979	42.083	-	42.083	31.112	30.768	29.113	-	0.000	185.547
Quantity of RDT&E Articles											

Note

Not applicable at this time.

A. Mission Description and Budget Item Justification

Guided Multiple Launch Rocket System (GMLRS) munitions are the Army's primary organic Joint Expeditionary, all-weather, 24/7, tactical precision guided rockets employed by modular Fires Brigades supporting Brigade Combat Teams, Divisions, Joint Special Operations Force, and Joint Force combatant commanders and is also a key component of the Marine Corps Future Fighting Effort. GMLRS is the primary munitions for units fielded with the High Mobility Artillery Rocket System (HIMARS) and Multiple Launch Rocket System (MLRS) M270A1 rocket and missile launcher platforms. GMLRS provides close, medium, and long range precision and area fires to destroy, suppress, and shape threat forces and protect friendly forces against the following: cannon, mortar, rocket and missile artillery, light materiel and armor, personnel, command and control, and air defense surface targets. GMLRS integrates guidance and control packages and an improved rocket motor achieving greater range and precision accuracy, requiring fewer rockets to defeat targets, thereby reducing the logistics burden. The two fielded variants are GMLRS with Dual Purpose Improved Conventional Munitions (DPICM/Increment 1) and GMLRS Unitary (U/Increment 2), a 200-pound class high explosive warhead. A third variant of GMLRS, the Alternative Warhead (AW/Increment 3) (currently in the Technology and Development (TD) Phase) is being developed to replace DPICM and meet requirements outlined in a 25 JUN 2008 DoD Cluster Munitions Policy, which requires all cluster munitions to produce less than 1% Unexploded Ordinance (UXO) on the battlefield by 2019. Increment 3 will fill a Warfighting Capability Gap left by the future removal of current cluster munitions from the battlefield. This effort includes development, integration, and test activities to evaluate payload performance against validated models/simulations. Following the TD Phase and successful Milestone B, the Army will down-select to a single warhead design to carry into Engineering and Manufacturing Development (1QFY12); with Production and Deployment beginning in 2QFY15. Enhanced GMLRS technology improvements will provide the following: (1) enhanced operational capability and flexibility across the target set, (2) potential cost savings across weapon system life cycle through obsolescence initiatives, (3) test equipment commonality and reduced user effort for sustainment operations with enhancements to the MLRS Common Test Equipment (MCTE), (4) future insensitive munitions (IM) technology studies, and (5) optimize and extend ranges and scalable effects to reduce collateral damage, as per emerging requirements currently in the Joint Capability Integration and Development System (JCIDS) process.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Conduct Development Engineering, Design Component Testing, and Performance Analysis.	2.609	22.938	21.587
Articles:	0	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 78G: *GMLRS ALTERNATIVE WARHEADS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: Assemble and integrate warhead prototypes. ***FY 2011 Plans:*** Preliminary Design Review (PDR) in support of MS B. ***FY 2012 Plans:*** Design optimization and analysis, System Readiness Review (SRR) and Initial Design Review (IDR) in EMD Phase.			
Title: Perform technical assessments and concept studies. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Begin Analysis of Alternatives for Milestone B. ***FY 2011 Plans:*** Complete Analysis of Alternatives for Milestone B/Technical Assessments/Model/Simulation. ***FY 2012 Plans:*** Evaluate SRR and IDR in EMD.	1.663 0	10.967 0	6.214
Title: Prepare Milestone Documentation, Risk Reduction, and Program Reviews. ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Statutory/Regulatory milestone documentation support for MS B. ***FY 2011 Plans:*** Capabilities Development Document (CDD), Statutory/Regulatory documentation support for MS B. ***FY 2012 Plans:*** Design optimization and analysis in EMD Phase.	1.962 0	3.148 0	1.657
Title: Conduct System Test and Evaluation Activities. ***Articles:***	4.258 0	4.926 0	12.625

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 78G: *GMLRS ALTERNATIVE WARHEADS*

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:*** Flyoff testing of warhead candidates. ***FY 2011 Plans:*** Test flight data analysis. ***FY 2012 Plans:*** Test planning in support of MS C.			
Accomplishments/Planned Programs Subtotals	10.492	41.979	42.083

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The GMLRS AW rocket will be a product improved version of the current GMLRS DPICM rocket. The GMLRS Program strategy relative to design technology is to competitvely evaluate leading technologies, offerors, and hardware through an open competition between three potential warheads and develop the most promising solution for system procurement. At the conclusion of the Technology Demonstration (TD) Phase, the government will make a downselect to one technology to be fully developed and integrated during Engineering and Manufacturing Development Phase.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 78G: *GMLRS ALTERNATIVE WARHEADS*

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 Program Management	TBD	PFRMS Project Office,:RSA	-	3.615		4.481		-		4.481	Continuing	Continuing	Continuing
		Subtotal	-	3.615		4.481		-		4.481			

Remarks

TBD-To Be Determined; Cont.-Continuing; PFRMS-Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal, Alabama

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
AWP Contracts (Multiple)	Various	GD-OTS (Niceville, FL); ATK (Plymouth, MN); OR Aerojet (Sacramento, CA); single vendor:LMMFCS (Dallas, TX), Systems Integrator	-	30.584		28.782		-		28.782	Continuing	Continuing	Continuing
Other Government Agencies	TBD	AMCOM/ AMRDEC,:RSA	-	2.404		2.605		-		2.605	Continuing	Continuing	Continuing
		Subtotal	-	32.988		31.387		-		31.387			

Remarks

AWP-Alternative Warhead Program; Various-Competitive/Firm Fixed Price/Sole Source/Cost Plus Fixed Fee; TBD-To Be Determined; Cont.-Continuing; AMCOM-Army Materiel Command; AMRDEC-U.S. Army Research, Development and Engineering Command; RSA-Redstone Arsenal, Alabama; GD-OTS-General Dynamics-Ordnance and Tactical Systems; FL-Florida; ATK-Alliant Techsystems, Inc.; MN-Minnesota; LMMFCS-Lockheed Martin Missile and Fire Control System; TX-Texas

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
Support Contract	C/CPFF	Camber Research/S3/ TMI,:Alabama	-	1.029		1.044		-		1.044	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	PROJECT 78G: *GMLRS ALTERNATIVE WARHEADS*	

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
		Subtotal	-	1.029		1.044		-		1.044			

Remarks

C/CPFF-Competitive/Cost Plus Fixed Fee; Cont.-Continuing; S3-Systems Studies Simulation, Inc.; TMI-Tec Master, Inc.

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	TBD	WSMR,:NM	-	4.347		5.171		-		5.171	Continuing	Continuing	Continuing
		Subtotal	-	4.347		5.171		-		5.171			

Remarks

TBD-To Be Determined; Cont.-Continuing; WSMR,NM-White Sands Missile Range, New Mexico

	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	-	41.979		42.083		-		42.083			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 78G: *GMLRS ALTERNATIVE WARHEADS*

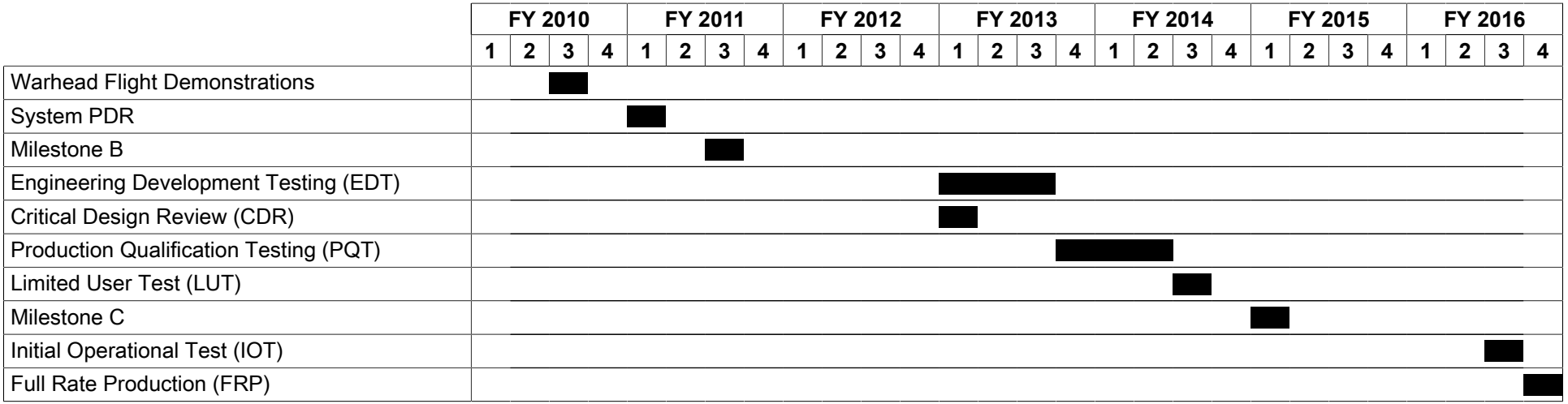

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603778A: *MLRS PRODUCT IMPROVEMENT PROGRAM*	**PROJECT** 78G: *GMLRS ALTERNATIVE WARHEADS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Warhead Flight Demonstrations	3	2010	3	2010
System PDR	1	2011	1	2011
Milestone B	3	2011	3	2011
Engineering Development Testing (EDT)	1	2013	3	2013
Critical Design Review (CDR)	1	2013	1	2013
Production Qualification Testing (PQT)	4	2013	2	2014
Limited User Test (LUT)	3	2014	3	2014
Milestone C	1	2015	1	2015
Initial Operational Test (IOT)	3	2016	3	2016
Full Rate Production (FRP)	4	2016	4	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 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0603820A: *Weapons Capability Modifications UAV*					
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	-	-	24.142	-	24.142	54.361	116.446	98.448	68.677	Continuing	Continuing
D20: *VTOL Mods/PIP*	-	-	24.142	-	24.142	54.361	116.446	98.448	68.677	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Extended Range Multi-Purpose (ERMP) Unmanned Aircraft System (UAS) includes and addresses the full scale development and integration of a weapon system capability.

These modifications include the refinement of requirements, the selection of the weapons matched to the aircraft capabilities, hardware and software design, development, and integration with the system.

This will include requisite airframe, mission management software and weapon compatibility modifications necessary to carry and employ weapons. Tests are required to ensure reliable, safe, accurate, and timely weapons stowage and delivery. Weaponization of ERMP includes the full scale development and integration of a modified HELLFIRE missile into the ERMP UAS. Missile development will include type classification and formal materiel release.

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	-	-	24.142	-	24.142
Total Adjustments	-	-	24.142	-	24.142
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	24.142	-	24.142

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603820A: *Weapons Capability Modifications UAV*	PROJECT D20: *VTOL Mods/PIP*	

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
D20: *VTOL Mods/PIP*	-	-	24.142	-	24.142	54.361	116.446	98.448	68.677	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Army has an emerging requirement to provide Intelligence, Surveillance, and Reconnaissance (ISR) platforms capable of operating in and near unfriendly territories/areas of conflict. The system shall be a rotary wing unmanned vertical takeoff and landing(VTOL) aircraft system not conducive to standard airfields but forward deployable to support extended operations in austere environment. The aircraft system will be made up of multiple aircraft (minimum of 4) that incorporates high value technologies in the airframe, propulsion, datalink systems, communications systems, and avionics systems. The system will be common with the Army selection of the Line of Sight and Beyond Line of Sight Tactical Common Data Link and the Universal Ground Control Station. The aircraft will simultaneously carry multi-functional payloads such as SIGINT, EO/IR/LD, and Wide Area Surveillance without degrading time on station. This system will provide dramatic improvements in operational flexibility, and mission performance.

FY12 RDT&E funds will resource the Material Solution Analysis Phase of the program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Military Unit Assessment ***Description:*** provides funding to define requirements and modifications ***FY 2012 Plans:*** provides funding for Military Unit Assessment to define requirements and modifications required for full scale development and integration of capability.	-	-	20.642
Title: Program Management Support ***Description:*** Launcher Modification / Test Equipment / Integration ***FY 2012 Plans:*** provide funding for program management support	-	-	3.500
Accomplishments/Planned Programs Subtotals	-	-	24.142

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0603820A: *Weapons Capability Modifications UAV*	**PROJECT** D20: *VTOL Mods/PIP*

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0603820A: *Weapons Capability Modifications UAV*	PROJECT D20: *VTOL Mods/PIP*

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	-	-		3.500		-		3.500	0.000	3.500	0.000
		Subtotal	-	-		3.500		-		3.500	0.000	3.500	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
Integration and Testing of UADD	Various	Other Government Agency:various	7.301	-		-		-		-	Continuing	Continuing	0.000
Launcher Modification / Test Equipment / Integration	Various	Other Government Agency:various	3.766	-		-		-		-	Continuing	Continuing	0.000
Military Utility Assessment (MUA)	Various	Various:Various	-	-		20.642		-		20.642	Continuing	Continuing	0.000
		Subtotal	11.067	-		20.642		-		20.642			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	11.067	-		24.142		-		24.142			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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0102419A: *Aerostat Joint Project Office*							
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	317.132	372.493	344.655	-	344.655	156.421	58.124	19.717	19.726	Continuing	Continuing
E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*	317.132	372.493	344.655	-	344.655	156.421	58.124	19.717	19.726	Continuing	Continuing

Note

Adjustments to FY 2012: JLENS FY 2012 funds increased by $168.457 million to fund the extension of the Engineering and Manufacturing Development phase.

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 (IAMD) Fire Control System/capability for the composite Army Air and Missile Defense Brigades.

The Joint Land Attack Cruise Missile Defense Elevated Netted Sensor Systems (JLENS) is a key component of the Army and Joint IAMD, providing a persistent surveillance and tracking capability for Unmanned Aerial Vehicle (UAV) and Cruise Missile (CM) defense to the current and projected defense forces (including air fighter forces). JLENS will provide fire control quality data to Army Surface to Air missile systems such as Patriot, Surface Launched Advanced Medium Range Air to Air Missile (SLAMRAAM) and Navy Aegis; in addition, increasing weapons' capabilities by allowing these systems to engage targets normally below, outside or beyond surface based weapons' field of view.

JLENS has secondary roles to detect and track Surface Moving Targets (SMT) and to detect, track, and provide launch point estimate (LPE) for Tactical Ballistic Missiles (TBM) and Large Caliber Rockets (LCR). JLENS supports military operations across the full spectrum of conflict.

A JLENS Orbit consists of two systems: a fire control radar system and a wide-area surveillance radar system. Each radar system employs a separate 74-meter tethered aerostat, mobile mooring station, radar and communications payload, processing station, and associated ground support equipment. JLENS uses advanced sensor and networking technologies to provide 360-degree, wide-area surveillance and precision target tracking. This JLENS information is distributed via joint service networks and contributes to the development of a single integrated air picture. JLENS also performs as a multi-role platform to enable extended range command and control linkages, communications relay, and battlefield situational awareness. JLENS can stay aloft up to 30 days providing 24-hour radar coverage of the assigned areas. JLENS is relocatable and can be transported by aircraft, railway, ship, or roadway. JLENS does not replace another system.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army					DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*		R-1 ITEM NOMENCLATURE PE 0102419A: *Aerostat Joint Project Office*			
B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	328.356	372.493	176.198	-	176.198
Current President's Budget	317.132	372.493	344.655	-	344.655
Total Adjustments	-11.224	-	168.457	-	168.457
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-11.224	-			
• Adjustments to Budget Years	-	-	168.457	-	168.457

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0102419A: *Aerostat Joint Project Office*	PROJECT E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*	

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
E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*	317.132	372.493	344.655	-	344.655	156.421	58.124	19.717	19.726	Continuing	Continuing
Quantity of RDT&E Articles											

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 (IAMD) Fire Control System/capability for the composite Army Air and Missile Defense Brigades.

The Joint Land Attack Cruise Missile Defense Elevated Netted Sensor Systems (JLENS) is a key component of the Army and Joint IAMD, providing a persistent surveillance and tracking capability for Unmanned Aerial Vehicle (UAV) and Cruise Missile (CM) defense to the current and projected defense forces (including air fighter forces). JLENS will provide fire control quality data to Army Surface to Air missile systems such as Patriot, Surface Launched Advanced Medium Range Air to Air Missile (SLAMRAAM) and Navy Aegis; in addition, increasing weapons' capabilities by allowing these systems to engage targets normally below, outside or beyond surface based weapons' field of view.

JLENS has secondary roles to detect and track Surface Moving Targets (SMT) and to detect, track, and provide launch point estimate (LPE) for Tactical Ballistic Missiles (TBM) and Large Caliber Rockets (LCR). JLENS supports military operations across the full spectrum of conflict.

A JLENS Orbit consists of two systems: a fire control radar system and a wide-area surveillance radar system. Each radar system employs a separate 74-meter tethered aerostat, mobile mooring station, radar and communications payload, processing station, and associated ground support equipment. JLENS uses advanced sensor and networking technologies to provide 360-degree, wide-area surveillance and precision target tracking. This JLENS information is distributed via joint service networks and contributes to the development of a single integrated air picture. JLENS also performs as a multi-role platform to enable extended range command and control linkages, communications relay, and battlefield situational awareness. JLENS can stay aloft up to 30 days providing 24-hour radar coverage of the assigned areas. JLENS is relocatable and can be transported by aircraft, railway, ship, or roadway. JLENS does not replace another system.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Engineering and Manufacturing Development (EMD) phase contract activity	259.651	258.467	260.667
Articles:	0	0	
Description: Continue EMD phase contract activities.			
FY 2010 Accomplishments:			

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
Continue integration of system hardware components and begin system level integration. Continue software development, integration and test. ***FY 2011 Plans:*** Complete integration of system hardware components and system level integration. Continue software development, integration and test. Deliver Orbits 1 and 2 to test sites. Initiate Developmental Testing (DT) and conduct user training. ***FY 2012 Plans:*** Complete software development, integration and test. Continue DT and conduct Limited User Testing- Operational Testing.			
Title: Government System Test and Evaluation (STE) ***Articles:*** ***Description:*** Government System Test and Evaluation (STE) program in support of Engineering and Manufacturing Development (EMD). ***FY 2010 Accomplishments:*** Prepare for Developmental Testing (DT) activities, including test site preparation. ***FY 2011 Plans:*** Orbits 1 and 2 will be delivered to test sites. Initiate DT and conduct user training. ***FY 2012 Plans:*** Continue DT and conduct Limited User Test- Operational Testing (OT).	17.491 0	52.700 0	32.839
Title: Other contracts and Other Government Agencies (OGAs) ***Articles:*** ***Description:*** Other contracts and OGAs support of EMD phase activities. Perform technical assessments, concept studies, cost reduction, risk reduction and required documentation. ***FY 2010 Accomplishments:*** Continue support of EMD activities. Continue to support integration of system hardware components and system level integration. Continue to support software development, integration and test. Perform technical assessments, concept studies, cost reduction, risk reduction and required documentation. ***FY 2011 Plans:*** Continue support of EMD activities. Support completion of integration of system hardware components and system level integration. Continue to support software development, integration and test. Support delivery of Orbits 1 and 2 to test sites.	30.986 0	40.073 0	25.734

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
Support Initialization of Developmental Testing (DT) and user training. Prepare for Milestone C Decision. Perform technical assessments, concept studies, cost reduction, risk reduction and required documentation. ***FY 2012 Plans:*** Continue support of EMD activities. Support the completion of software development, integration and test. Continue to support DT and Limited User Testing- OT. Execute Milestone C Decision. Perform technical assessments, concept studies, cost reduction, risk reduction and required documentation.			
Title: Government Program Management (PM) ***Articles:*** ***Description:*** Provide Government PM management of EMD activities. ***FY 2010 Accomplishments:*** Continue Government PM management of EMD activities. Continue management of integration of system hardware components and system level integration. Continue management of software development, integration and testing. ***FY 2011 Plans:*** Continue Government PM management of EMD activities. Manage completion of integration of system hardware components and system level integration. Continue management of software development, integration and test. Manage the delivery of Orbits 1 and 2 to test sites. Initiate Developmental Testing (DT) and conduct user training. Prepare for Milestone (MS) C Decision. ***FY 2012 Plans:*** Continue Government Program Management (PM) of Engineering and Manufacturing Development (EMD) activities. Manage completion of software development, integration and test. Continue management of Developmental Testing (DT) and conduct Limited User Testing- Operational Testing (OT). Prepare for Milestone (MS) C Decision.	3.310 0	2.272 0	2.815
Title: Government Furnished Equipment (GFE) ***Articles:*** ***Description:*** The GFE provided to the Prime Contractor for hardware and system integration. ***FY 2010 Accomplishments:*** The GFE provided to the Prime Contractor for hardware and system integration. ***FY 2011 Plans:*** The GFE provided to the Prime Contractor for hardware and system integration. ***FY 2012 Plans:***	5.694 0	6.880 0	4.791

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
The GFE provided to the Prime Contractor for hardware and system integration.			
Title: Organizational Support Equipment (OSE)	-	12.101	17.809
Articles:		0	
Description: The OSE required for Operational Testing (OT) of Engineering and Manufacturing Development (EMD) Orbit 1.			
FY 2011 Plans: Begin acquisition of the OSE required for OT of EMD Orbit 1.			
FY 2012 Plans: Complete the acquisition OSE required for OT of EMD Orbit 1.			
Accomplishments/Planned Programs Subtotals	317.132	372.493	344.655

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
• 0604869A: *Patriot/MEADS Combined Aggregate Program (CAP)*	570.831	467.139	406.605		406.605					Continuing	Continuing
• 0605456A: *PAC-3/MSE Missile*		62.500	88.993		88.993		68.938	63.468	64.215	Continuing	Continuing
• C53101: *MSE Missile*			74.953		74.953		532.540	487.049	560.099	Continuing	Continuing
• C53201: *Patriot/MEADS GSE*											
• BZ0525: *JLENS Production*							501.459	454.966	416.888	Continuing	Continuing
• 0604802A: *SLAMRAAM*	56.441									Continuing	Continuing
• 0605455A: *SLAMRAAM*		23.700	19.931		19.931					Continuing	Continuing
• C81002: *SLAMRAAM Launcher*		116.732								Continuing	Continuing
• C81004: *SLAMRAAM Missile*											
• 0603305A: *Indirect Fire Protection Capability II- Intercept*		4.296	21.126		21.126		89.021	92.999	142.738	Continuing	Continuing
• WK5053: *FAAD GBS*		91.467	7.958		7.958					Continuing	Continuing
• 0603327A: *AMD System of System Engineering and Integration*	164.719									Continuing	Continuing
		251.124	270.607		270.607		346.341	298.869	275.651	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0102419A: *Aerostat Joint Project Office*	PROJECT E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*

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
• 0605457A: *Army Integrated Air and Missile Defense (AIAMD)*											
• BZ5075: *Army IAMD Battle Command System (IBCS)*							23.587	100.560	256.855	Continuing	Continuing
• 0208053: *JOINT TACT GRD STATION-P3I (MIP)*	13.189	12.403	27.630		27.630		14.109	7.912	8.039	Continuing	Continuing
• BZ8401: *Joint Tactical Ground Station (JTAGS)*	6.682	9.279	1.199		1.199		9.740	4.432	4.496	Continuing	Continuing
• 0604820A: *Sentinel*			2.890		2.890		1.983	1.968	2.937	Continuing	Continuing
• WK5057: *Sentinel Mods*	25.783		41.657		41.657		48.418	46.613	46.463	Continuing	Continuing

D. Acquisition Strategy

The JLENS Operational Requirements Document (ORD) calls for initial fielding to Block I requirements (tethered aerostat platforms for Fire Control and Surveillance radars), followed by fielding of Block II (untethered platforms for Fire Control and Surveillance radars), and Block III (both radars on a single untethered platform). There is currently no funding beyond Block I.

On 28 Jun 05, the Defense Acquisition Board (DAB) approved the JLENS program for entry into Engineering and Manufacturing Development (EMD) as recommended by the Army Acquisition Executive. The DAB elected to maintain oversight of JLENS as an ACAT 1D program as stated in the Acquisition Decision Memorandum signed on August 5, 2005.

The Defense Acquisition Executive, on August 5, 2005, approved the JLENS Acquisition Strategy to field an EMD system in order to get the capabilities provided by JLENS to the warfighter expeditiously. In fielding an EMD system (Orbit 1), DoDI 5000.02 requires the JLENS program to conduct full Operational Testing using Research, Development, Test and Evaluation (RDT&E) funding as well as the traditional Demonstration Testing conducted during EMD. RDT&E funds for Fiscal Year (FY) 2012, FY 2013 and FY 2014 are necessary to execute the testing of the EMD system. A Milestone C decision for JLENS to enter Low Rate Initial Production will occur fourth quarter FY 2012, in parallel to testing of the EMD system. All of the EMD phase exit criteria will be met with Orbits 1 and 2 serving as production representative articles. The LRIP contract will be awarded first quarter FY 2013 with the first initial production fielding (LRIP Orbit 1) scheduled for FY 2016.

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
EMD Government Program Management	Various	PEO Missiles and Space:Various	13.361	2.272		2.815		-		2.815	Continuing	Continuing	Continuing
		Subtotal	13.361	2.272		2.815		-		2.815			

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
Contractor Engineering and Manufacturing Development (EMD) Hardware/Software	SS/CPIF	Raytheon Systems Co.:Andover, MA	962.145	223.011		209.398		-		209.398	Continuing	Continuing	Continuing
Technology Development (TD) Phase Contracts and Government	SS/CPIF	Raytheon Systems Co.:MA/CA/FL/TX	301.083	-		-		-		-	Continuing	Continuing	0.000
EMD Other Government Agency System Engineering	Various	Multiple:Various	17.746	5.242		7.244		-		7.244	Continuing	Continuing	Continuing
Lightweight X-Band Radar Antenna	Various	Various:Various	7.811	-		-		-		-	Continuing	Continuing	0.000
EMD System Engineering Contracts	Various	Multiple:Various	62.409	33.261		16.606		-		16.606	Continuing	Continuing	Continuing
EMD Government Furnished Equipment (GFE) Various	Various	Multiple:Various	18.754	1.690		2.191		-		2.191	Continuing	Continuing	Continuing
EMD GFE - Cooperative Engagement Transmission Processing Set (CETPS)	Various	Multiple:Various	24.541	5.190		2.600		-		2.600	Continuing	Continuing	Continuing
EMD Government Integrated Logistics Support	Various	Multiple:Various	3.915	1.570		1.884		-		1.884	Continuing	Continuing	Continuing
EMD Organizational Support Equipment	Various	Multiple:Various	-	12.101		17.809		-		17.809	Continuing	Continuing	Continuing
		Subtotal	1,398.404	282.065		257.732		-		257.732			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0102419A: *Aerostat Joint Project Office*	PROJECT E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*	

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
TD Phase Misc Support	Various	Multiple:Various	2.084	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	2.084	-		-		-		-			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
TD Phase Maintain Test Bed	SS/CPFF	CAS, Inc.:NM	3.056	-		-		-		-	Continuing	Continuing	0.000
EMD Contractor System Test and Evaluation	SS/CPIF	Raytheon Systems Co.:MA/CA/FL/TX	10.267	35.456		51.269		-		51.269	Continuing	Continuing	Continuing
EMD Government System Test and Evaluation	Various	Multiple:Various	32.235	52.700		32.839		-		32.839	Continuing	Continuing	Continuing
		Subtotal	45.558	88.156		84.108		-		84.108			

	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	1,459.407	372.493		344.655		-		344.655			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0102419A: *Aerostat Joint Project Office*	PROJECT E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*

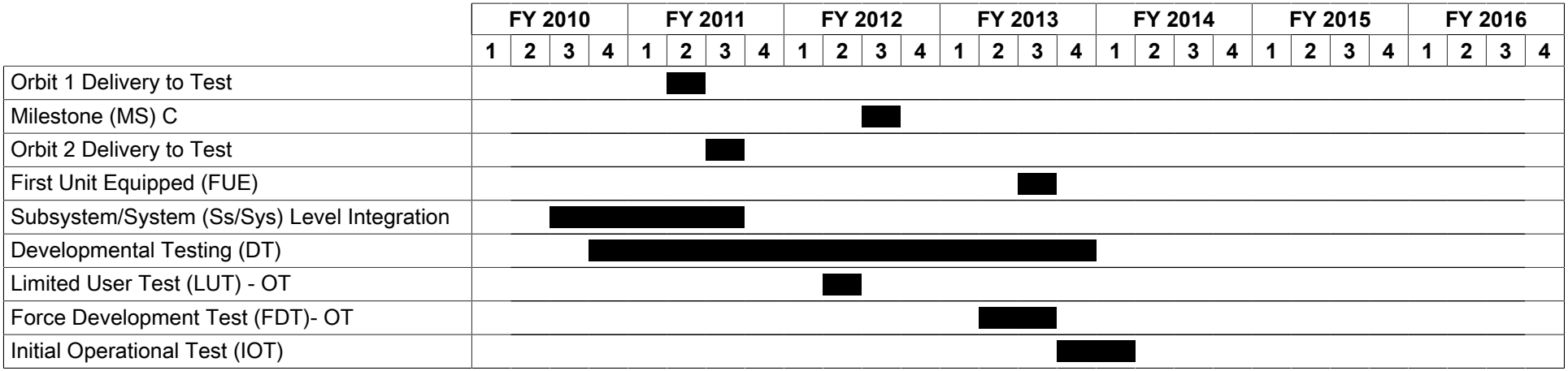

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0102419A: *Aerostat Joint Project Office*	**PROJECT** E55: *Jnt Land Atk Msl Def Elevated Netted Sensor-JLENS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Orbit 1 Delivery to Test	2	2011	2	2011
Milestone (MS) C	3	2012	3	2012
Orbit 2 Delivery to Test	3	2011	3	2011
First Unit Equipped (FUE)	3	2013	3	2013
Subsystem/System (Ss/Sys) Level Integration	3	2010	3	2011
Developmental Testing (DT)	4	2010	4	2013
Limited User Test (LUT) - OT	2	2012	2	2012
Force Development Test (FDT)- OT	2	2013	3	2013
Initial Operational Test (IOT)	4	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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0203347A: *Intelligence Support to Cyber (ISC) - 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**
Total Program Element	-	2.360	-	-	-	-	-	-	-	0.000	2.360
CY7: *INTELLIGENCE SUPPORT TO CYBER (ISC) MIP*	-	2.360	-	-	-	-	-	-	-	0.000	2.360

A. Mission Description and Budget Item Justification

Mission Description: INSCOM conducts Research, Development, Testing, and Evaluation (RDTE) of rapid prototype cyber ttack weapons systems in support of full-spectrum military operations. INSCOM's cyber weapons are low-density
or non-standard items whose requirements have been Army G3/5/7 or Joint validated and are not in development by acquisition technology developers or system program managers. Justification: INSCOM executes its assigned RDTE mission in compliance with AR 10-87, 70-1, 71-9 and 700-142; CJCSI 3170.01E and O-3600.1; Army Cyberspace OPLAN 8039, and HQDA Cyberspace EXORD 155-10. INSCOM's rapid Cyber weapons systems developments are based on national, strategic,
operational, and tactical requirements outlined in NSPD-38/54, HSPD-23, National Strategic Plan for United States Offensive Cyber Operations, National Strategy to Secure Cyberspace, National Military Strategy for Cyberspace Operations, Comprehensive National Cybersecurity Initiative, USSTRATCOM CONPLAN 8039,and COCOM Joint Urgent/Operational Needs Statements. Priority of effort is given to requirements that are immediately traceable to land component command operations. Risk/Funding: Not funding INSCOM's RDTE program severely degrades the Army's ability to provide Combatant Commanders with critical warfighting capabilities, resulting in additional risks of failure to Army operational missions or increased costs in Soldier lives and fighting capability due to loss of combat advantages provided through this program.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	2.360	2.660	-	2.660
Current President's Budget	-	2.360	-	-	-
Total Adjustments	-	-	-2.660	-	-2.660
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	-2.660	-	-2.660

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203347A: *Intelligence Support to Cyber (ISC) - MIP*	PROJECT CY7: *INTELLIGENCE SUPPORT TO CYBER (ISC) 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
CY7: *INTELLIGENCE SUPPORT TO CYBER (ISC) MIP*	-	2.360	-	-	-	-	-	-	-	0.000	2.360
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Mission Description: INSCOM conducts Research, Development, Testing, and Evaluation (RDTE) of rapid prototype cyber ttack weapons systems in support of full-spectrum military operations. INSCOM's cyber weapons are low-density
or non-standard items whose requirements have been Army G3/5/7 or Joint validated and are not in development by acquisition technology developers or system program managers. Justification: INSCOM executes its assigned RDTE mission in compliance with AR 10-87, 70-1, 71-9 and 700-142; CJCSI 3170.01E and O-3600.1; Army Cyberspace OPLAN 8039, and HQDA Cyberspace EXORD 155-10. INSCOM's rapid Cyber weapons systems developments are based on national, strategic,
operational, and tactical requirements outlined in NSPD-38/54, HSPD-23, National Strategic Plan for United States Offensive Cyber Operations, National Strategy to Secure Cyberspace, National Military Strategy for Cyberspace Operations, Comprehensive National Cybersecurity Initiative, USSTRATCOM CONPLAN 8039,and COCOM Joint Urgent/Operational Needs Statements. Priority of effort is given to requirements that are immediately traceable to land component command operations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Military Intelligence Program	-	2.360	-
Articles:		0	
Description: This is a Military Intelligence Program			
FY 2011 Plans: Classified MIP			
Accomplishments/Planned Programs Subtotals	-	2.360	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203347A: *Intelligence Support to Cyber (ISC) - MIP*	**PROJECT** CY7: *INTELLIGENCE SUPPORT TO CYBER (ISC) MIP*

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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data 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**
Total Program Element	29.127	24.622	29.546	-	29.546	24.448	24.593	24.444	24.655	Continuing	Continuing
322: *Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)*	17.687	12.835	18.039	-	18.039	18.722	18.886	18.711	18.827	Continuing	Continuing
F19: *JADOCS*	11.440	11.787	11.507	-	11.507	5.726	5.707	5.733	5.828	Continuing	Continuing

Note

The increase in the FY12 funding of $8.000 million is to fund requirements for AFATDS Increment II Capability Development Document (CDD).

The increase in the FY12 funding of $5.890 million is to fund upgrade and sustain JADOCS (273726.F19)

A. Mission Description and Budget Item Justification

The Advanced Field Artillery Tactical Data System (AFATDS) automates fire support planning and coordination for the Army, Navy, and Marine Corps. AFATDS automates the planning, coordinating and controlling of all fire support assets in the Joint battlespace (field artillery, mortars, close air support, naval gunfire, attack helicopters, and offensive electronic warfare) from Echelons Above Corps to Battery or Platoon in support of all levels of conflict. As a result of Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF), AFATDS has implemented precision fires capabilities in new/improved munitions such as Multiple Launch Rocket System (MLRS) Unitary Vertical Attack, Excalibur, Smart and 155 Bonus. Additional implemented capabilities include automatic conduct of Unit Fratricide Avoidance Checks and Collateral Damage Avoidance. AFATDS will interoperate with the other Army Battle Command Systems, current and future Army, Navy and Air Force Command and Control weapon systems, and the German, French, British, and Italian fire support systems. The system is composed of common hardware/software employed in varying configurations at different operational facilities (or nodes) and unique system software interconnected by tactical communications in the form of a software-driven, automated network. The system is currently fielding non-developmental, rugged common hardware, running the Windows Operating System. The total force will be fielded a Windows based platform by fiscal year 2013.

Joint Automated Deep Operations Coordination System (JADOCS) is a Joint, Interagency, and Multinational (JIM) Targeting, Mission Management, and Common Operational Picture (COP) Windows based software suite which functions as a complementary system to the AFATDS. JADOCS provides integration and synergy between multiple Command & Control (C2) systems of the uniformed services, and Joint and combined elements involved in the targeting process and performs coordination and calculates collateral damage. JADOCS Mission Managers support this coordination amongst Warfighter functional areas to rapidly execute critical missions. JADOCS is a component of the Integrated Fires Family of Systems (FOS) and complementary to the Army Battle Command Systems (ABCS) System of Systems (SoS).

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	29.174	24.622	16.497	-	16.497
Current President's Budget	29.127	24.622	29.546	-	29.546
Total Adjustments	-0.047	-	13.049	-	13.049
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	8.000	-	8.000
• Other Adjustments 1	-	-	5.890	-	5.890
• Other Adjustments 2	0.357	-	-0.641	-	-0.641
• Other Adjustments 3	-0.404	-	-0.200	-	-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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data System*	PROJECT 322: *Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)*	

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
322: *Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)*	17.687	12.835	18.039	-	18.039	18.722	18.886	18.711	18.827	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Advanced Field Artillery Tactical Data System (AFATDS) automates fire support planning and coordination for the Army, Navy, and Marine Corps. AFATDS automates the planning, coordinating and controlling of all fire support assets in the Joint battlespace (field artillery, mortars, close air support, naval gunfire, attack helicopters, and offensive electronic warfare) from Echelons Above Corps to Battery or Platoon in support of all levels of conflict. As a result of Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF), AFATDS has implemented precision fires capabilities in new/improved munitions such as Multiple Launch Rocket System (MLRS) Unitary Vertical Attack, Excalibur, Smart and 155 Bonus. Additional implemented capabilities include automatic conduct of Unit Fratricide Avoidance Checks and Collateral Damage Avoidance. AFATDS will interoperate with the other Army Battle Command Systems, current and future Army, Navy and Air Force Command and Control weapon systems, and the German, French, British, and Italian fire support systems. The system is composed of common hardware/software employed in varying configurations at different operational facilities (or nodes) and unique system software interconnected by tactical communications in the form of a software-driven, automated network. The system is currently fielding non-developmental, rugged common hardware, running the Windows Operating System. The total force will be fielded a Windows based platform by fiscal year 2013. The increase in the FY12 - 16 funding of $8.000 million per year is to fund requirements for AFATDS Increment II Capability Development Document (CDD).

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 Support Costs for AFATDS software development efforts	1.025	1.087	1.244	-	1.244
Articles:	0	0			
Description: Provide program support for AFATDS software development efforts for Versions 6.6, 6.7, 6.8 and 6.9. ***FY 2010 Accomplishments:*** Funded program support for AFATDS software development efforts ***FY 2011 Plans:*** Continue program support for AFATDS software development efforts ***FY 2012 Base Plans:*** Future program support for AFATDS software development efforts					
Title: AFATDS software development efforts costs	11.575	8.748	13.235	-	13.235

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data System*	PROJECT 322: *Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Articles:	0	0			
Description: Complete development of Versions 6.7 and 6.8. Intitate development of Version 6.9 ***FY 2010 Accomplishments:*** Continued AFATDS software development efforts for Version 6.7 and Version 6.8. ***FY 2011 Plans:*** Complete AFATDS software development versions 6.7 and 6.8. ***FY 2012 Base Plans:*** Initiate AFATDS software Version 6.9 development effort.					
Title: Voice Recognition/Technology Insertion	2.000	-	-	-	-
Articles:	0				
Description: Voice Recognition/Technology Insertion ***FY 2010 Accomplishments:*** Completed Voice Recognition/Technology Insertion.					
Title: Testing	2.800	3.000	3.560	-	3.560
Articles:	0	0			
Description: Conduct and support test activities ***FY 2010 Accomplishments:*** Conducted and supported AFATDS test activities. ***FY 2011 Plans:*** Conduct and support AFATDS test activities. ***FY 2012 Base Plans:*** Conduct and support AFATDS test activities.					
Title: Small Business Innovative Research/Small Business Technology transfer program	0.287	-	-	-	-
Articles:	0				
Description: Small Business Innovative Research/Small Business Technology transfer program					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** 322: *Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: Supported Small Business Innovative Research/Small Business Technology transfer program					
Accomplishments/Planned Programs Subtotals	17.687	12.835	18.039	-	18.039

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
• B28600: *ADV FA TAC DATA SYS*	1.536	4.240	0.337	5.782	6.119		0.232			Continuing	Continuing
• B28620: *MOD OF IN-SVC EQUIP, AFATDS*	29.175	35.608	34.556		34.556		17.194	10.148	10.053	Continuing	Continuing

D. Acquisition Strategy

AFATDS began fielding in 1996, with the original AFATDS Version 96 Materiel Release. It has been updated with subsequent releases reflecting the Spiral development strategy of the program. Full Materiel Release of AFATDS 6.5.0.1 (Windows version) was achieved in Aug 2009. Full Materiel Release of AFATDS 6.6.0 (Windows version) was achieved in June 2010. AFATDS 6.7 is nearing completion and will be fielded in FY2011.

Development efforts will continue to enhance Command and Control for precision weapons, Excalibur Height above Ellipsoid (HAE), Active Weapon Target pairing and Unexploded Ordnance (UXO) area computations. It will also provide backward interoperability to Pass and Subscribe Services (PASS) and AFATDS XML Engine (AXE) for Software Block 2 (SWB2) to enable connection to SWB1/1+ versions.

AFATDS Capability Development Document (CDD) is under development and currently going through Joint Requirements Oversight Council (JROC) review. JROC approval is expected in Fiscal Year 2011. AFATDS also continues to develop to Battle Command Capability Set requirements.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data System*	PROJECT 322: *Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)*

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	SS/FP	PM Battle Command (BC):Ft. Monmouth/ APG, MD	14.307	1.012		1.164		-		1.164	Continuing	Continuing	Continuing
SBIR/STTR	SS/FP	Ft. Monmouth, NJ:Ft. Monmouth, NJ	-	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	14.307	1.012		1.164		-		1.164			

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	SS/CPAF	Raytheon Systems Corp.:Ft. Wayne, IN	282.803	8.748		13.235		-		13.235	Continuing	Continuing	Continuing
		Subtotal	282.803	8.748		13.235		-		13.235			

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
Information Assurance	C/FP	CSC:Eatontown, NJ	0.195	0.075		0.080		-		0.080	Continuing	Continuing	Continuing
		Subtotal	0.195	0.075		0.080		-		0.080			

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	C/FP	Titan and various contractors:Various Locations	0.195	1.950		2.360		-		2.360	Continuing	Continuing	Continuing
Limited User Test/Government Confidence Demo	C/FP	Army Test & Evaluation Command	11.052	1.050		1.200		-		1.200	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data System*	PROJECT 322: *Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)*

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)/Fire Support Test Directorate (FSTD):Various Locations											
		Subtotal	11.247	3.000		3.560		-		3.560			

	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	308.552	12.835		18.039		-		18.039			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** 322: *Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)*

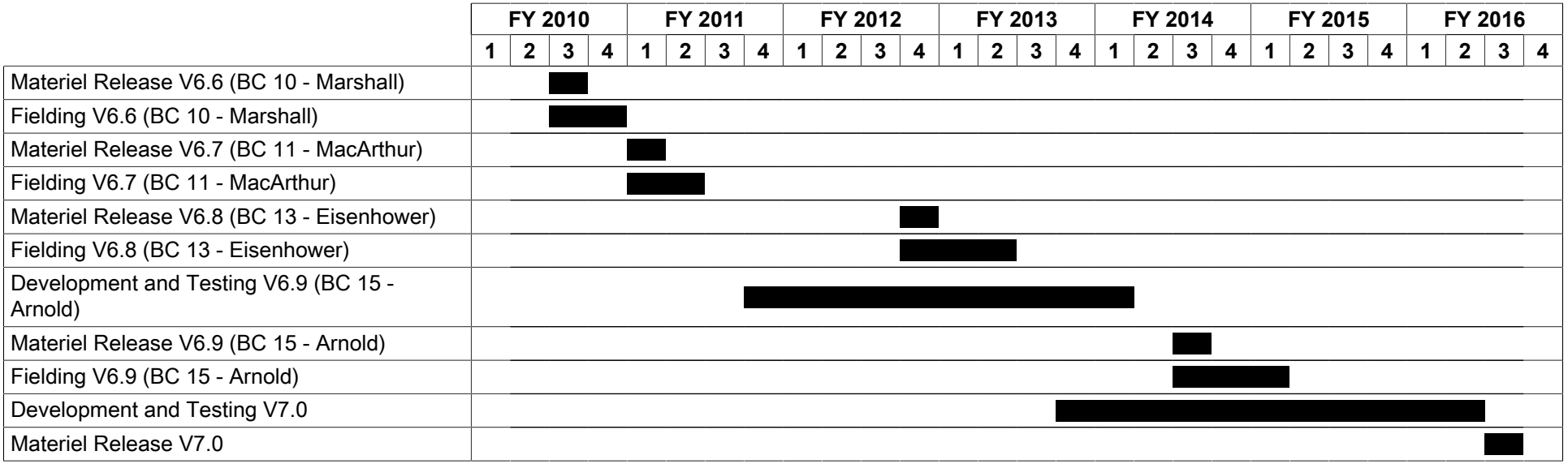

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** 322: *Adv Fa Tac Data Sys/Eff Cntrl Sys (AFATDS/ECS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Materiel Release V6.6 (BC 10 - Marshall)	3	2010	3	2010
Fielding V6.6 (BC 10 - Marshall)	3	2010	4	2010
Materiel Release V6.7 (BC 11 - MacArthur)	1	2011	1	2011
Fielding V6.7 (BC 11 - MacArthur)	1	2011	2	2011
Materiel Release V6.8 (BC 13 - Eisenhower)	4	2012	4	2012
Fielding V6.8 (BC 13 - Eisenhower)	4	2012	2	2013
Development and Testing V6.9 (BC 15 - Arnold)	4	2011	1	2014
Materiel Release V6.9 (BC 15 - Arnold)	3	2014	3	2014
Fielding V6.9 (BC 15 - Arnold)	3	2014	1	2015
Development and Testing V7.0	4	2013	2	2016
Materiel Release V7.0	3	2016	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data System*	PROJECT F19: *JADOCS*	

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
F19: *JADOCS*	11.440	11.787	11.507	-	11.507	5.726	5.707	5.733	5.828	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Joint Automated Deep Operations Coordination System (JADOCS) is a Joint, Interagency, and Multinational (JIM) Targeting, Mission Management, and Common Operational Picture (COP) Windows-based software suite which functions as a complementary system to the Advanced Field Artillery Tactical Data System (AFATDS). JADOCS provides integration and synergy between multiple Command & Control (C2) systems of the uniformed services, and joint and combined elements involved in the targeting process and performs coordination and calculates collateral damage. JADOCS Mission Managers support this coordination amongst Warfighter functional areas to rapidly execute critical missions. JADOCS enables coordination and de-confliction of conventional and asymmetric war-fighting missions. JADOCS uses a map-oriented Graphical User Interface (GUI) and overlays as a framework for information display. JADOCS is fielded to Air Force, Navy, Marine, and Army units involved in the targeting process at Echelons Above Corps, Corps, and Division. JADOCS provides the Combatant Commands with the capability to plan and direct theater counter-fire and precision strike operations through the real time synchronization of US and Coalition assets. The application provides the Warfighter with a combination of tools, services and Mission Managers for rapid "system of systems" integration, visualization, coordination and deconfliction of critical mission information. It not only enhances Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems in the areas of strike planning but also in situational awareness, joint and combined interoperability and force transition in war. JADOCS is a component of the Integrated Fires Family of Systems (FOS) and complementary to the Army Battle Command Systems (ABCS) System of Systems (SoS). The increase in the FY12 funding of $5.890 million is to upgrade and sustain JADOCS.

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 Support Costs for JADOCS Software Development Efforts	0.571	0.630	0.315	-	0.315
Articles:	0	0			
Description: Program support for JADOCS software development efforts for versions 1.0.4.1, 1.0.5.1, 1.0.6.0, and 1.0.7.0					
FY 2010 Accomplishments: Funded Program support for JADOCS software development efforts					
FY 2011 Plans: Continues the program support for JADOCS software development efforts					
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data System*	PROJECT F19: *JADOCS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Future program support for JADOCS software development efforts					
Title: JADOCS Software Develop Efforts costs ***Articles:*** ***Description:*** Complete development version 1.0.4.1, 1.0.5.1 and 1.0.6.0 Initiate development of version 1.0.7.0. ***FY 2010 Accomplishments:*** JADOCS software development efforts for version 1.0.4.1, 1.0.5.1 and 1.0.6.0 ***FY 2011 Plans:*** Complete JADOCS software development verison 1.0.5.1 and 1.0.6.0 ***FY 2012 Base Plans:*** Initiate JADOCS software version 1.0.7.0 efforts.	8.450 0	8.750 0	9.992	-	9.992
Title: Testing ***Articles:*** ***Description:*** Conduct and Support Test Activities ***FY 2010 Accomplishments:*** Conducted and supported JADOCS test activities. ***FY 2011 Plans:*** Continued JADOCS test activities. ***FY 2012 Base Plans:*** Future JADOCS test activities.	2.087 0	2.407 0	1.200	-	1.200
Title: SBIR/SBTT ***Articles:*** ***Description:*** Small Business Innovative Research/Small Business Technology Transfer Program ***FY 2010 Accomplishments:*** Supported Small Business Innovative Research/Small Business Technology Transfer Program	0.332 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	11.440	11.787	11.507	-	11.507

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** F19: *JADOCS*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

In FY 2003, the Automated Deep Operations Coordination System (ADOCS) was renamed the Joint Automated Deep Operations Coordination System (JADOCS) and was transitioned to Product Manager, Fire Support Command and Control (FSC2).

JADOCS has operated as a graduated Advanced Concept Technology Demonstration (ACTD) program since 2005. In 2008, the Vice Chief of Staff Army approved JADOCS for Acquisition program status under the Capabilities Development for Rapid Transition (CDRT) program. Commencing in FY 10 and continuing through FY 15, the Army will provide funding for its requirements under JADOCS. The Army started development of a Capabilities Production Document in 2008 and should seek Joint Requirements Oversight Council (JROC) approval in FY2011.

JADOCS is presently fielded to U.S. Central Command (USCENTCOM), U.S. Pacific Command (USPACOM), U.S. Forces Korea (USFK) and U.S. European Command (USEUCOM), including their subordinate commands. JADOCS is distributed to over 200 servers, 2600 workstations and 4000 users worldwide. Additionally, JADOCS is fielded to coalition partners. The Republic of Korea, the United Kingdom, and North Atlantic Treaty Organization (NATO) have Foreign Military Sales (FMS) cases.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data System*	PROJECT F19: *JADOCS*	

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
SIBR/STTR	Various	Ft. Monmouth:Fort Monmouth, NJ	-	-		-		-		-	Continuing	Continuing	Continuing
Business/Technical Services	Various	Chenega Federal Systems:Various	-	0.404		0.165		-		0.165	Continuing	Continuing	Continuing
		Subtotal	-	0.404		0.165		-		0.165			

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 & Test	SS/FP	Raytheon Systems Corp.:Alexandria, VA	-	8.809		-		-		-	Continuing	Continuing	Continuing
Software Development & Test	Various	TBD:TBD	-	-		9.992		-		9.992	Continuing	Continuing	Continuing
		Subtotal	-	8.809		9.992		-		9.992			

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
Program Management - Government	Various	Fort Monmouth and APG:NJ / MD	-	0.200		0.150		-		0.150	Continuing	Continuing	Continuing
		Subtotal	-	0.200		0.150		-		0.150			

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	Joint Service Testing:Various	-	2.374		1.200		-		1.200	Continuing	Continuing	Continuing
		Subtotal	-	2.374		1.200		-		1.200			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203726A: *Adv Field Artillery Tactical Data System*	PROJECT F19: *JADOCS*	

	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	-	11.787		11.507		-		11.507			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** F19: *JADOCS*

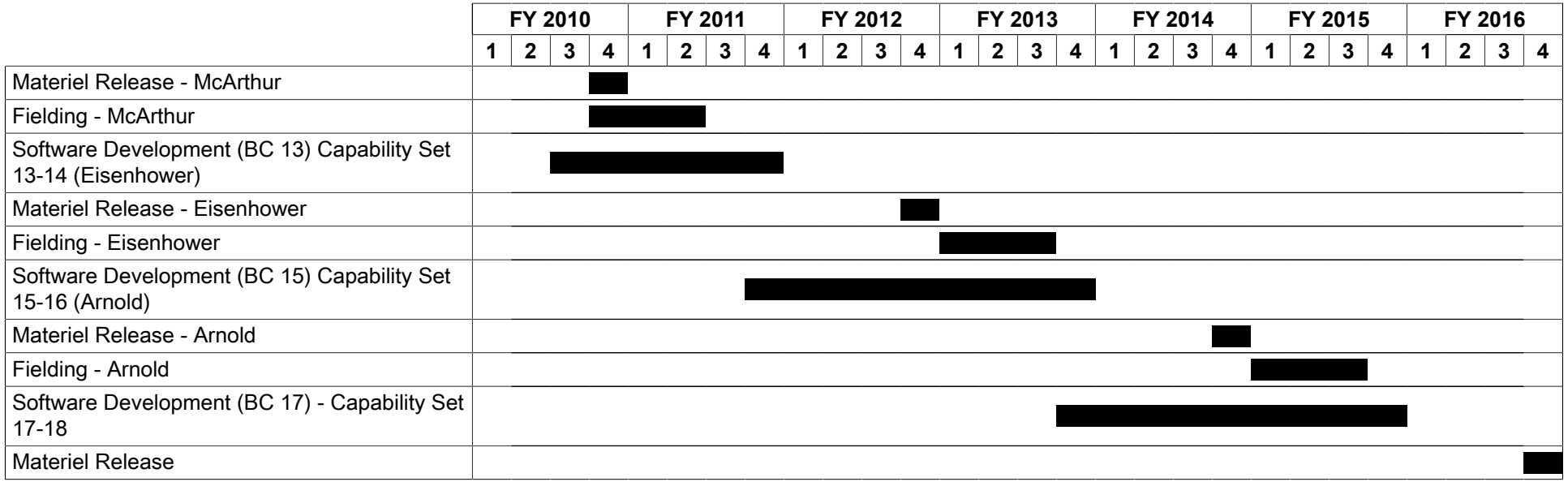

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203726A: *Adv Field Artillery Tactical Data System*	**PROJECT** F19: *JADOCS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Materiel Release - McArthur	4	2010	4	2010
Fielding - McArthur	4	2010	2	2011
Software Development (BC 13) Capability Set 13-14 (Eisenhower)	3	2010	4	2011
Materiel Release - Eisenhower	4	2012	4	2012
Fielding - Eisenhower	1	2013	3	2013
Software Development (BC 15) Capability Set 15-16 (Arnold)	4	2011	4	2013
Materiel Release - Arnold	4	2014	4	2014
Fielding - Arnold	1	2015	3	2015
Software Development (BC 17) - Capability Set 17-18	4	2013	4	2015
Materiel Release	4	2016	4	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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*							
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	169.400	204.481	53.307	-	53.307	252.334	245.368	257.684	344.146	Continuing	Continuing
330: *ABRAMS TANK IMPROVE PROG*	93.832	107.479	9.657	-	9.657	78.675	79.737	189.415	262.548	Continuing	Continuing
371: *BRADLEY BASE SUSTAIN*	75.568	97.002	12.250	-	12.250	100.359	40.631	34.169	49.598	Continuing	Continuing
DS5: *Armored Multipurpose Vehicle*	-	-	31.400	-	31.400	73.300	125.000	34.100	32.000	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Army has completed a comprehensive Combat Vehicle (CV) modernization strategy, which includes the Abrams, Bradley and Armored Multi-Purpose Vehicle (AMPV) Platforms.

This Program Element (PE) corrects vehicle deficiencies identified in Army operations; continues technical system upgrades to include the integration of applicable technologies on ground systems; addresses needed evolutionary enhancements to tracked combat vehicles; and, develops technology improvements which have application to or insertion opportunities across multiple Ground Combat Systems vehicles. This PE provides combat effectiveness and Operating and Support (O&S) cost reduction enhancements for the Abrams tanks and Bradley Fighting Vehicles through a series of product improvements.

This project funds improvements to the Abrams Family of Vehicles (FOV). The Abrams mission is to provide necessary firepower, mobility and survivability to overmatch all current and emerging enemy threats in achieving decisive dominant maneuver. The M1A2 SEP (current production model) refers to a System Enhancement Package incorporated on the tank in 1998, which upgraded the M1A2's computer systems and its night vision capabilities. Since that time, the M1A2 SEP has virtually reached its upper limits for space, weight, and power (SWaP). The Abrams tank is expected to be in service through 2045 and will be modernized in accordance with a revised capabilities document to: (1) posture the tank infrastructure to enable incremental growth as a hedge against other risks and contingencies, (2) maintain threat overmatch to deter aggression, project power and protect US interests and allies around the globe - especially with regards to the lessons of counterinsurgency learned during the tank's successful campaigns during Operation Iraqi Freedom, and (3) leverage the mature and relevant technology enhancements from the Army Research & Development Technology base. The Abrams tank must embark on a modernization effort in order to remain relevant and maintain threat overmatch capability. The objective is to maintain Survivability, Combat Overmatch and reduce O&S costs through an evolutionary approach with incremental development.

The Bradley Fighting Vehicle System (BFVS) improvements will provide the Heavy Brigade Combat Team (HBCT) with an improved capability to effectively fight in current and future environments. The BFVS improvements achieve the Bradley Capability Development Document to maintain combat over match through a combination of enhanced survivability, mobility and situational awareness subsystems. Improved survivability will leverage and build on lessons learned from Operation Iraqi Freedom to ensure protection against current and future threats in both asymmetric and full spectrum warfare. This provides the Bradley fleet the capability to complement the Abrams Tank and Ground Combat Vehicle in the HBCT. This also provides the HBCT commander with the necessary capabilities

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*

to employ the Bradley and Abrams in a combined arms approach as well as appropriate mounted and dismounted schemes of maneuver on current and future battlefields.

The AMPV will provide the HBCT with a replacement for the M113 Family of Vehicles (FOVs) that is more survivable and mobile to accomplish operational support missions across the full spectrum of conflict. The AMPV will be designed with growth margin in anticipation of inbound and future interoperable capability. The AMPV will use a turretless Bradley A3 chassis and integrate the existing M113 Mission Equipment Packages (MEPs) for the General Purpose, Mortar and C2 vehicles. The MedEvac vehicle will integrate the CAIMAN Hagga system. This provides the AMPV fleet the capability to support the Abrams Tank, Bradley IFV and Ground Combat Vehicle in the HBCT. This also provides the HBCT commander with necessary capabilities to employ mounted and dismounted schemes of maneuver on current and future battlefields.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	196.393	204.481	142.105	-	142.105
Current President's Budget	169.400	204.481	53.307	-	53.307
Total Adjustments	-26.993	-	-88.798	-	-88.798
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-9.514	-			
• SBIR/STTR Transfer	-6.478	-			
• Adjustments to Budget Years	-	-	-88.798	-	-88.798
• Other Adjustments 1	-11.001	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT 330: *ABRAMS TANK IMPROVE PROG*	

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
330: *ABRAMS TANK IMPROVE PROG*	93.832	107.479	9.657	-	9.657	78.675	79.737	189.415	262.548	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Army is currently preparing a comprehensive Combat Vehicle modernization strategy of which the M1A2 Abrams is one component. There are multiple other combat vehicles covered by this comprehensive strategy. Once the strategy is complete and approved, the M1A2 Abrams modernization component will be prioritized in that strategy. The Abrams Fleet Modernization program will utilize an evolutionary acquisition approach with incremental development. This incremental approach will provide upgrades identified as critical from Operation Iraqi Freedom (OIF), emerging threats, and operational interoperability traced to approved requirement documents. The Abrams Fleet Modernization Program is anticipating a Materiel Development Decision (MDD) in Mid FY11. Following the MDD, the Analysis of Alternatives (AoA) will be completed, Army Cost Position (ACP) defined, and the engineering efforts for Increment 1 initiated, leading to a Preliminary Design Review in FY13.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Systems Engineering/project management	16.004	22.500	9.657
Articles:	0	0	
Description: Systems Engineering/project management consists of requirements decomposition & flow down, trade studies, modeling & simulation and risk management			
FY 2010 Accomplishments: Requirements decomposition & flow down, trade studies, modeling & simulation, and risk management			
FY 2011 Plans: Requirements decompositiion & flow down, trade studies, modeling & simulation, and risk management			
FY 2012 Plans: Requirements decompositiion & flow down, trade studies, modeling & simulation, and risk management			
Title: Vehicle Architecture & Software	14.893	15.529	-
Articles:	0	0	
Description: Vehicle Architecture & Software, to include system concepting, vetronics and software subsystems, power distribution and management system, specification development, Net-Centric and Information Assurance compliance			
FY 2010 Accomplishments:			

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
Vehicle Architecture & Software, to include system concepting, vetronics and software subsystems, power distribution and management system, specification development, Net-Centric and Information Assurance compliance ***FY 2011 Plans:*** Vehicle Architecture & Software, to include system concepting, vetronics and software subsystems, power distribution and management system, specification development, Net-Centric and Information Assurance compliance			
Title: Lethality Systems ***Articles:*** ***Description:*** Lethality Systems, include cannon integration & characterization, fire control enhancements, future munitions integration, sensor development and integration, specification development ***FY 2010 Accomplishments:*** Cannon integration & characterization, fire control enhancements, future munitions integration, sensor development and integration, specification development ***FY 2011 Plans:*** Cannon integration & characterization, fire control enhancements, future munitions integration, sensor development and integration, specification development	6.900 0	7.500 0	-
Title: Survivability Systems ***Articles:*** ***Description:*** Survivability Systems, to include armor development, system design and integration, hit avoidance and signature management, specification development ***FY 2010 Accomplishments:*** Survivability Systems, to include armor development, system design and integration, hit avoidance and signature management, specification development ***FY 2011 Plans:*** Survivability Systems, to include armor development, system design and integration, hit avoidance and signature management, specification development	6.200 0	7.200 0	-
Title: Mobility Systems ***Articles:***	7.700 0	7.900 0	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT 330: *ABRAMS TANK IMPROVE PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Mobility Systems, to include fuel efficiency, reliability/maintainability improvements, track & suspension design, specification development ***FY 2010 Accomplishments:*** Mobility Systems, to include fuel efficiency, reliability/maintainability improvements, track & suspension design, specification development ***FY 2011 Plans:*** Mobility Systems, to include fuel efficiency, reliability/maintainability improvements, track & suspension design, specification development			
Title: Auxiliary Systems ***Articles:*** ***Description:*** Auxiliary Systems, to include Auxiliary Power Unit development, Nuclear/ Biological/Chemical detection & protection technology, specification development ***FY 2010 Accomplishments:*** Auxiliary Systems, to include Auxiliary Power Unit development, Nuclear/ Biological/Chemical detection & protection technology, specification development ***FY 2011 Plans:*** Auxiliary Systems, to include Auxiliary Power Unit development, Nuclear/ Biological/Chemical detection & protection technology, specification development	9.000 0	9.000 0	-
Title: Battle Command/Communication Integration ***Articles:*** ***Description:*** Battle Command/Communication Integration ***FY 2010 Accomplishments:*** Battle Command/Communication Integration ***FY 2011 Plans:*** Battle Command/Communication Integration	3.000 0	0.500 0	-
Title: Mobility, Survivability, Vetronics and Software Integration ***Articles:***	2.500 0	2.500 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: Mobility, Survivability, Vetronics and Software Integration ***FY 2010 Accomplishments:*** Mobility, Survivability, Vetronics and Software Integration ***FY 2011 Plans:*** Mobility, Survivability, Vetronics and Software Integration				
Title: Improved Lethality		19.000	24.000	-
	Articles:	0	0	
Description: Improved Lethality (Sensor Integration, Advanced Munitions, Cannon Integration). ***FY 2010 Accomplishments:*** Sensor Integration, Advanced Munitions, Cannon Integration ***FY 2011 Plans:*** Sensor Integration, Advanced Munitions, Cannon Integration				
Title: Government Engineering Support		0.840	6.500	-
	Articles:	0	0	
Description: Government Engineering Support ***FY 2010 Accomplishments:*** Government Engineering Support ***FY 2011 Plans:*** Government Engineering Support				
Title: Transmission - Integral Generator		-	4.200	-
	Articles:		0	
Description: Transmission - Integral Generator ***FY 2011 Plans:*** Transmission - Integral Generator				
Title: Test & Evaluation		0.675	0.150	-
	Articles:	0	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: Test and Evaluation ***FY 2010 Accomplishments:*** Test and Evaluation ***FY 2011 Plans:*** Test and Evaluation			
Title: Combat Vehicle Electrical Power - 21st Century (Combat Vehicle Evaluation Program (CVEP)-21) ***Articles:*** ***Description:*** Combat Vehicle Electrical Power - 21st Century (Combat Vehicle Evaluation Program (CVEP)-21) - This effort will be to demonstrate electrical power generation utilizing an X1100 Transmission integral generator. ***FY 2010 Accomplishments:*** This effort will be to demonstrate electrical power generation utilizing an X1100 Transmission integral generator operated in a test cell. The demonstration will encompass transmission basic function with an integral generator, electrical power generation and regulation, electrical characterization of the generator, and generator cooling. As vehicle power requirements continue to increase, the integral generator has the potential to provide future electrical power needs in a space efficient package.	3.120 0	-	-
Title: Current Force Common Active Protection System Radar ***Articles:*** ***Description:*** Radar Active Protection System is the conceptual approach to apply the Flashpoint Short-Range (SR) APS to the Abrams M1A2 SEP(v2) and the Abrams M1A1 SA as a means to address the Abrams Tank mid-range survivability needs. The intent would be to examine the potential for replacing the ARAT/ARAT 2 reactive tiles with an active protection system thus giving 360 degree protection, reducing the potential for fratricide, and reducing the overall vehicle weight. ***FY 2010 Accomplishments:*** This effort will fund the assessment and analysis to determine a cost effective conceptual approach to apply the Flashpoint Short-Range (SR) APS to the Abrams M1A2 SEP(v2) and the Abrams M1A1 SA as a means to address the Abrams Tank mid-range survivability needs. The intent would be to examine the potential for replacing the ARAT/ARAT 2 reactive tiles with an active protection system thus giving 360 degree protection, reducing the potential for fratricide, and reducing the overall vehicle weight.	1.600 0	-	-
Title: Vibration Management Enhancement Program ***Articles:***	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT 330: *ABRAMS TANK IMPROVE PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: The Vibration Management Enhancement Program (VMEP) will monitor the health and state of an Abrams AGT1500 engine as part of the TIGER (Total InteGrated Engine Revitalization) program. The commercial off-the-shelf VMEP system will be adapted to the AGT1500 engine parameters and the VMEP system will be tested and demonstrated on an Abrams tank. The system will ultimately provide diagnostic information to the maintainers and maintenance managers in the operating units. The intent of the system is to keep vibrations at their lowest possible level, provide health status of drive train components, extending or eliminating time between overhaul (TBO), eliminating scheduled inspections, consequently reducing Operations and Sustainment costs. ***FY 2010 Accomplishments:*** The commercial off-the-shelf VMEP system will be adapted to the AGT1500 engine parameters and the VMEP system will be tested and demonstrated on an Abrams tank. The system will ultimately provide diagnostic information to the maintainers and maintenance managers in the operating units. The intent of the system is to keep vibrations at their lowest possible level, provide health status of drive train components, extending or eliminating time between overhaul (TBO), eliminating scheduled inspections, consequently reducing Operations and Sustainment costs.			
Accomplishments/Planned Programs Subtotals	93.832	107.479	9.657

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
• GA0750: *Abrams Upgrade Program*	185.038	183.000	181.329		181.329				372.418	0.000	995.267
• GA0700: *Abrams Vehicle Modification*	174.562	230.907	160.578		160.578		104.631	104.068	103.014	1,993.900	3,035.860
• GE0161: *Spares (Initial) Abrams Upgrade*			7.219		7.219					0.000	7.219

D. Acquisition Strategy

Contractor selection for FY2012 and beyond pending Milestone A decision for Increment 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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT 330: *ABRAMS TANK IMPROVE PROG*

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
Systems Engineering/project management	SS/CPIF	TBD:TBD	22.985	22.500		3.157		-		3.157	Continuing	Continuing	Continuing
Vehicle Architecture & Software	Various	TBD:TBD	14.893	15.529		-		-		-	Continuing	Continuing	Continuing
Lethality Systems	Various	TBD:TBD	6.900	7.500		-		-		-	Continuing	Continuing	Continuing
Survivability Systems	Various	TBD:TBD	6.200	7.200		-		-		-	Continuing	Continuing	Continuing
Mobility Systems	Various	TBD:TBD	7.700	7.900		-		-		-	Continuing	Continuing	Continuing
Auxiliary Systems	Various	TBD:TBD	11.833	9.000		-		-		-	Continuing	Continuing	Continuing
Cannon Integration	Various	ARDEC:Various	14.088	-		-		-		-	Continuing	Continuing	Continuing
Sensor Integration	Various	CECOM-NVESD:Ft. Belvoir, VA	7.032	-		-		-		-	Continuing	Continuing	Continuing
Battle Command/ Communication Integration	Various	CECOM/PEO C3T:Ft. Belvoir, VA	3.283	0.500		-		-		-	Continuing	Continuing	Continuing
Mobility/Survivability/ Vetronics/Software Integration	Various	TARDEC:Warren, MI	2.964	2.500		-		-		-	Continuing	Continuing	Continuing
Improved Lethality	Various	PM, MAS:Picatinny, MJ	1.430	24.000		-		-		-	Continuing	Continuing	Continuing
Improved Situational Awareness/Supportability/ Survivability	Various	General Dynamics:Sterling Heights, MI	18.845	-		-		-		-	Continuing	Continuing	Continuing
Advance Technology Insertion/ Systems Enginering, Electronic Architecture, Battle Command/Comms	Various	General Dynamics Land Systems:Sterling Heights, MI	38.185	-		-		-		-	Continuing	Continuing	Continuing
Transmission - Integral Generator	Various	Allison Transmission:Indianapolis, IN	-	4.200		-		-		-	Continuing	Continuing	Continuing
Ground Combat Systems (GCS) Open Architecture Electronic Enhancements	Various	Curtis Wright:Various	2.400	-		-		-		-	Continuing	Continuing	Continuing
Current Force Common Active Protection System Radar	Various	TBD:TBD	-	-		-		-		-	Continuing	Continuing	Continuing
	Various		-	-		-		-		-	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT 330: *ABRAMS TANK IMPROVE PROG*

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
Combat Vehicle Electrical Power - 21st Century (CVEP-21)		Allison Transmission:Indianapolis, IN											
Vibration Management Enhancement Program	Various	TBD:TBD	-	-		-		-		-	Continuing	Continuing	Continuing
Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)	Various	Various:Various	0.997	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	159.735	100.829		3.157		-		3.157			

Remarks

Contractor, award date and type of contract is to be determined (TBD) due to ongoing development of acquisition strategy.

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 Support	SS/LH	Various:Various	18.168	6.500		6.500		-		6.500	Continuing	Continuing	Continuing
		Subtotal	18.168	6.500		6.500		-		6.500			

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
Advance Technology Preparation and Testing	Various	Aberdeen Proving Ground; Yuma Proving Ground; White Sands Missile Range,:Various	7.401	0.150		-		-		-	Continuing	Continuing	Continuing
		Subtotal	7.401	0.150		-		-		-			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT 330: *ABRAMS TANK IMPROVE PROG*

	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	185.304	107.479		9.657		-		9.657			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 330: *ABRAMS TANK IMPROVE PROG*

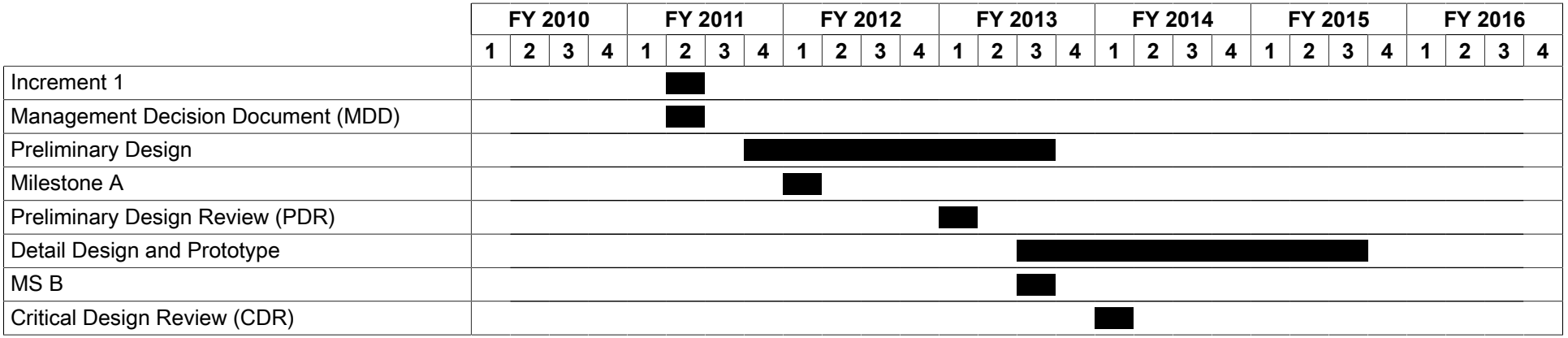

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 330: *ABRAMS TANK IMPROVE PROG*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment 1	2	2011	2	2011
Management Decision Document (MDD)	2	2011	2	2011
Preliminary Design	4	2011	3	2013
Milestone A	1	2012	1	2012
Preliminary Design Review (PDR)	1	2013	1	2013
Detail Design and Prototype	3	2013	3	2015
MS B	3	2013	3	2013
Critical Design Review (CDR)	1	2014	1	2014

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
371: *BRADLEY BASE SUSTAIN*	75.568	97.002	12.250	-	12.250	100.359	40.631	34.169	49.598	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Army has completed a comprehensive Combat Vehicle modernization strategy, which includes the Bradley Vehicle. The Bradley Fighting Vehicle System (BFVS) improvements will provide the Heavy Brigade Combat Team (HBCT) with an improved capability to effectively fight in current and future environments. The BFVS improvements achieve the Bradley Capability Development Document to maintain combat over match through a combination of enhanced survivability, mobility and situational awareness subsystems. Improved survivability will leverage and build on lessons learned from Operation Iraqi Freedom to ensure protection against current and future threats in both asymmetric and full spectrum warfare. This provides the Bradley fleet the capability to complement the Abrams Tank and Ground Combat Vehicle in the HBCT. This also provides the HBCT commander with the necessary capabilities to employ the Bradley and Abrams in a combined arms approach as well as appropriate mounted and dismounted schemes of maneuver on current and future battlefields.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Bradley Modernization	63.568	77.102	-
Articles:	0	0	
Description: The Bradley Fighting Vehicle System (BFVS) improvements will provide the Heavy Brigade Combat Team (HBCT) with an improved capability to effectively fight in current and future environments. The BFVS improvements will focus on enhanced survivability, mobility, vetronics, situational awareness and software subsystems.			
FY 2010 Accomplishments: Pre MDD work and Program Documentation			
FY 2011 Plans: MDD approval expected in March 2011 to enter Technology Development Phase. Initiate Analysis of Alternatives (AoA) and Milestone Documentation required for Milestone A. Begin design and integration of subsystems focusing on survivability enhancements, mobility, vetronics, situational awareness and software subsystems.			
Title: Support Costs	12.000	19.900	12.250
Articles:	0	0	
Description: Government System Engineering and Program Management Support Costs . These funds cover the costs of Government and contractor salaries, travel and the facilities required to effectively manage the program.			
FY 2010 Accomplishments:			

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
Government System Engineering and Program Management Support Costs - Effort to begin initial requirement decomposition for the Bradley Modernization Program leading towards MDD in March 2011. ***FY 2011 Plans:*** Government System Engineering and Program Management Support Costs - Develop required documentation to support decision to enter at Technology Development Phase. Formulate the Program Office cost estimate to support future budget development. Provide integrated program management to include planning, directing, tools and controlling functions for all supplier management activities. These activies will support data and supplier management, program control, government training, procurement and contracts management, operations management for the development of the Bradley Modernization Program. Develop and publish the detailed plans for cost analysis and management, budget management and execution, Earned Value Management and operations management with contractor. These funds also cover the costs of travel and the facilities/operational equipment required to effectively manage the program. TRADOC support is also included for requirement analysis, and Milestone Reviews. ***FY 2012 Plans:*** Government System Engineering and Program Management Support Costs - Support Analysis of Alternatives (AoA) effort, concept development and cost estimate development. Prepare Milestone documentation required for Milestone A event in 4th quarter of FY12.			
Accomplishments/Planned Programs Subtotals	75.568	97.002	12.250

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
• Bradley Mod Line: *GZ2400 Bradley Program (MOD)*		215.133	250.710		250.710		143.118	245.451	508.907	0.000	1,388.227

D. Acquisition Strategy

The Acquisition Strategy for the Bradley Modernization Program will be addressed as part of the Materiel Development Decision in FY2011

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT 371: *BRADLEY BASE SUSTAIN*

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
Bradley Modernization Program	C/CPIF	PMO:Warren, MI	94.900	77.102		-		-		-	Continuing	Continuing	Continuing
		Subtotal	94.900	77.102		-		-		-			

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
PMO	MIPR	PMO:Bradley Modernization	12.997	6.500		3.250		-		3.250	Continuing	Continuing	Continuing
Government Engineering Support	MIPR	Various:Bradley Modernization	12.400	13.400		9.000		-		9.000	Continuing	Continuing	Continuing
		Subtotal	25.397	19.900		12.250		-		12.250			

	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	120.297	97.002		12.250		-		12.250			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 371: *BRADLEY BASE SUSTAIN*

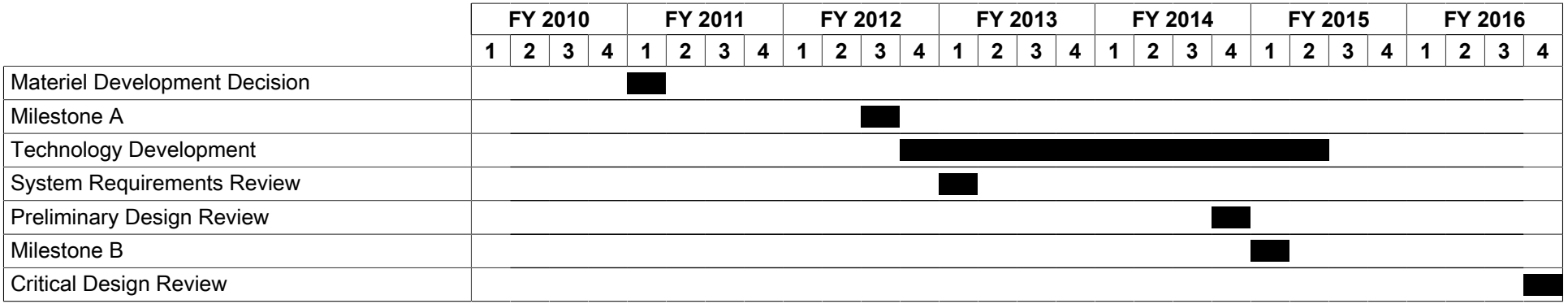

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** 371: *BRADLEY BASE SUSTAIN*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Materiel Development Decision	1	2011	1	2011
Milestone A	3	2012	3	2012
Technology Development	4	2012	2	2015
System Requirements Review	1	2013	1	2013
Preliminary Design Review	4	2014	4	2014
Milestone B	1	2015	1	2015
Critical Design Review	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT DS5: *Armored Multipurpose Vehicle*	

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
DS5: *Armored Multipurpose Vehicle*	-	-	31.400	-	31.400	73.300	125.000	34.100	32.000	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item

A. Mission Description and Budget Item Justification

The Army has completed a comprehensive Combat Vehicle modernization strategy, which includes the Armored Multi-Purpose Vehicle (AMPV). The AMPV will provide the HBCT with a replacement for the M113 Family of Vehicles (FOVs) that is more survivable and mobile to accomplish operational support missions across the full spectrum of conflict. The AMPV will be designed with growth margin in anticipation of inbound and future interoperable capability. The AMPV will use a turretless Bradley A3 chassis and integrate the existing M113 Mission Equipment Packages (MEPs) for the General Purpose, Mortar and C2 vehicles. The MedEvac vehicle will integrate the CAIMAN Hagga system. This provides the AMPV fleet the capability to support the Abrams Tank, Bradley IFV and Ground Combat Vehicle in the HBCT. This also provides the HBCT commander with necessary capabilities to employ mounted and dismounted schemes of maneuver on current and future battlefields.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Armored Multi-Purpose Vehicle	-	-	31.400
Description: The Army is currently preparing a comprehensive Combat Vehicle modernization strategy, of which the Armored Multi-Purpose Vehicle (AMPV) is one component. There are multiple other Combat Vehicles covered by this comprehensive strategy. Once the strategy is complete and approved, the AMPV will be prioritized in that strategy. The AMPV will provide the HBCT with a replacement for the M113 FOVs and recoup Space Weight and Power-Cooling (SWAP-C) and allow for growth potential. The AMPV will use a turretless Bradley A3 chassis and integrate the existing M113 MEPS for the General Purpose, Mortar and C2 vehicles. The MedEvac vehicle will integrate the CAIMAN Hagga system. This provides the AMPV fleet the capability to support the Abrams Tank, Bradley IFV and Ground Combat Vehicle in the HBCT. This also provides the HBCT commander with necessary capabilities to employ mounted and dismounted schemes of maneuver on current and future battlefields. ***FY 2012 Plans:*** MDD approval expected in March 2011 to allow for entry into Engineering and Manufacturing Development Phase. RFP will be released. Development of a competitive TDP for the conversion of M2A0 to a turretless M2A3			
Accomplishments/Planned Programs Subtotals	-	-	31.400

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT DS5: *Armored Multipurpose Vehicle*

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
• Bradley Mod Line: *GZ2400 Bradley Program (MOD)*							390.000	604.800	605.200	0.000	1,600.000

D. Acquisition Strategy

The Acquisition Strategy for the Armored Multi-Purpose Vehicle Program will be addressed as part of the Materiel Development Decision in March 2011.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT DS5: *Armored Multipurpose Vehicle*

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
Armored Multi-Purpose Vehicle	C/CPIF	PMO:Warren, MI	-	-		15.400		-		15.400	168.400	183.800	0.000
		Subtotal	-	-		15.400		-		15.400	168.400	183.800	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
PMO	MIPR	PMO:Warren, MI	-	-		6.000		-		6.000	24.000	30.000	0.000
Government Engineering Support	MIPR	TACOM LCMC:Warren, MI	-	-		10.000		-		10.000	20.000	30.000	0.000
		Subtotal	-	-		16.000		-		16.000	44.000	60.000	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
Government Test Support	MIPR	ATEC:various sites	-	-		-		-		-	52.000	52.000	0.000
		Subtotal	-	-		-		-		-	52.000	52.000	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	-	-		31.400		-		31.400	264.400	295.800	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203735A: *Combat Vehicle Improvement Programs*	PROJECT DS5: *Armored Multipurpose Vehicle*

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Materiel Development Decision					■																							

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203735A: *Combat Vehicle Improvement Programs*	**PROJECT** DS5: *Armored Multipurpose Vehicle*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Materiel Development Decision	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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0203740A: *Maneuver Control 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**
Total Program Element	36.131	25.540	65.002	-	65.002	56.161	14.006	4.809	15.284	Continuing	Continuing
484: *MANEUVER CONTROL SYSTEM (MCS)*	36.131	25.540	65.002	-	65.002	56.161	14.006	4.809	15.284	Continuing	Continuing

Note

Change Summary Explanation: Funding - FY12: Change in funding provides for the Battle Command Collapse development and integration efforts to allow for a single Battle Command solution with an open architecture that produces a collaborative Battle Command environment for C2, maneuver and protection capabilities.

A. Mission Description and Budget Item Justification

Tactical Battle Command (TBC) is a suite of products and services that provide commanders and staffs executive decision making capability in a collaborative environment, planning tools, and Common Operational Picture (COP) management and other maneuver functional tools. TBC satisfies requirements and capabilities identified in the Maneuver Control System (MCS) Good Enough Operational Requirements Document (ORD) and MCS 6.4 Capability Production Document (CPD) which includes Army migration to Department of Defense (DoD) net-centric environment. The overarching capability includes a user-defined COP with integrated Command and Control (C2) and Situational Awareness (SA), map-centric collaboration, Army Battle Command System (ABCS) and other enabling system interoperability, data management, and enterprise services. The suite of products include Command Post of the Future (CPOF), Battle Command Common Services (BCCS) that provides the consolidate server and services infrastructure for systems supporting Army Battle Command from Battalion to Army Component Command, Battalion and Above Joint Convergence with the Marine Corps, and Tactical Web Portal for Knowledge management. TBC products and services are compliant with the joint technical architecture. In addition, this project funds the development of a collaborative Battle Command (BC) environment for ABCS to operate more efficiently and effectively. The BC environment will serve as a common foundation for functionality development and support by collapsing onto a common architecture and infrastructure. Battle Command Collapse development and integration will significantly enhance the ability of commanders and staff to effectively conduct collaborative mission planning and execution across a range of operations and spectrum of conflict. MCS as a stand-alone product was designated as end-of-life as of Jan 11 by a memo signed by Project Manager Battle Command. All relevant capabilities provided by MCS are now delivered as part of the other TBC products (BCCS & CPOF).

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203740A: *Maneuver Control System*	

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	21.283	25.540	13.314	-	13.314
Current President's Budget	36.131	25.540	65.002	-	65.002
Total Adjustments	14.848	-	51.688	-	51.688
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	14.848	-	51.688	-	51.688

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203740A: *Maneuver Control System*	PROJECT 484: *MANEUVER CONTROL SYSTEM (MCS)*	

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
484: *MANEUVER CONTROL SYSTEM (MCS)*	36.131	25.540	65.002	-	65.002	56.161	14.006	4.809	15.284	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Tactical Battle Command (TBC) is a suite of products and services that provide commanders and staffs executive decision making capability in a collaborative environment, planning tools, and Common Operational Picture (COP) management and other maneuver functional tools. TBC satisfies requirements and capabilities identified in the Maneuver Control System (MCS) Good Enough Operational Requirements Document (ORD) and MCS 6.4 Capability Production Document (CPD) which includes Army migration to Department of Defense (DoD) net-centric environment. The overarching capability includes a user-defined COP with integrated Command and Control (C2) and Situational Awareness (SA), map-centric collaboration, Army Battle Command System (ABCS) and other enabling system interoperability, data management, and enterprise services. The suite of products include Command Post of the Future (CPOF), Battle Command Common Services (BCCS) that provides the consolidate server and services infrastructure for systems supporting Army Battle Command from Battalion to Army Component Command, Battalion and Above Joint Convergence with the Marine Corps, and Tactical Web Portal for Knowledge management. TBC products and services are compliant with the joint technical architecture. In addition, this project funds the development of a collaborative Battle Command (BC) environment for ABCS to operate more efficiently and effectively. The BC environment will serve as a common foundation for functionality development and support by collapsing onto a common architecture and infrastructure. Battle Command Collapse development and integration will significantly enhance the ability of commanders and staff to effectively conduct collaborative mission planning and execution across a range of operations and spectrum of conflict. MCS as a stand-alone product was designated as end-of-life as of Jan 11 by a memo signed by Project Manager Battle Command. All relevant capabilities provided by MCS are now delivered as part of the other TBC products (BCCS & CPOF).

FY12 funding will provide for the continuing development of the products and services that will satisfy the TBC capability requirements, while completing the migration to a service oriented architecture supporting the Mission Command Essential Capability Set 13-14. Funding also provides for the continued development of BCCS enabling infrastructure for Tactical Battle Command. FY12 funding also provides for continuing development of the Third Party Developer Kit (3PDK) to support other Battle Command (and non-Battle Command) programs, agencies and capabilities. In addition, FY12 funding provides for BC Collapse development and integration efforts to allow for a single BC solution with open architecture that produces a collaborative BC environment for Maneuver, Fires and Air supported by Intel and Logistics.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: MCS software development to enhance Interoperability, Usability, and Functionality	0.642	-	-	-	-
Articles:	0				
Description: MCS software development to enhance Interoperability, Usability, and Functionality					

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*	**PROJECT** 484: *MANEUVER CONTROL SYSTEM (MCS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: MCS software development to enhance Interoperability, Usability, and Functionality					
Title: Joint Convergence Engineering and Development ***Articles:*** ***Description:*** Joint Convergence Engineering and Development ***FY 2010 Accomplishments:*** Joint Convergence Engineering and Development ***FY 2012 Base Plans:*** Joint Convergence Engineering and Development	3.901 0	-	3.899	-	3.899
Title: CPOF Development ***Articles:*** ***Description:*** CPOF Development ***FY 2010 Accomplishments:*** CPOF Development ***FY 2011 Plans:*** CPOF Development ***FY 2012 Base Plans:*** CPOF Development	15.372 0	22.391 0	14.699	-	14.699
Title: Battle Command Collapse ***Description:*** Battle Command Collapse Development and Integration ***FY 2012 Base Plans:*** Battle Command Collapse Development and Integration	-	-	35.566	-	35.566
Title: Battle Command Common Services Development ***Articles:*** ***Description:*** Battle Command Common Services Development	4.620 0	3.149 0	10.838	-	10.838

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*	**PROJECT** 484: *MANEUVER CONTROL SYSTEM (MCS)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: Battle Command Common Services Development ***FY 2011 Plans:*** Battle Command Common Services Development ***FY 2012 Base Plans:*** Battle Command Common Services Development					
Title: Personalized Assistant that Learns integration efforts ***Articles:*** ***Description:*** Personalized Assistant that Learns (PAL) Phase II integration efforts ***FY 2010 Accomplishments:*** Personalized Assistant that Learns (PAL) Phase II integration efforts	11.000 0	-	-	-	-
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	0.596 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	36.131	25.540	65.002	-	65.002

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
• BA9320: *BA9320 Maneuver Control System (MCS)*	84.440	156.273	34.031	44.000	78.031		59.095	137.430	206.350	Continuing	Continuing
	1.425	1.591	1.633		1.633		0.772	0.584	0.594	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203740A: *Maneuver Control System*	PROJECT 484: *MANEUVER CONTROL SYSTEM (MCS)*

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
• BS9710: *BS9710 MCS Spares Procurement*											

D. Acquisition Strategy

In accordance with the Training and Doctrine Command (TRADOC) requirements document approved in 2008, entitled Mission 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 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 increase operational efficiency, reduce the physical footprint, and logistics support requirements.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203740A: *Maneuver Control System*	PROJECT 484: *MANEUVER CONTROL SYSTEM (MCS)*

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 Mgmt	Various	PM Battle Command:Aberdeen Proving Grounds, MD	7.761	0.754		1.854		-		1.854	Continuing	Continuing	Continuing
		Subtotal	7.761	0.754		1.854		-		1.854			

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
MCS Software Development	Various	Lockheed Martin Corp.:Tinton Falls, NJ	190.787	-		-		-		-	Continuing	Continuing	Continuing
Misc Contracts	Various	Various:Various	23.194	0.514		0.923		-		0.923	Continuing	Continuing	Continuing
CPOF Development	Various	DARPA:DARPA	20.737	-		-		-		-	Continuing	Continuing	Continuing
Software Development & Technical Support	Various	CECOM Software Engineering Center:Ft. Monmouth, NJ	46.067	2.519		5.394		-		5.394	Continuing	Continuing	Continuing
CPOF Development	Various	General Dynamics:Scottsdale, AZ	50.751	18.637		14.113		-		14.113	Continuing	Continuing	Continuing
MCS, Joint Convergence, and BCCS System Engineering & Development	Various	Lockheed Martin Corp.:Tinton Falls, NJ	39.828	-		-		-		-	Continuing	Continuing	Continuing
ABCS SoS Contract (Joint Convergence Development)	Various	Lockheed Martin:Tinton Falls, NJ	1.062	1.200		3.899		-		3.899	Continuing	Continuing	Continuing
Technical Support	Various	PM Battle Command:Various	23.632	0.624		1.535		-		1.535	Continuing	Continuing	Continuing
PSE H/W & S/W	Various	Various:Various	2.775	-		-		-		-	Continuing	Continuing	Continuing
MITRE System Engineering	Various	MITRE Corp.:New Jersey	12.533	-		-		-		-	Continuing	Continuing	Continuing
Battle Command Collapse Development & Integration	Various	Various:Various	-	-		35.566		-		35.566	Continuing	Continuing	Continuing
ABCS SE&I	Various		1.830	-		-		-		-	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203740A: *Maneuver Control System*	PROJECT 484: *MANEUVER CONTROL SYSTEM (MCS)*	

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
		PEO C3T, NJ:New Jersey											
PAL Integration	SS/CR	SRI:AZ	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	413.196	23.494		61.430		-		61.430			

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	Various	PM Battle Command:Fort Monmouth, NJ	6.577	0.547		0.772		-		0.772	Continuing	Continuing	Continuing
Misc Contracts	Various	Various:Various	3.872	0.364		0.586		-		0.586	Continuing	Continuing	Continuing
		Subtotal	10.449	0.911		1.358		-		1.358			

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
OGA	Various	Various:APG, MD	5.115	0.195		0.187		-		0.187	Continuing	Continuing	Continuing
Misc Contracts	Various	Various:APG, MD	6.369	0.186		0.173		-		0.173	Continuing	Continuing	Continuing
Test Planning/Conduct	Various	Various:APG, MD	24.894	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	36.378	0.381		0.360		-		0.360			

	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	467.784	25.540		65.002		-		65.002			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203740A: *Maneuver Control System*	PROJECT 484: *MANEUVER CONTROL SYSTEM (MCS)*

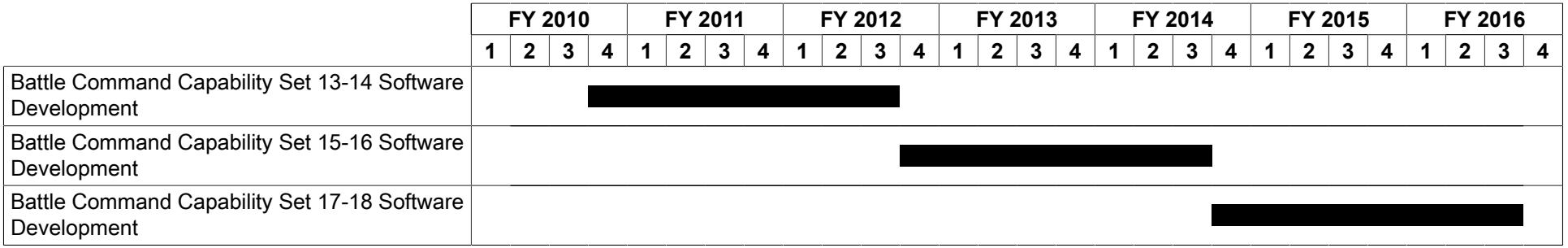

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203740A: *Maneuver Control System*	**PROJECT** 484: *MANEUVER CONTROL SYSTEM (MCS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Battle Command Capability Set 13-14 Software Development	4	2010	3	2012
Battle Command Capability Set 15-16 Software Development	4	2012	3	2014
Battle Command Capability Set 17-18 Software Development	4	2014	3	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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*							
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	240.323	134.999	163.205	-	163.205	256.600	298.595	337.420	307.720	Continuing	Continuing
028: *Aerial Common Sensor (ACS) (MIP)*	0.074	-	-	-	-	-	-	-	-	0.000	0.074
430: *IMPR CARGO HELICOPTER*	21.495	21.039	48.939	-	48.939	70.794	60.767	58.496	43.321	Continuing	Continuing
504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*	59.117	20.640	21.467	-	21.467	71.362	101.626	120.780	127.813	Continuing	Continuing
D12: *LONGBOW APACHE OPERATIONAL SYSTEMS DEVELOP*	12.763	-	-	-	-	-	-	-	-	0.000	12.763
D17: *APACHE BLOCK III*	146.874	93.320	92.799	-	92.799	114.444	136.202	158.144	136.586	Continuing	Continuing

Note

Change Summary Explanation: Funding - FY 2009: $157.71 million rescinded from Aerial Common Sensor.

A. Mission Description and Budget Item Justification

FY 2011 budget request funds aviation development of modifications and improvements for the Guardrail Common Sensor/Aerial Common Sensor, the Improved Cargo Helicopter (ICH), the UH-60A/L Black Hawk Recapitalization/ Modernization.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	226.492	134.999	154.611	-	154.611
Current President's Budget	240.323	134.999	163.205	-	163.205
Total Adjustments	13.831	-	8.594	-	8.594
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	10.432	-	-	-	-
• Other Adjustments 1	3.399	-	8.594	-	8.594

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 028: *Aerial Common Sensor (ACS) (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
028: *Aerial Common Sensor (ACS) (MIP)*	0.074	-	-	-	-	-	-	-	-	0.000	0.074
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

(U) Aerial Common Sensor (ACS) is an Airborne Reconnaissance, Surveillance and Target Acquisition (RSTA)/Intelligence, Surveillance, and Reconnaissance (ISR) capability directly supporting Battlespace Awareness for tactical commanders in irregular warfare scenarios. Specifically, ACS will provide real-time, persistent, precision, networked, wide-area, high-capacity, multi-sensor intelligence collection capability throughout the joint battlespace. ACS will quickly produce actionable intelligence that provides commanders and soldiers critical shared situational understanding delivered with the speed, accuracy, and timeliness necessary to conduct successful and when necessary, lethal joint operations. ACS will support focused Intelligence Preparation of the Battlespace (IPB), Indications and Warnings (I&W), precision targeting, battle damage assessment (BDA), Situational Development, battle command, and Force Protection. Each of these will be synchronized with operations in order to develop and maintain situational awareness and reduce clutter in the maneuver environment. ACS will be a manned, fixed-wing aircraft capable of worldwide deployment carrying multiple sensor payloads and intelligence processing, appropriate air/ground/satellite data links, and air crew (i.e., pilots and intelligence systems operations). The RSTA/ISR payload will consist of a suite of modular, scaleable Signals Intelligence (SIGINT), Imagery Intelligence (IMINT), Ground Moving Target Indicator (GMTI) and Measurement and Signature Intelligence (MASINT) sensors and processors that can operate alone or simultaneously in combination with each other (e.g., automated cross-cueing). The intelligence processing suite onboard ACS and in the ground station, provided by the Distributed Common Ground System-Army (DCGS-A), will integrate the products from all ACS Sensor payloads as well as the sensor feeds from other joint force sensors, including manned/unmanned (MUM) teaming with Army Unmanned Aircraft Systems (UAS), to provide a correlated near-real-time picture of the tactical operational environment with the greatest degree of granularity possible. Onboard communications will consist of a robust set of line-of-sight (LOS) and satellite communications (SATCOM) datalinks that will enable direct linkage to Brigade Combat Teams, Manned-Unmanned teaming with Army UAS, wideband/worldwide connectivity to DCGS and the Global Information Grid, and interoperability with other Army, Joint and National RSTA/ISR assets. ACS will be a critical and integral component of the future force.

The Department of Defense (DoD) has redefined the Aerial Common Sensor Program as the Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS). The EMARSS program will be funded through PE 0307207A - Aerial Common Sensor Project 024 in FY10 and and 655626 - Aerial Common Sensor Project AC5 in FY11 and beyond.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: EMARSS Program Management	0.074	-	-	-	-
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 028: *Aerial Common Sensor (ACS) (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
FY 2010 Accomplishments: Program Office Management					
Accomplishments/Planned Programs Subtotals	0.074	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The Department of Defense (DoD) has redefined the Aerial Common Sensor Program as the Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS). The EMARSS program will be funded through PE 0307207A - Aerial Common Sensor Project 024 in FY10 and 655626 - Aerial Common Sensor Project AC5 in FY11 and beyond.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 028: *Aerial Common Sensor (ACS) (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
PMO Staff/travel/O/H expenses	Various	PM, AC Sensors;:Various	32.455	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	32.455	-		-		-		-			

	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	32.455	-		-		-		-			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 028: *Aerial Common Sensor (ACS) (MIP)*

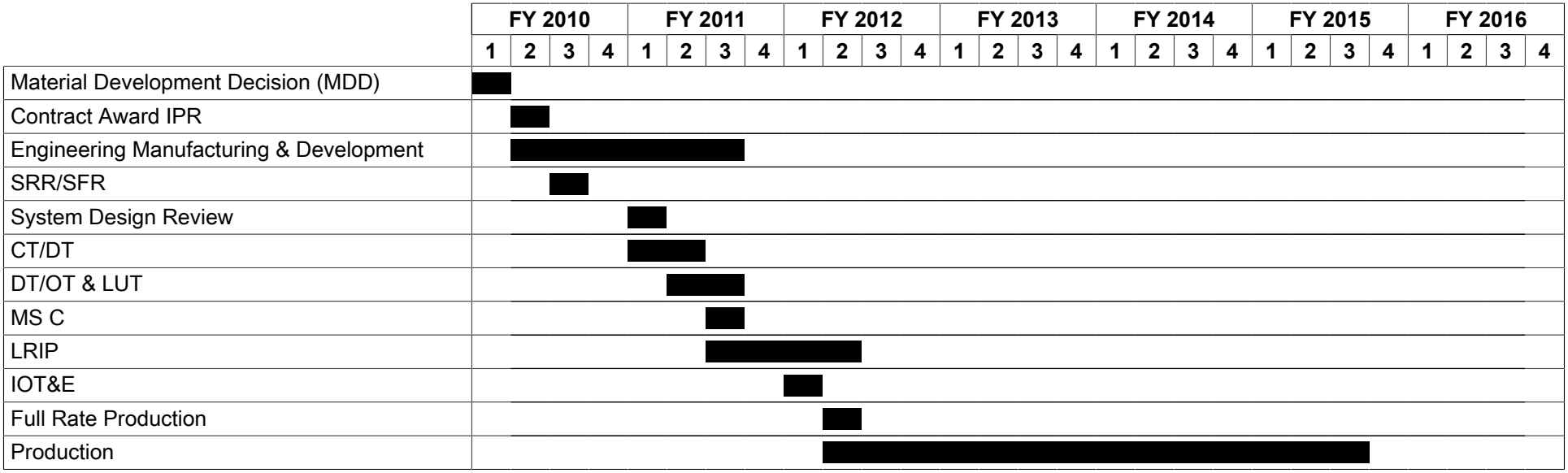

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	**PROJECT** 028: *Aerial Common Sensor (ACS) (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Material Development Decision (MDD)	1	2010	1	2010
Contract Award IPR	2	2010	2	2010
Engineering Manufacturing & Development	2	2010	3	2011
SRR/SFR	3	2010	3	2010
System Design Review	1	2011	1	2011
CT/DT	1	2011	2	2011
DT/OT & LUT	2	2011	3	2011
MS C	3	2011	3	2011
LRIP	3	2011	2	2012
IOT&E	1	2012	1	2012
Full Rate Production	2	2012	2	2012
Production	2	2012	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 430: *IMPR CARGO HELICOPTER*	

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
430: *IMPR CARGO HELICOPTER*	21.495	21.039	48.939	-	48.939	70.794	60.767	58.496	43.321	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The CH-47 Chinook is a twin-turbine, tandem-rotor, heavy-lift transport helicopter with a useful load of up to 25,000 pounds. As the Army's only heavy lift helicopter, the CH-47 is an essential component of the Army Future Force. The CH-47F program fills the Army's Aviation Transformation Chinook requirement. Key product improvements integrate the CH-47F Common Avionics Architecture System (CAAS) digital cockpit which will provide future growth potential to meet the Net-Ready Key Performance Parameters (KPPs) and also includes a digital data bus that permits installation of enhanced communication and navigation equipment for improved situational awareness, mission performance, and survivability. This program funds improvements to the engines and airframe components. The T55-GA-714A engine improvements include a redesigned N1 Drive Train and a new torque system. The Airframe Component Improvement Program includes development of new rotor blades, drive train, aircraft power generation systems, and avionics solutions that will allow the Chinook to improve its performance by providing improved aircraft controls, increased payload capability, and advanced avionics capabilities. Early studies will be performed to identify largest areas of payback in fleet modernization.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: 714 Engine Component Improvement Program	6.226	6.800	5.689	-	5.689
Articles:	0	0			
Description: This funding supports the Engine Component Improvement Program and quality improvements that address safety, reliability, and readiness issues. Improvements include N1 Drive Train update, a new torque system, and improved electronic control unit software.					
FY 2010 Accomplishments: This funding supported the Engine Component Improvement Program and quality improvements that address safety, reliability, and readiness issues. Improvements include N1 Drive Train update, a new torque system, and improved electronic control unit software.					
FY 2011 Plans: This funding continues to support the Engine Component Improvement Program and quality improvements that address safety, reliability, and readiness issues. Improvements include N1 Drive Train update, a new torque system, and improved electronic control unit software.					
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 430: *IMPR CARGO HELICOPTER*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
This funding will support the Engine Component Improvement Program and quality improvements that address safety, reliability, and readiness issues. Improvements include improved electronic control unit software.					
Title: Airframe Component Improvement Program ***Articles:*** ***Description:*** This funding supports airframe component improvement which includes development of new rotor blades that will result in significant performance improvement such as gaining an additional 1,500 - 2000 lbs of lift, improving erosion protection, and reducing retreating blade stall. Completes drivetrain improvement studies. Also funds the development of an advanced torque management system to enable more balanced torque split between the forward and aft rotor head. ***FY 2010 Accomplishments:*** This funding provides development of new rotor blades that will result in significant performance improvement such as gaining an additional 1,500 - 2000 lbs of lift, improving erosion protection, and reducing retreating blade stall. ***FY 2011 Plans:*** This funding provides development of new rotor blades that will result in significant performance improvement such as gaining an additional 1,500 - 2000 lbs of lift, improving erosion protection, and reducing retreating blade stall. Completes drivetrain improvement studies. ***FY 2012 Base Plans:*** This funding provides development of new rotor blades that will result in significant performance improvement such as gaining an additional 1,500 - 2000 lbs of lift, improving erosion protection, and reducing retreating blade stall. Initiates drivetrain improvements to improve aircraft performance.	7.623 0	3.593 0	40.920	-	40.920
Title: Crash Worthy Passenger Seating ***Articles:*** ***Description:*** This funding develops and qualifies crashworthy passenger seating as identified in the OSD Helicopter Survivability Task Force study. ***FY 2010 Accomplishments:***	6.731 0	10.143 0	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 430: *IMPR CARGO HELICOPTER*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
This funding develops and qualifies crashworthy passenger seating as identified in the OSD Helicopter Survivability Task Force study. ***FY 2011 Plans:*** This funding will support the development and will qualifies crashworthy passenger seating as identified in the OSD Helicopter Survivability Task Force study.					
Title: In-house and Program Management Administration ***Articles:*** ***Description:*** This funding provides support costs for various government agencies. ***FY 2010 Accomplishments:*** This funding provided the support costs for various government agencies. ***FY 2011 Plans:*** This funding will continue to provide support costs for various government agencies. ***FY 2012 Base Plans:*** This funding provides future support costs for various government agencies.	0.548 0	0.503 0	2.330	-	2.330
Title: SBIR/STTR ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)	0.367 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	21.495	21.039	48.939	-	48.939

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
• CH-47 MODS: *CH-47 CARGO HELICOPTER MODS (MYP)*	102.876		79.712		79.712		254.981	276.782	472.185	6,622.220	7,977.963

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 430: *IMPR CARGO HELICOPTER*

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
(Including Adv Proc and Initial Spares)											
• CH-47 SLEP: *CH-47 SLEP*	345.939		423.917		423.917		625.547	746.709	732.027	2,073.835	5,487.523
• CH-47 CARGO HELICOPTER NEW BUILD: *CH-47 CARGO HELICOPTER NEW BUILD (Including Adv Proc)*	706.024		936.399		936.399		207.183	139.866	405.687	155.000	3,342.836

D. Acquisition Strategy

The CH-47F program replaces one for one, the aging CH-47D aircraft by FY2020, incorporates a new machined airframe, and includes a new Common Avionics Architecture System (CAAS) cockpit with digital communication/navigation capability allowing improved interoperability on the digital battlefield. The CH-47F program includes recapitalization of key dynamic components, bringing them to a near zero time.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 430: *IMPR CARGO HELICOPTER*	

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
TOCR	Various	RDEC:RDEC	1.600	-		-		-		-	Continuing	Continuing	Continuing
EMD	Various	ATTC:ATTC	117.221	-		-		-		-	Continuing	Continuing	Continuing
Technical Support	Various	ATTC:ATTC	10.158	-		-		-		-	Continuing	Continuing	Continuing
Rotary Wing Helicopter Crash Worthy Seating	Various	Boeing:Boeing	-	10.143		-		-		-	Continuing	Continuing	Continuing
714 Engine Component Improvement Program	Various	Honeywell:Honeywell	33.302	6.800		5.689		-		5.689	Continuing	Continuing	Continuing
Airframe Component Improvement Program	Various	Boeing:Boeing	19.560	3.593		40.920		-		40.920	Continuing	Continuing	Continuing
		Subtotal	181.841	20.536		46.609		-		46.609			

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
PMO/OGA	Various	Various government:various government	16.966	0.503		2.330		-		2.330	Continuing	Continuing	Continuing
SBIR/STTR	Various	SBIR/STTR:Various	1.115	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	18.081	0.503		2.330		-		2.330			

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
DT/OT	Various	Various government:Various	25.527	-		-		-		-	Continuing	Continuing	Continuing
Live Fire Test & Eval	Various	Contract/Govt:Various	6.365	-		-		-		-	Continuing	Continuing	Continuing
Live Fire Test & Eval	Various	TBD:TBD	0.050	-		-		-		-	Continuing	Continuing	Continuing
Test Analysis	Various		1.500	-		-		-		-	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 430: *IMPR CARGO HELICOPTER*

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 Government:Various											
		Subtotal	33.442	-		-		-		-			

	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	233.364	21.039		48.939		-		48.939			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*	

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
504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*	59.117	20.640	21.467	-	21.467	71.362	101.626	120.780	127.813	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The UH-60 Black Hawk is the workhorse of Army Aviation, flying more than 49% of the Army's annual flying hours. The system has been in production for over 30 years and provides a common platform with the versatility to perform multiple missions, ranging from air assault to command and control to medical evacuation/search and rescue. While the Black Hawk is the Army's newest helicopter, it was designed with a twenty-year service life. Today, two-fifths of the Army's Black Hawk fleet (721 aircraft) is comprised of H-60L aircraft with an average age of 13 years. The older H-60A models (918 aircraft) have an average age exceeding 23 years. To counter the older UH-60A's declining readiness rates, increased operations and support costs and to meet Future Force interoperability requirements, the Utility Helicopters Project Office established a program to replace existing UH-60 helicopters and provide capabilities needed on the future battlefield. The resulting configuration of the new UH-60M enhances the commander's ability to conduct non-linear, simultaneous, fully integrated operations in order to decisively mass the effects of the Army's warfighting assets. The UH-60M configuration provides digital connectivity for enhanced situational awareness and improved lift, range, deployability, and survivability to further increase the commander's ability to conduct operations across the entire spectrum of the battle space. An Operational Requirements Document (ORD) for recapitalization of the Black Hawk fleet was approved by the Joint Requirements Oversight Council (JROC) in March, 2001. The ORD described an evolutionary, block approach to transform the utility helicopter force to one that is more deployable, responsive, and less expensive to operate. A revised ORD was signed by the JROC on July 24, 2006, which updated key performance parameters for survivability and force protection. RDTE funds are required to develop, integrate, test and qualify the UH-60M Upgrade configuration. FY05 funded the initial efforts to move the UH-60M program to an Upgrade configuration which included Fly-By-Wire (FBW) technology, Full Authority Digital Engine Control (FADEC) and the Common Avionics Architecture System (CAAS), which is the common cockpit to be used by UH-60M, CH-47 and Special Operations aircraft. Incorporation of CAAS will minimize future sustainment costs for these aircraft platforms. A successful UH-60M Upgrade IPR decision was obtained in January 2006. On May 18, 2007, the Office of the Secretary of Defense (OSD) Overarching Integrated Product Team (OIPT) approved the Army request for advanced procurement for seven UH-60M Upgrade aircraft and recommended a paper Defense Acquisition Board (DAB). On October 15, 2009, based on increasing demands for helicopters to support Army Force Generation Model (AFORGEN) requirements, the Configuration Steering Board (CSB) recommended a restructure of the UH-60 Modernization Program to the Defense Acquisition Executive (DAE). The recommendation included three parts: 1) produce UH-60M baseline aircraft only; 2) complete Development Test (DT) on FBW aircraft; and 3) migrate selected technologies from the upgrade development efforts to the baseline configuration. The recommendation was approved by the DAE on February 18, 2010, in a signed Acquisition Decision Memorandum (ADM). The ADM also directed the program to rebaseline.

The Improved Turbine Engine Program (ITEP) develops, tests and qualifies a nominal three thousand (3000) shaft horsepower (shp) class turboshaft engine with 25% better specific fuel consumption (SFC) as compared to other equivalent horsepower category engines. The engine will be designed to fit in the same engine envelope as a T700 engine for the Black Hawk and Apache aircraft. Other goals of the program are 65 % greater horsepower to weight ratio, 35% less production and maintenance cost and 20% greater design life. The program consists of system engineering and program management, detailed design engineering, design assurance

hardware manufacturing and testing, component and module level development and testing, system level testing and qualification as well as initial integration testing into the airframe.

FY10 funded development of the FADEC integration program, CAAS, and efforts for the development and test of the UH-60M Upgrade aircraft. FY10 also funded Development Testing of FBW technology in a rotary wing flight environment.

FY11 funds continue Development Testing of FBW technology in a rotary wing flight environment.

FY12 funds ITEP System Engineering/Program Management leading to MS B.

FY13 funds ITEP Systems Engineering/Program Management MS B requirements leading to down select, contract award and initial component design and fabrication.

FY14 funds ITEP component design, fabrication and rig tests, preliminary design review (PDR), engine level assembly and mechanical system checkout.

FY15 funds ITEP critical design review, detailed system and component level design, component and module level testing, and engine level development testing.

FY16 funds ITEP design assurance and qualification engine level testing, preliminary flight testing requirements, software testing and initial airframe integration.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Development Engineering ***Articles:*** ***Description:*** Continue airframe, avionics and power plant development based on finalized configuration as a result of aiframe CDR. Conduct System Preliminary Design Review and Critical Design Review. ***FY 2010 Accomplishments:*** Continues Development Testing of Fly-By-Wire.	4.400 0	-	-	-	-
Title: Full Authority Digital Engine Control (FADEC) Integration ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** FADEC	0.441 0	-	-	-	-
Title: UH-60 Aviation Software Performance Assessment Test Bed	5.690	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*

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:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Update, validation and verification of the Systems Integration Lab for the UH-60M aircraft.	0				
Title: SBIR / STTR ***Articles:*** ***Description:*** Provides support for the Small Business Innovation Research and Small Business Technology Transfer initiatives. ***FY 2010 Accomplishments:*** Provides support for the Small Business Innovation Research and Small Business Technology Transfer initiatives.	1.136 0	-	-	-	-
Title: Fly-By-Wire Aircraft Development Testing ***Articles:*** ***Description:*** Supports the completion of the Fly-By-Wire technology. ***FY 2010 Accomplishments:*** Development Testing of Fly-By-Wire technology in a rotary wing flight environment. ***FY 2011 Plans:*** Continues to fund Development Testing of Fly-By-Wire technology in a rotary wing flight environment.	47.450 0	20.640 0	-	-	-
Title: ITEP ***Description:*** Improved Turbine Engine Program (ITEP) - a multi-platform turbine engine improvement required across existing Army aircraft to fill the capability gaps for Army Aviation Operations. ***FY 2012 Base Plans:*** Begins the Engineering and Manufacturing Development Phase. A planned contract award to the selected Prime Contractor for system development and platform integration.	-	-	21.467	-	21.467
Accomplishments/Planned Programs Subtotals	59.117	20.640	21.467	-	21.467

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*

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
• BLACK HAWK (MYP): *BLACK HAWK (MYP)*	1,470.992	1,391.598	1,525.447	72.000	1,597.447		1,391.150	1,317.694	1,523.538	Continuing	Continuing

D. Acquisition Strategy

The Utility Helicopters Project Manager Office (UH PMO) is planning and executing programs to acquire the capabilities described in the Operational Requirements Document (ORD) For Recapitalization Of The UH-60 Black Hawk Utility Helicopter Fleet. The ORD specifies a two block approach and cites firm requirements for both blocks of capability as well as a robust pre-planned product improvement (P3I) plan that includes the insertion of technology. To address the requirements in the ORD the Utility Helicopters Project Office developed a strategy that developed the UH-60M Baseline to meet the Block 1 requirements and initiated the development of the UH-60M Upgrade for technology insertion of Fly-By-Wire (FBW), Full Authority Digital Engine Control (FADEC), and Common Avionics Architecture System (CAAS). In February 2010, the Defense Acquisition Executive (DAE) supported an Army Configuration Steering Board (CSB) and Office of Secretary of Defense (OSD) Overarching Integrated Product Team (OIPT) recommendation to cease production of the UH-60M Upgrade integrated solution due to Army Force Generation (AFORGEN) requirements. Concurrence with this recommendation is captured in the 18 February 2010 Acquisition Decision Memorandum (ADM) directing the Army to rebaseline the UH-60 Modernization Program. The ADM directed the completion of the development and development test of the UH-60M Upgrade program, continued procurement of UH-60M aircraft, and migration of select technologies from the UH-60M Upgrade development to the UH-60M configuration. This migration does not include FBW or CAAS. As part of completing the development and development testing of the UH-60M Upgrade, the integration, qualification and testing will be documented and shelved awaiting a future decision directing production of UH-60M Upgrade. At the point the decision is made to restart the UH-60M Upgrade effort, the appropriate UH-60M acquisition and test documents will be updated.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*	

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 Support - Organic	Various	UH PMO/ matrix:Huntsville, AL	11.111	-		-		-		-	Continuing	Continuing	Continuing
PM Support - Contract	Various	AMCOM Express Contractor:Huntsville, AL	6.293	-		-		-		-	Continuing	Continuing	Continuing
ITEP SEPM - Prime Contract	Various	TBD:TBD	-	-		6.467		-		6.467	Continuing	Continuing	Continuing
ITEP SEPM - Organic	Various	PMO:Huntsville, AL	-	-		0.600		-		0.600	Continuing	Continuing	Continuing
ITEP PMO Other IOB - Organic	Various	PMO:Huntsville, AL	-	-		1.000		-		1.000	Continuing	Continuing	Continuing
SIBR/STTR	Various	SIBR/STTR:Huntsville, AL	5.379	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	22.783	-		8.067		-		8.067			

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, Integration & Qualification Contract	Various	Sikorsky Aircraft Company:Various	364.215	-		-		-		-	Continuing	Continuing	Continuing
UH-60M Upgrade Pre-Planned Product Improvement Contract	Various	Sikorsky Aircraft Company:Various	269.713	-		-		-		-	Continuing	Continuing	Continuing
Development Support - Organic	Various	UH PMO/ matrix:Huntsville, AL	22.963	-		-		-		-	Continuing	Continuing	0.000
Development Support - Contractor	Various	Support Contractors:Huntsville, AL	18.800	-		-		-		-	Continuing	Continuing	Continuing
IMD-HUMS Development Support - Organic	Various	Aviation Applied Tech Directorate (AATD) Matrix:Various	6.953	-		-		-		-	Continuing	Continuing	Continuing
IMD-HUMS Development Support - Contractor	Various	Goodrich:Various	46.862	-		-		-		-	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*	

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
MAST Development Support - Organic	Various	Other Government Agency Support:Various	1.429	-		-		-		-	Continuing	Continuing	Continuing
MAST Development Support - Contractor	Various	Smith Industries:Various	5.708	-		-		-		-	Continuing	Continuing	0.000
Full Authority Digital Engine Control (FADEC) Development - Organic	Various	TBD:TBD	2.144	-		-		-		-	Continuing	Continuing	Continuing
Full Authority Digital Engine Control (FADEC) Development - Contractor	Various	TBD:TBD	16.741	-		-		-		-	Continuing	Continuing	0.000
Internal Reprogramming - Payback for FY03	Various	TBD:TBD	3.413	-		-		-		-	Continuing	Continuing	0.000
HALS	Various	TBD:TBD	12.675	-		-		-		-	Continuing	Continuing	Continuing
Performance Support System - NG (Apache)	Various	Other Government Agency Support:Various	1.000	-		-		-		-	Continuing	Continuing	0.000
Transfer to Apache	Various	TBD:Various	3.000	-		-		-		-	Continuing	Continuing	Continuing
Operator Situational Awareness System - Contractor	Various	TBD:TBD	4.150	-		-		-		-	Continuing	Continuing	0.000
UH-60 Aviation Software Performance Assessment Test Bed	Various	Software Engineering Directorate:Huntsville, AL	-	-		-		-		-	Continuing	Continuing	Continuing
Spindle Lug Bushing Phase 1&2	Various	Sikorsky Aircraft Company:Various	-	-		-		-		-	Continuing	Continuing	0.000
Fly-By-Wire Aircraft Program	Various	TBD:TBD	-	20.640		-		-		-	Continuing	Continuing	Continuing
Improved Turbine Engine Program (ITEP) Engine Development and Qualification	Various	TBD:TBD	2.000	-		10.000		-		10.000	Continuing	Continuing	Continuing
		Subtotal	781.766	20.640		10.000		-		10.000			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*	

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

Remarks

IMD-HUMS demonstration program was funded in FY02-05 and is separate from the UH-60M program.
MAST demonstration program was funded in FY04 and FY05 and is separate from the UH-60M and the HUMS programs.

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
Cost Analysis (CAD) Support	Various	AMCOM Matrix:Huntsville, AL	0.956	-		-		-		-	Continuing	Continuing	Continuing
Logistics Analysis Support - Organic	Various	AMCOM Matrix:Huntsville, AL	2.285	-		-		-		-	Continuing	Continuing	Continuing
Logistics Analysis Support - Support Contractor	Various	Support Contractor:Huntsville, AL	2.287	-		-		-		-	Continuing	Continuing	Continuing
ITEP Logistics - Organic	Various	IMMC:Huntsville, AL	-	-		0.400		-		0.400	Continuing	Continuing	Continuing
ITEP Logistics - Contractor	Various	AMCOM EXPRESS:Huntsville, AL	-	-		0.200		-		0.200	Continuing	Continuing	Continuing
ITEP Engineering Matrix Spt - Organic	Various	AMRDEC:Huntsville, AL	-	-		2.000		-		2.000	Continuing	Continuing	Continuing
ITEP Engineering Spt - Contractor	Various	AMCOM EXPRESS:Huntsville, AL	-	-		0.800		-		0.800	Continuing	Continuing	Continuing
		Subtotal	5.528	-		3.400		-		3.400			

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 Planning, Test and Evaluation	Various	Various Activities:Various	35.435	-		-		-		-	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*	

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 Planning, Test and Evaluation Contractor	Various	Various Activities:Various	0.825	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	36.260	-		-		-		-			

	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	846.337	20.640		21.467		-		21.467			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT 504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Fly-By-Wire Aircraft Development Testing																												

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	**PROJECT** 504: *BLACK HAWK RECAPITALIZATION/ MODERNIZATION*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Fly-By-Wire Aircraft Development Testing	1	2010	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D12: *LONGBOW APACHE OPERATIONAL SYSTEMS DEVELOP*	

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
D12: *LONGBOW APACHE OPERATIONAL SYSTEMS DEVELOP*	12.763	-	-	-	-	-	-	-	-	0.000	12.763
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

FY10 funding continues the Light Weight Missile Launcher (LWML) development, testing, and integration. First Unit Equipped is planned for 1st quarter FY12. The LWML will provide weight savings per launcher, commonality, producibility and improved electronics reliability to the Apache fleet. The LWML project was competitively awarded in FY08 as an incrementally funded FFP contract. In addition, the AAH PMO and the Night Vision and Electronic Sensors Directorate (NVESD) mutually agreed to enter into a Technology Transition Agreement (TTA) for the purpose of defining technology deliverables from the Electronic Image Intensifier (EI2) for Pilotage Technology Transition Initiative (TTI) to the Arrowhead Modernized-Target Acquisition Designation Sight/Pilot Night Vision Sensor (M-TADS/PNVS) program. A new camera will provide high quality, Aviator's Night Vision Imaging System (ANVIS)-equivalent (the current Army aviation night goggles) performance imagery that can be fused with thermal imagery for improved nighttime pilotage and situational awareness over a broader range of degraded visual conditions.

FY 2010 total does not include any previously requested funding for current FY 2009 Overseas Contingency Operations (OCO) requirements, and no FY 2010 OCO funds have been previously requested in the RDTE Project of D12.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Light Weight Missile Launcher (LWML) NRE Contract [Note: PM JAMS will report on the funding.]	9.995	-	-	-	-
Articles:	0				
Description: Funding is provided for the following effort					
FY 2010 Accomplishments: Complete contractor design, test, logistics development, and Government airworthiness qualification testing					
Title: Electronic Image Intensifier Technology Transition Initiative (EI2 TTI)	2.768	-	-	-	-
Articles:	0				
Description: Funding is provided for the following effort					
FY 2010 Accomplishments: Performs developmental flight testing with NVESD aircraft and operational testing with the Apache aircraft					
Accomplishments/Planned Programs Subtotals	12.763	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D12: *LONGBOW APACHE OPERATIONAL SYSTEMS DEVELOP*

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
• AA6606: *AH-64 Mods*	577.649	592.969	331.230		331.230		71.901	74.910	76.192	513.791	2,460.810
• A05111: *AH64 AB3*	230.036	493.831								0.000	723.867
• A05121: *Block II New Build*	34.600									0.000	34.600
• A05122: *AH-64 AB3 Reman*			603.769		603.769		492.367	691.826	827.902	6,303.222	9,509.117
• A05133: *AB3 New Build*			139.763		139.763		1,057.670	405.676	201.490	0.000	2,352.617
• 273744/D17: *Apache Block III*	146.874	93.320	92.799		92.799		136.202	158.144	136.586	Continuing	Continuing

D. Acquisition Strategy

There is no funding in this project for FY11.

FY10, EI2 TTI -- Night Vision and Electronic Sensors Directorate (NVESD) is performing developmental flight testing with NVESD aircraft. Operational testing will be in the Apache aircraft. NVESD will manage the AAH PMO'S flight testing.

FY10, LWML -- These funds are to complete contractor design, test, logistics development, and Government airworthiness qualification testing. Prior year funds have been used to initiate and sustain the contract for those activities. Missile R&D funds were originally utilized for specification development, Request for Proposal generation, and contractor source selection. The project has traditional review and continuation points with Preliminary and Critical Design Reviews, a Production Readiness Review, and In-Process Review for a production decision. First Unit Equipped will be 1st quarter 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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D12: *LONGBOW APACHE OPERATIONAL SYSTEMS DEVELOP*	

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
Boeing NRE -- CRMB	Various	The Boeing Company:various	12.073	-		-		-		-	Continuing	Continuing	Continuing
SOFSA/L3 Inc. NRE -- TADSS	Various	SOFSA/L3 Inc.:various	13.950	-		-		-		-	Continuing	Continuing	Continuing
Lockheed Martin -- LWML	Various	LM Missiles & Fire Control:various	13.465	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	39.488	-		-		-		-			

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
Light Weight Missile Launcher (LWML)	Various	various:various	-	-		-		-		-	Continuing	Continuing	Continuing
Elec Image Intensifier Tech Transition (EI2 TTI)	Various	NVESD:Fort Belvoir, VA	-	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	-	-		-		-		-			

	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	39.488	-		-		-		-			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D17: *APACHE BLOCK III*	

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
D17: *APACHE BLOCK III*	146.874	93.320	92.799	-	92.799	114.444	136.202	158.144	136.586	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Project D17, Apache Block III (AB3) funding is for the non-recurring engineering (NRE), development, and testing work associated with the planned remanufacture and new build of 690 Apache aircraft in the Block III configuration (deliveries to begin in Oct 2011). The AB3 program consists of two Major Defense Acquisition Programs (MDAP), AB3A Remanufacture and AB3B New Build. The AB3 is the best value sustainment plan for the Apache fleet that overcomes capability gaps and satisfies user requirements. The AB3 will add significant combat capability while addressing obsolescence issues to ensure the aircraft remains a realistic combat multiplier through 2040. The AB3 will address current system shortfalls by integrating: Unmanned Aircraft System (UAS) Level IV Control Capability, Improved Situational Awareness, an Upgraded Communications Suite, Improved Drive and Propulsion Systems, Improved Targeting Capability, Increased Computer Processing Capability and Speed, Improved Navigation Systems, and Improved Diagnostics and Maintainability.

FY12 funding totals do not include any previously requested funding for current FY12 Overseas Contingency Operations (OCO) requirements, and no FY12 OCO funds have been previously requested in the RDTE Project D17.

FY11 funding totals did not include any previously requested funding for current FY11 Overseas Contingency Operations (OCO) requirements, and no FY11 OCO funds have been previously requested in the RDTE Project D17.

FY10 funding totals did not include any previously requested funding for current FY10 Overseas Contingency Operations (OCO) requirements, and no FY10 OCO funds have been previously requested in the RDTE Project D17.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Major Contracts	107.474	78.200	52.984	-	52.984
Articles:	0	0			
Description: Funding is provided for the following effort					
FY 2010 Accomplishments: Development & Testing work associated with the planned remanufacture and new build of Apache aircraft in the Block III Lot 1-3 configuration					
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D17: *APACHE BLOCK III*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Development & Testing work associated with the planned remanufacture and new build of Apache aircraft in the Block III Lot 1-3 configuration ***FY 2012 Base Plans:*** Development & Testing work associated with the planned remanufacture and new build of Apache aircraft in the Block III Lot 4-6 configuration					
Title: Other Major Contracts ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Development & Testing of Radar Electronics Unit (REU), UAS TCDL Assembly (UTA) associated with Block III Lot 1-3 aircraft. Future configuration of REU, RFI, & UTA will satisfy the program specific technology upgrades & enhance operational capability. ***FY 2011 Plans:*** Development & Testing of REU, UTA associated with Block III Lot 1-3 aircraft. Future configuration of REU, RFI, & UTA will satisfy the program specific technology upgrades & enhance operational capability. ***FY 2012 Base Plans:*** Development & Testing of REU, RFI, and UTA associated with Block III Lot 4-6 aircraft. Future configuration of REU, RFI, and UTA will satisfy the program specific technology upgrades & enhance operational capability.	13.000 0	5.000 0	15.000	-	15.000
Title: Program Support Activities ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** GFE supporting AB3 tests ***FY 2011 Plans:*** GFE supporting AB3 tests ***FY 2012 Base Plans:***	9.096 0	3.320 0	11.471	-	11.471

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D17: *APACHE BLOCK III*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
GFE supporting AB3 tests					
Title: Government Participation, Operational Assessments ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Development Test & Evaluation, Live Fire, Operational Testing ***FY 2011 Plans:*** Development Test & Evaluation, Live Fire, Operational Testing ***FY 2012 Base Plans:*** Development Test & Evaluation, Live Fire, Operational Testing	7.174 0	6.800 0	12.855	-	12.855
Title: Management Services ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Payroll, Temporary Duty (TDY), Support Contractors, Matrix Support ***FY 2012 Base Plans:*** Payroll, TDY, Support Contractors, Matrix Support	4.996 0	-	0.489	-	0.489
Title: Small Business Innovative Research/Small Business Technology Transfer Adjustment ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** SBIR/STTR Adjustment	5.134 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	146.874	93.320	92.799	-	92.799

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D17: *APACHE BLOCK III*

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
• AH-64 Mods: *APA, SSN AA6606*	577.649	592.969	331.230		331.230		71.901	74.910	76.192	513.791	2,460.810
• AH-64 Apache Block III: *APA, SSN A05111*	230.036	493.831								0.000	723.867
• Apache Block II New Build: *APA, SSN A05121*	34.600									0.000	34.600
• AH-64 AB3A Reman: *APA, SSN A05122*			603.769		603.769		492.367	691.826	827.902	6,303.222	9,509.117
• AB3B New Build: *APA, SSN A05133*			139.763		139.763		1,057.670	405.676	201.490	0.000	2,352.617
• Longbow Apache Operational System: *RDTE, PE273744D12*	12.763									0.000	12.763

D. Acquisition Strategy

The NRE will encompass subsystem integration and will utilize existing test aircraft, incorporate the technical insertions, and initiate appropriate qualification and operational flight-testing. The Low Rate Initial Production (LRIP) effort includes a total quantity of 51 aircraft, with deliveries completing in December 2013. These 51 LRIP aircraft will be used for operational testing, First Unit Equipped (FUE), and training base fielding.

In Oct 10, a contract for Apache Block III Lot 1 (8 aircraft) was awarded to initiate LRIP. Additional options for Lot 2a (16 aircraft), Lot 2b (19 aircraft) and Lot 2c (8 aircraft) are part of the LRIP Contract plan.

In late FY11, the existing Engineering Manufacturing Development (EMD) effort will be modified to incorporate development and testing to support the AB3 Lot 4 and Lot 6 production configurations.

In FY13, a contract for Apache Block III Lot 3 (40 aircraft), initiating Full Rate Production, will be awarded with options for Lot 4 (52 aircraft), Lot 5 (56 aircraft) and will continue through FY25, to a total of 690 remanufactured and new build aircraft.

Training device concurrency will be maintained with each technical insertion. FY09 and FY10 advanced material procurement support the LRIP deliveries. The EMD effort is managed as Cost Reimbursable. Production efforts will be awarded as Firm Fixed Price (FFP) and include the Advanced Procurement requirements.

As the acquisition strategy and plan unfolds, multi-year authority may be requested for the out years.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D17: *APACHE BLOCK III*

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D17: *APACHE BLOCK III*

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 Svcs (In-House, Travel, etc.)	MIPR	PMO AAH, Matrix Support, AMCOM Express:Redstone Arsenal, AL	30.872	-		0.489		-		0.489	Continuing	Continuing	Continuing
		Subtotal	30.872	-		0.489		-		0.489			

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
The Boeing Company	SS/CPIF	Boeing Contracts:Mesa, AZ	584.973	78.200		52.984		-		52.984	Continuing	Continuing	Continuing
Longbow Limited Liability (LBL) Contracts	SS/CPIF	Longbow Limited Liability (LBL) Contracts:Orlando, FL and Baltimore, MD	135.000	5.000		15.000		-		15.000	Continuing	Continuing	Continuing
		Subtotal	719.973	83.200		67.984		-		67.984			

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
Program Support Activities	MIPR	Various Activities:Various	34.125	3.320		11.471		-		11.471	Continuing	Continuing	Continuing
SBIR/STTR	TBD	n/a:n/a	-	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	34.125	3.320		11.471		-		11.471			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D17: *APACHE BLOCK III*

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
Operational Assessments, Test Integration Working Group (TWIG), TEMP, etc.	TBD	Various Activities:Various	17.370	6.800		12.855		-		12.855	Continuing	Continuing	Continuing
		Subtotal	17.370	6.800		12.855		-		12.855			

	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	802.340	93.320		92.799		-		92.799			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	PROJECT D17: *APACHE BLOCK III*

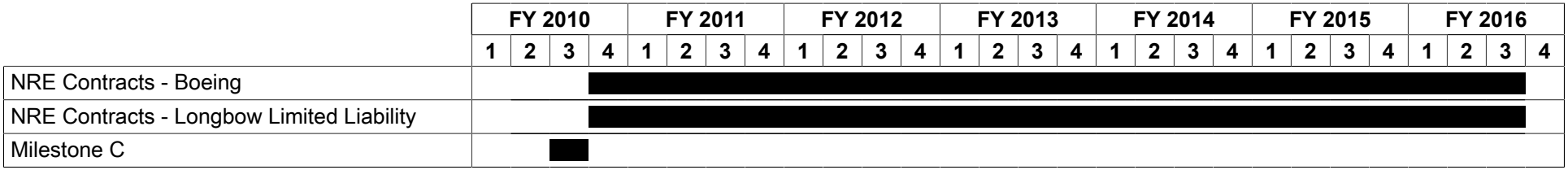

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203744A: *Aircraft Modifications/Product Improvement Programs*	**PROJECT** D17: *APACHE BLOCK III*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NRE Contracts - Boeing	4	2010	3	2016
NRE Contracts - Longbow Limited Liability	4	2010	3	2016
Milestone C	3	2010	3	2010

Exhibit R-5, RDT&E Termination Liability: PB 2012 Army							DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*			R-1 ITEM NOMENCLATURE PE 0203744A: *Aircraft Modifications/Product Improvement Programs*			PROJECT D17: *APACHE BLOCK III*	
Cost ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**
Program Termination Liability	14.687	9.380	9.280	11.444	13.620	15.814	13.659

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*							
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	0.767	0.710	0.823	-	0.823	0.889	0.422	0.328	0.332	Continuing	Continuing
106: *A/C COMPON IMPROV PROG*	0.767	0.710	0.823	-	0.823	0.889	0.422	0.328	0.332	Continuing	Continuing

Note

Funds realigned to higher priority requirements.

A. Mission Description and Budget Item Justification

Aircraft Engine Component Improvement Program (CIP) develops, tests, and qualifies improvements to aircraft engine components to correct service-revealed deficiencies, improve flight safety, enhance readiness and reduce operating and support (O&S) costs. In addition, CIP provides the test vehicles for the testing and qualification efforts required as a part of the Army's Critical Safety Item (CSI) program. CIP is included in the RDTE budget vice procurement appropriations in accordance with congressional direction. The majority of CIP funding has been reallocated to PE 273744 beginning in FY07. Non-program specific Auxiliary Power Unit (APU) as well as Unmanned Aerial Vehicle (UAV) safety and readiness issues will continue to be addressed under this PE.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	0.788	0.710	0.852	-	0.852
Current President's Budget	0.767	0.710	0.823	-	0.823
Total Adjustments	-0.021	-	-0.029	-	-0.029
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.021	-			
• Adjustments to Budget Years	-	-	-0.029	-	-0.029

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*	

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
106: *A/C COMPON IMPROV PROG*	0.767	0.710	0.823	-	0.823	0.889	0.422	0.328	0.332	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Aircraft Engine Component Improvement Program (CIP) develops, tests, and qualifies improvements to aircraft engine components to correct service-revealed deficiencies, improve flight safety, enhance readiness and reduce operating and support (O&S) costs. In addition, CIP provides the test vehicles for the testing and qualification efforts required as a part of the Army's Critical Safety Item (CSI) program. CIP is included in the RDTE budget vice procurement appropriations in accordance with congressional direction. The majority of CIP funding has been reallocated to PE 273744 beginning in FY07. Non-program specific Auxiliary Power Unit (APU) as well as Unmanned Aerial Vehicle (UAV) safety and readiness issues will continue to be addressed under this PE.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: T700 Engine	0.300	0.275	0.321
Articles:	0	0	
Description: Majority of funding for this program has been reallocated to PE 273744. Previously, this program addressed flight safety and readiness problems that arise in the field by providing timely engineering support, continued the development of the T700-GE-701D, provided engineering support of fielded engines to enhance war fighting capability and improve durability and reliability while reducing cost of ownership. ***FY 2010 Accomplishments:*** Began test effort for the T700-GE-701D engine to address overspeed and burst safety concerns and reduce O&S costs. ***FY 2011 Plans:*** Complete overspeed/burst testing for the T700-GE-701D engine to address safety concerns. ***FY 2012 Plans:*** Will complete 701D qualification reports, provide rapid response to resolve field related issues.			
Title: T55 Engine	0.303	0.275	0.321
Articles:	0	0	

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203752A: *Aircraft Engine Component Improvement Program*	**PROJECT** 106: *A/C COMPON IMPROV PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Provide timely support to field users, applying engineering effort to resolve unanticipated flight safety problems revealed in the field. Continue the engineering support of fielded engines to enhance war-fighting capability, improve durability and reliability while reducing CH-47 engine cost of ownership. ***FY 2010 Accomplishments:*** Funded efforts on 1553 Engine Control Unit (ECU) program to incorporate Bus capabilities for F model installation. Funded N1 Drive Line redesign to improve accessory gearbox reliability and reduce O&S costs. ***FY 2011 Plans:*** Finish 1553 ECU Effort for F Model incorporation and continue N1 Drive Line redesign and qualification. ***FY 2012 Plans:*** Start the ECU Software Block Update to improve ECU functionality and Start the Qualification of a new oil pump to address reliability/maintenance issues (oil leaks).			
Title: GTCP36 Auxiliary Power Unit (APU) ***Articles:*** ***Description:*** Provide timely responses to technical problems arising in the field during operational use. Review operational and repair reports, perform engineering analysis of failed engines and equipment. Perform investigation and testing as required to isolate/verify reported field problems and service revealed deficiencies (SRDs). ***FY 2010 Accomplishments:*** Formulated correlation factors to publish life limits and address service revealed deficiencies that affect safe operation of the GTCP 36 APU. ***FY 2011 Plans:*** Continue formulating correlation factors to publish life limits and address service revealed deficiencies that affect safe operation of the GTCP 36 APU. ***FY 2012 Plans:*** Address service revealed deficiencies that affect safe operation of the GTCP 36 series APUs.	0.025 0	0.025 0	0.030
Title: T62 Auxiliary Power Unit (APU) ***Articles:***	0.035 0	0.025 0	0.030

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Provide timely responses to technical problems arising in the field during operational use. Review operational and repair reports, perform engineering analysis of failed engines and equipment. Perform investigation and testing as required to isolate/verify reported field problems and service revealed deficiencies (SRDs). ***FY 2010 Accomplishments:*** Delivered two assembled Flex Fuel Manifolds to US Army for qualification testing, prepared drawing for T62-T-2B Fuel Pump/Fuel Control assembly, addressed SRDs affecting T62 series APUs. ***FY 2011 Plans:*** Finish the qualification of the Flex Fuel Manifolds and provide a class I Engineering Change Proposal for incorporation, address service revealed deficiencies affecting the T62 APU. ***FY 2012 Plans:*** Will address service revealed deficiencies affecting safe operation of the T-62T series APUs.			
Title: UAV Shadow Engine ***Articles:*** ***Description:*** UAV Shadow Engine Investigation at U.S. Army Research Laboratory (ARL) Cleveland: US Army Vehicle Technology Directorate (VTD) at ARL Cleveland. Provide research to support airworthiness, reliability and performance improvements of the Unmanned Aerial Vehicle (UAV) shadow engine. Investigate and research the technology challenges (i.e. engine performance, engine durability, engine life, and engine modifications) for reliable engine operation using JP-8 fuel and readily available MIL-spec lubricants. ***FY 2010 Accomplishments:*** Completed and qualified ARL engine test cell, researched improved oil pump and engine bearings to improve engine life and safety. Researched thermal barrier coatings to improve performance and durability. ***FY 2011 Plans:*** Continue research of improved oil pump and engine bearings to improve engine life and safety and continue research on thermal barrier coatings to improve performance and durability. ***FY 2012 Plans:*** Will continue to research improvements to address service related deficiencies.	0.079 0	0.067 0	0.070
Title: In-House Support ***Articles:***	0.025 0	0.043 0	0.051

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: In-house support for the CIP engineers. Contracting support for CIP contracts. ***FY 2010 Accomplishments:*** Provided in-house support for the CIP engineers. Contracting support for CIP contracts. ***FY 2011 Plans:*** Provide in-house support for the CIP engineers. Contracting support for CIP contracts. ***FY 2012 Plans:*** Continue to provide in-house support for the CIP engineers. Contracting support for CIP contracts.			
Accomplishments/Planned Programs Subtotals	0.767	0.710	0.823

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Improved designs will be implemented via Engineering Change Proposal (ECP) and follow-on procurement or modification to a production contract to introduce the improved hardware.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*	

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 Engineering	Various	various:various	10.342	-		-		-		-	Continuing	Continuing	0.000
In-house Engineering	WR	AMRDEC:Redstone Arsenal, AL	2.062	0.043		0.051		-		0.051	Continuing	Continuing	Continuing
TBD	TBD	TBD:TBD	0.140	-		-		-		-	Continuing	Continuing	0.000
Prior Year Closed Account Funding	Various	various:various	0.005	-		-		-		-	Continuing	Continuing	0.000
SBIR/STTR	Various	various:various	0.176	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	12.725	0.043		0.051		-		0.051			

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
T700 Engine	SS/IDIQ	GE-Air:Lynn, MA	61.016	0.255		0.321		-		0.321	Continuing	Continuing	Continuing
T55 Engine	SS/IDIQ	Honeywell:Phoenix, AZ	28.497	0.255		0.321		-		0.321	Continuing	Continuing	Continuing
APU's	SS/IDIQ	Air Force:Kelly AFB, TX	13.557	0.090		-		-		-	Continuing	Continuing	0.000
EDECU	Various	GE-Air:Lynn, MA	0.774	-		-		-		-	0.000	0.774	0.000
FADEC/FDU	Various	CECOM:Ft. Monmouth, NJ	12.895	-		-		-		-	Continuing	Continuing	0.000
LOLA	Various	CECOM:Ft. Monmouth, NJ	0.938	-		-		-		-	Continuing	Continuing	0.000
APU's	SS/IDIQ	Air Force:Hill AFB, UT	2.259	-		0.060		-		0.060	Continuing	Continuing	Continuing
UAV Shadow Engine	Various	ARL-Vehicle Technology Directorate:TBD	-	0.067		0.070		-		0.070	Continuing	Continuing	0.000
		Subtotal	119.936	0.667		0.772		-		0.772			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*	

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
Contract Engineering 1	Various	various:various	0.010	-		-		-		-	Continuing	Continuing	0.000
Contract Engineering 2	Various	Various:Various	0.199	-		-		-		-	Continuing	Continuing	0.000
Contract Engineering 3	Various	various:variious	0.107	-		-		-		-	Continuing	Continuing	0.000
Contract Engineering 4	Various	various:various	0.030	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.346	-		-		-		-			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
Redstone Avn Prop Test Res (RAPTR) Facility Data Reduction Prog	Various	Redstone Technical Test Center:Redstone Arsenal, AL	0.946	-		-		-		-	Continuing	Continuing	Continuing
T-62T-2B Vibration Test	Various	Redstone Technical Text Center:Redstone Arsenal, AL	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.946	-		-		-		-			

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	133.953	0.710		0.823		-		0.823			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*

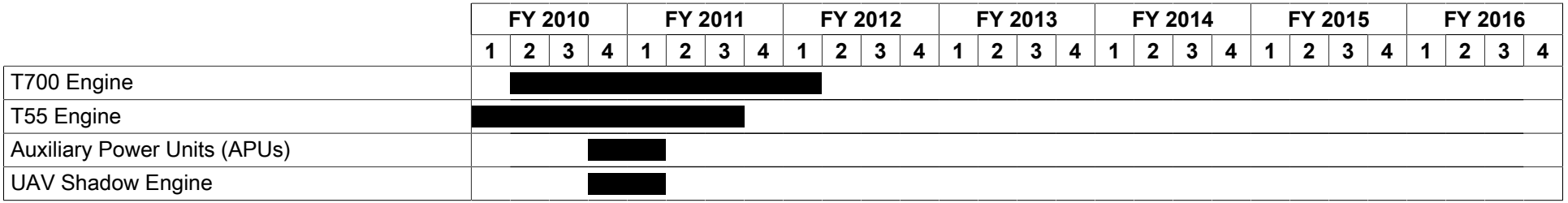

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203752A: *Aircraft Engine Component Improvement Program*	PROJECT 106: *A/C COMPON IMPROV PROG*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
T700 Engine	2	2010	1	2012
T55 Engine	1	2010	3	2011
Auxiliary Power Units (APUs)	4	2010	1	2011
UAV Shadow Engine	4	2010	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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0203758A: *Digitization*							
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	8.218	6.329	8.029	-	8.029	9.802	9.060	8.684	6.999	Continuing	Continuing
374: *HOR BATTLEFLD DIGITIZN*	8.218	6.329	8.029	-	8.029	9.802	9.060	8.684	6.999	Continuing	Continuing

Note

Change Summary Explanation:
FY 10: Funding decreased by 2,418K; reprogramming to support Underbody Blast (1,317K) and CAA's FLOIS (738K) and SBIR/STTR transfer (363K).
FY 12: Funding decreased for adjustments to Budget Years(299K).

A. Mission Description and Budget Item Justification

Horizontal Battlefield Digitization is a strategy that allows warfighters, from the individual soldier and platform to echelons above corps, to share critical situation awareness (SA) and command and control (C2) information. It conducts analysis and evaluation of new information technologies, concepts, and applications of integrated management activities to meet the dynamic Army acquisition technology requirements. The strategy applies digital information technologies to acquire, exchange, and employ data throughout the operational environment, and provides a clear and accurate common operational picture for leaders at all levels. This timely sharing of information significantly improves the ability of commanders and leaders to quickly make decisions, synchronize forces and fires, and increase the operational tempo. Digitization is a means of realizing a fully integrated C2/SA capability to the platoon level, including interoperability links with joint and multi-national ground forces. The major efforts included in the program element are: 1) Integration and synchronization of the Army's interoperability efforts, coordination of interoperability efforts between joint and multi-national forces, and the synchronization of combat material and training efforts to develop Army information technologies; 2) Systems engineering and integration of hardware and software interfaces between and across the warfighting functions and across multiple Program Executive Offices, providing System of Systems (SOS) capabilities that satisfy warfighter requirements and enable the execution of mission operations by providing one Common Operational Picture (COP)/Common Tactical Picture (CTP). 3) Oversee and support synchronization of LandWarNet Battle Command capabilities and ensure interoperability across the current and future force. 4) Support fielding of integrated systems to Active and Reserve Components (USARNG and USAR) in accordance with Army Force Generation (ARFORGEN). 5) Support of the the Army Equipping Enterprise System (AE2S) integration of the Force Development Investment Information System (FDIIS), Army Flow Model (AFM), and the Continuing Early Validation (CEaVa) programs into a single integrated system. This supports the Army's Equipping Strategy Army Force Generation, ARFORGEN, and consolidates capabilities to gain efficiencies.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army					DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*		R-1 ITEM NOMENCLATURE PE 0203758A: *Digitization*			
B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	10.636	6.329	8.328	-	8.328
Current President's Budget	8.218	6.329	8.029	-	8.029
Total Adjustments	-2.418	-	-0.299	-	-0.299
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-2.418	-	-0.299	-	-0.299

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203758A: *Digitization*	PROJECT 374: *HOR BATTLEFLD DIGITIZN*	

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
374: *HOR BATTLEFLD DIGITIZN*	8.218	6.329	8.029	-	8.029	9.802	9.060	8.684	6.999	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Horizontal Battlefield Digitization is a strategy that allows warfighters, from the individual soldier and platform to echelons above corps, to share critical situation awareness (SA) and command and control (C2) information. It conducts analysis and evaluation of new information technologies, concepts, and applications of integrated management activities to meet the dynamic Army acquisition technology requirements. The strategy applies digital information technologies to acquire exchange and employ data throughout the operational environment, and provides a clear and accurate common operational picture for leaders at all levels. This timely sharing of information significantly improves the ability of commanders and leaders to quickly make decisions, synchronize forces and fires, and increase the operational tempo. Digitization is a means of realizing a fully integrated C2/SA capability to the platoon level, including interoperability links with joint and multi-national ground forces. The major efforts included in the program element are: 1) Integration and synchronization of the Army's interoperability efforts, coordination of interoperability efforts between joint and multi-national forces, and the synchronization of combat material and training efforts to develop Army information technologies; 2) Systems engineering and integration of hardware and software interfaces between and across the warfighting functions and across multiple Program Executive Offices, providing System of Systems (SOS) integration capabilities that satisfy warfighter requirements and enable the execution of mission operations by providing one Common Operational Picture (COP)/Common Tactical Picture (CTP). 3) Oversee and support synchronization of LandWarNet Battle Command capabilities and ensure interoperability across the current and future force. 4) Support fielding of integrated systems to Active and Reserve Components (USARNG and USAR) in accordance with Army Force Generation (ARFORGEN). 5) Support the Army Equipping Enterprise System (AE2S) integration of the Force Development Investment Information System (FDIIS), Army Flow Model (AFM) and the Continuous Early Validation (CEaVa) programs into a single integrated system. This supports the Army's Equipping Strategy, ARFORGEN, and consolidates capabilities to gain efficiencies.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Interoperability Assessment	1.762	1.352	2.101
Articles:	0	0	
Description: funds are to be used for the following efforts			
FY 2010 Accomplishments: Conduct technical interoperability assessments, perform interoperability/integration analyses, analyze networked weapon system and Situational Awareness (SA), Command and Control (C2), Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems compatibility, and assess technical and operational test plans, activities, and results.			
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203758A: *Digitization*	PROJECT 374: *HOR BATTLEFLD DIGITIZN*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Conduct technical interoperability assessments, perform interoperability/integration analyses, analyze networked weapon system and Situational Awareness (SA), Command and Control (C2), Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems compatibility, and assess technical and operational test plans, activities, and results. ***FY 2012 Plans:*** Conduct technical interoperability assessments, perform interoperability/integration analyses, analyze networked weapon system and Situational Awareness (SA), Command and Control (C2), Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems compatibility, and assess technical and operational test plans, activities, and results.			
Title: SA/C2/C4ISR ***Articles:*** ***Description:*** funds are to be used for the following efforts ***FY 2010 Accomplishments:*** Integrate and synchronize interoperability across SA/C2/C4ISR programs in support of acquisition synchronization, testing, training, and fielding System of Systems capabilities to the Army Force. Continue application across current and future force. ***FY 2011 Plans:*** Integrate and synchronize interoperability across SA/C2/C4ISR programs in support of acquisition synchronization, testing, training, and fielding System of Systems capabilities to the Army Force. Continue application across current and future force. ***FY 2012 Plans:*** Integrate and synchronize interoperability across SA/C2/C4ISR programs in support of acquisition synchronization, testing, training, and fielding System of Systems capabilities to the Army Force. Continue application across current and future force.	2.044 0	1.941 0	2.085
Title: Ditization Technical Integration ***Articles:*** ***Description:*** funds are to be for the following efforts ***FY 2010 Accomplishments:*** Support digitization technical integration with Active and Reserve Components both CONUS and OCONUS. ***FY 2011 Plans:***	1.172 0	0.842 0	0.865

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203758A: *Digitization*	PROJECT 374: *HOR BATTLEFLD DIGITIZN*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Support digitization technical integration with Active and Reserve Components both CONUS and OCONUS. ***FY 2012 Plans:*** Support digitization technical integration with Active and Reserve Components both CONUS and OCONUS.			
Title: AE2S Software ***Articles:*** ***Description:*** funds are to be for the following efforts ***FY 2010 Accomplishments:*** Procures AE2S software integration and enhancements for the single program language, single platform system that incorporates FDIIS, CEaVa, COP and AFM ***FY 2011 Plans:*** Procures AE2S software integration and enhancements for the single program language, single platform system that incorporates FDIIS, CEaVa, COP and AFM ***FY 2012 Plans:*** Procures AE2S software integration and enhancements for the single program language, single platform system that incorporates FDIIS, CEaVa, COP and AFM	1.000 0	1.000 0	1.000
Title: Joint & Coalition Interoperability ***Articles:*** ***Description:*** funds the following efforts ***FY 2010 Accomplishments:*** Support Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements. ***FY 2011 Plans:*** Support Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements. ***FY 2012 Plans:***	0.410 0	0.538 0	0.738

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203758A: *Digitization*	PROJECT 374: *HOR BATTLEFLD DIGITIZN*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Support Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements.			
Title: Cross-platform development	0.630	0.656	0.740
Articles:	0	0	
Description: funds to be used for the following efforts ***FY 2010 Accomplishments:*** Manage cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation. ***FY 2011 Plans:*** Manage cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation. ***FY 2012 Plans:*** Manage cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation.			
Title: Academic Research	1.200	-	0.500
Articles:	0		
Description: funds to be used for the following effort ***FY 2010 Accomplishments:*** Apply university academic and research resources to the integration of Army complex modeling, simulation, and training in support of modernized forces. ***FY 2012 Plans:*** Apply university academic and research resources to the integration of Army complex modeling, simulation, and training in support of modernized forces.			
Accomplishments/Planned Programs Subtotals	8.218	6.329	8.029

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203758A: *Digitization*	PROJECT 374: *HOR BATTLEFLD DIGITIZN*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

To validate/demonstrate concepts and requirements, near term efforts are focused on developing a seamless battlefield software architecture and digitized hardware systems to include: evaluation of the horizontal battlefield digitization resources for systems, acquisition, integration, and testing of digital capability across multiple command and control, communications, sensors, and weapons platforms. The result will be an integrated, synchronized capability designed to meet the near-term requirements of the Stryker Brigade Combat Teams and the Army Future Force. Also supports the Army's role in joint and multi-national digitization programs, battle command efforts and Joint Battlefield Situational Awareness.

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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0203759A: *Force XXI Battle Command, Brigade and Below (FBCB2)*							
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	-	3.935	-	-	-	-	-	-	-	0.000	3.935
122: *JOINT BATTLE COMMAND - PLATFORM (JBC-P)*	-	3.935	-	-	-	-	-	-	-	0.000	3.935

Note

Change Summary Explanation: FY11 RDTE funding of $3.935 million is for Command and Control (C2)/Situational Awareness (SA) Convergence. It uses Project Code 122. FBCB2 RDTE Funding in FY09 and Prior used Project Code 120.

A. Mission Description and Budget Item Justification

Force XXI Battle Command Brigade and Below (FBCB2) consists of FBCB2 and Joint Battle Command - Platforms (JBC-P) hardware and software.

The Force XXI Battle Command Brigade and Below (FBCB2) is a digital, battle command information system that provides integrated, on-the-move, timely, relevant battle command information to tactical combat, combat support and combat service support leaders and soldiers. FBCB2 incorporates state-of-the-art information technology to allow commanders to concentrate combat system effects rather than combat forces, enabling units to be both more survivable and more lethal. FBCB2 provides the capability to pass orders and graphics allowing the warfighter to visualize the commander's intent and scheme of maneuver. FBCB2 affords combat forces the capability to retain the tactical/operational initiatives under all mission, enemy, terrain, troops, and time available conditions to enable faster decisions, real/near-real-time communications and response. FBCB2 as a key component of the Army Battle Command System (ABCS), completes the information flow process from brigade to platform and across platforms within the brigade task force and across brigade boundaries. FBCB2 system provides a dual based capability consisting of both terrestrial (EPLRS) and satellite based (L-Band) systems. The system includes a Pentium based processor, display unit, keyboard, removable hard disk drive cartridge, and a platform specific installation kit. The satellite based system, more commonly known as Blue Force Tracking (BFT), includes an L-Band transceiver that employs commercial satellite services in lieu of tactical terrestrial radios. Currently over 88,000 total systems have been fielded with approximately 25,000 systems in support of Operation Enduring Freedom (OEF)/Operation Iraqi Freedom (OIF).

FBCB2 RDTE Funding for Project Code 120 ends in FY09.

$3.935 million has been added to Project Code 122 for JBC-P Command and Control (C2)/Situational Awareness (SA) Convergence in FY11.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203759A: *Force XXI Battle Command, Brigade and Below (FBCB2)*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	3.935	-	-	-
Current President's Budget	-	3.935	-	-	-
Total Adjustments	-	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• 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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203759A: *Force XXI Battle Command, Brigade and Below (FBCB2)*	PROJECT 122: *JOINT BATTLE COMMAND - PLATFORM (JBC-P)*	

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
122: *JOINT BATTLE COMMAND - PLATFORM (JBC-P)*	-	3.935	-	-	-	-	-	-	-	0.000	3.935
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Joint Battle Command - Platforms (JBC-P), which includes Blue Force Tracking and Army Aviation, provides true Joint force Command and Control (C2) Situational Awareness (SA) and communications (e.g., terrestrial, celestial) capability at the platform level through command center locations (e.g., Network Operations Centers, Theater Operation Commands (TOCs), Brigade Command Posts) and enables mission accomplishment across the entire spectrum of Joint military operations. JBC-P serves as the cornerstone for Joint Blue Force Situational Awareness (JBFSA). It provides continuous near-real-time identification of friendly locations to populate the Joint Common Operating Picture (JCOP). Joint Battle Command - Platforms (JBC-P) enhances Joint Combat Identification to increase combat effectiveness and reduces fratricide in a secure environment. It enables Joint, net-centric C2/Battle Command by seamlessly passing/sharing relevant information vertically and horizontally, within all levels of command, regardless of Service unit hierarchy. In addition to utilizing the existing FBCB2/BFT system, JBC-P system hardware consists of a family of computers (e.g., handhelds, tablets, ruggedized computers, beacons and in-dash computers), communications equipment (e.g., satellite tranceivers/ antennas), encryption devices (e.g., KGV-72), and ancillary equipment (e.g., Mission Data Loader, Disk Duplicator, cables, installation kits, etc.).

$3.935 million is programmed for FY11 RDTE to pay for JBC-P C2/SA Convergence.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Army/Marine Corps JBC-P C2/SA Convergence Implementation	-	3.935	-	-	-
Articles:		0			
Description: JBC-P C2/SA Convergence					
FY 2011 Plans: Army/Marine Corps JBC-P C2/SA Convergence Implementation. This is a key senior leader/JCIDS priority to increase operational capability and mission effectiveness.					
Accomplishments/Planned Programs Subtotals	-	3.935	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203759A: *Force XXI Battle Command, Brigade and Below (FBCB2)*	PROJECT 122: *JOINT BATTLE COMMAND - PLATFORM (JBC-P)*

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
• Joint Battle Cmd - Platform (JBC-P): *OPA W61990*	17.188	0.147	20.000	148.335	168.335		139.100	133.095	134.696	Continuing	Continuing
• Army Sys Engr & Warfighter Tech Spt: *RDTE 654805/589*	37.620									0.000	37.620
• Joint Battle Command - Platform: *RDTE 654804/593*		10.000	111.123		111.123		5.455	4.165	3.140	Continuing	Continuing

D. Acquisition Strategy

The JBC-P program was Joint Requirements Oversight Council (JROC) approved in May 2008. RDTE funding for JBC-P began in FY10.

$3.935 million in FY11 funding for Command and Control/Situational Awareness (C2/SA) Convergence was programmed under this PE (273759) under Project No. 122. Other RDTE funds for JBC-P were programmed in PE 654805, Project No. 589 (for FY10) and PE 654804, Project No. 593 (for FY11 and beyond).

Software Development will be primarily executed through a Memorandum Of Understanding/Memorandum of Agreement with the Army Research and Development Engineering Command (RDECOM) System Engineering Directorate (SED).

Hardware Procurement will be executed through a competitive contracting approach.

The current estimated Acquisition Schedule, as shown in the R-4 Forms, is based on the approved JBC-P Acquisition Strategy.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203759A: *Force XXI Battle Command, Brigade and Below (FBCB2)*	PROJECT 122: *JOINT BATTLE COMMAND - PLATFORM (JBC-P)*

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/Systems Engineering	MIPR	SED, Redstone Arsenal:Huntsville, AL	-	3.935		-		-		-	0.000	3.935	0.000
		Subtotal	-	3.935		-		-		-	0.000	3.935	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	-	3.935		-		-		-	0.000	3.935	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 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203759A: *Force XXI Battle Command, Brigade and Below (FBCB2)*	**PROJECT** 122: *JOINT BATTLE COMMAND - PLATFORM (JBC-P)*

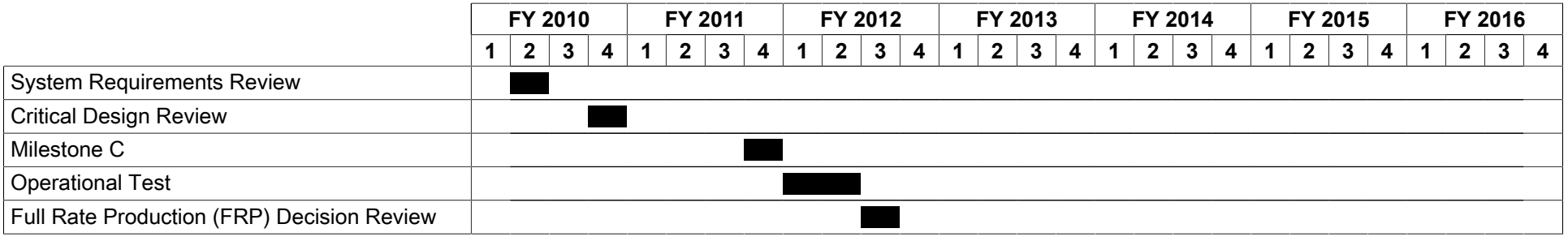

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203759A: *Force XXI Battle Command, Brigade and Below (FBCB2)*	**PROJECT** 122: *JOINT BATTLE COMMAND - PLATFORM (JBC-P)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
System Requirements Review	2	2010	2	2010
Critical Design Review	4	2010	4	2010
Milestone C	4	2011	4	2011
Operational Test	1	2012	2	2012
Full Rate Production (FRP) Decision Review	3	2012	3	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 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0203801A: *Missile/Air Defense Product Improvement Program*					
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	37.731	24.280	44.360	-	44.360	46.287	99.258	94.091	74.663	Continuing	Continuing
036: *PATRIOT PROD IMP PGM*	10.846	11.473	44.360	-	44.360	46.287	99.258	94.091	74.663	Continuing	Continuing
DF8: *DF8*	8.111	3.133	-	-	-	-	-	-	-	0.000	11.244
DF9: *DF9*	18.774	9.674	-	-	-	-	-	-	-	0.000	28.448

A. Mission Description and Budget Item Justification

PATRIOT is an advanced Surface-to-Air guided missile system with a high probability of kill capable of operation in the presence of Electronic Countermeasures (ECM) and able to conduct multiple simultaneous engagements against high performance air breathing targets and ballistic missiles likely to be encountered by US Forces. The Patriot Product Improvement Program provides for the upgrade of the Patriot System through individual materiel changes. The Patriot Product Improvement Program upgrades the Patriot system to address operational lessons learned, enhancements to joint force interoperability, and other system performance improvements to provide overmatch capability with the emerging threat. Efforts will be made to expedite PATRIOT materiel solutions (e.g. Radar Digital Processor, Communications Upgrades, Radars on the Net) to facilitate integration into the IAMD architecture.

DF8 Funding was realigned to PE 0203808, DS1.

DF9 Funding was realigned to PE 0203808, DS2

B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	39.068	24.280	56.457	-	56.457
Current President's Budget	37.731	24.280	44.360	-	44.360
Total Adjustments	-1.337	-	-12.097	-	-12.097
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-1.337	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	-12.097	-	-12.097

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203801A: *Missile/Air Defense Product Improvement Program*	PROJECT 036: *PATRIOT PROD IMP PGM*	

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
036: *PATRIOT PROD IMP PGM*	10.846	11.473	44.360	-	44.360	46.287	99.258	94.091	74.663	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

PATRIOT is an advanced Surface-to-Air guided missile system with a high probability of kill capable of operation in the presence of Electronic Countermeasures (ECM) and able to conduct multiple simultaneous engagements against high performance air breathing targets and ballistic missiles likely to be encountered by US Forces. The Patriot Product Improvement Program provides for the upgrade of the Patriot System through individual materiel changes. These improvements focus on the evolving threat and will provide a more robust capability and the foundation upon which furture improvements can more readily be incorporated with minimal hardware changes. Efforts will be made to expedite PATRIOT materiel solutions (e.g. Radar Digital Processor, Communications Upgrades, Radars on the Net) to facilitate integration into the IAMD architecture.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Patriot Product Improvement	10.846	11.473	44.360
Articles:	0	0	
Description: Software Improvement for Threat Evolution			
FY 2010 Accomplishments: Continuation of efforts to extend the footprint and capability of the system against the evolving threat through several programs.			
FY 2011 Plans: Efforts are under way to ensure fielding of the Radar Digital Processor in FY12 providing the field additional capability and growth potential to counter stressing targets.			
FY 2012 Plans: The Radar Digital Processor will begin US development efforts to support US FY15 Fielding, providing the field with additional capability and growth potential to counter stressing threats.			
Accomplishments/Planned Programs Subtotals	10.846	11.473	44.360

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** 036: *PATRIOT PROD IMP PGM*

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The design objective of the Patriot system was to provide a baseline system capable of modification to cope with continuing threat evolution. This program minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. The Patriot Product Improvement program upgrades the Patriot system to address operational lessons learned, enhancements to joint force interoperability and communications, and other system performance improvements to provide overmatch capability against the emerging threat. Upgrades are implemented through individual hardware and software materiel changes and fielded incrementally. This program encompasses several changes which will require the use of a variety of acquisition methods to develop, test, procure and field.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203801A: *Missile/Air Defense Product Improvement Program*	PROJECT 036: *PATRIOT PROD IMP PGM*

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 Program Management	Various	RSA:various	25.037	0.459		0.535		-		0.535	Continuing	Continuing	Continuing
		Subtotal	25.037	0.459		0.535		-		0.535			

Remarks

Non-Applicable (N/A); Redstone Arsenal (RSA)

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 Improvement for Threat Evolution	Various	Multiple:Multiple	50.781	9.282		6.557		-		6.557	Continuing	Continuing	Continuing
Recapitalization	Various	Multiple:Multiple	97.601	-		-		-		-	Continuing	Continuing	Continuing
Radar Digital Processor (RDP)	Various	Raytheon:Massachusetts	-	-		35.400		-		35.400	65.000	100.400	0.000
		Subtotal	148.382	9.282		41.957		-		41.957			

Remarks

Sole Source-Cost Plus Incentive Fee (SS-CPIF); Sole Source-Fixed Price (SS-FP)

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
U.S. Contracts	Various	IRTC:various	0.340	0.344		0.377		-		0.377	Continuing	Continuing	Continuing
		Subtotal	0.340	0.344		0.377		-		0.377			

Remarks

Remarks: Competitive-Firm Fixed Price (C-FFP)

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203801A: *Missile/Air Defense Product Improvement Program*	PROJECT 036: *PATRIOT PROD IMP PGM*

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
AMCOM	Various	RSA:various	19.626	0.459		0.445		-		0.445	Continuing	Continuing	Continuing
White Sands Missile Range (WSMR)	Various	WSMR:White Sands Missile Range, NM	14.967	0.229		0.300		-		0.300	Continuing	Continuing	Continuing
RDEC and Other Govt Agencies	Various	RSA:Various	102.491	0.700		0.746		-		0.746	Continuing	Continuing	Continuing
		Subtotal	137.084	1.388		1.491		-		1.491			

Remarks

Aviation and Missile Command (AMCOM), Research and Development and Engineering Center (RDEC)

	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	310.843	11.473		44.360		-		44.360			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** 036: *PATRIOT PROD IMP PGM*

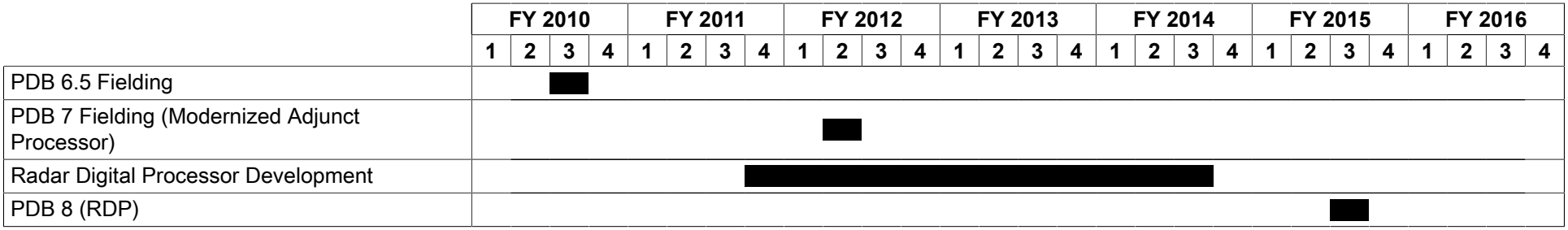

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0203801A: *Missile/Air Defense Product Improvement Program*	**PROJECT** 036: *PATRIOT PROD IMP PGM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
PDB 6.5 Fielding	3	2010	3	2010
PDB 7 Fielding (Modernized Adjunct Processor)	2	2012	2	2012
Radar Digital Processor Development	4	2011	3	2014
PDB 8 (RDP)	3	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203801A: *Missile/Air Defense Product Improvement Program*	PROJECT DF8: *DF8*	

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
DF8: *DF8*	8.111	3.133	-	-	-	-	-	-	-	0.000	11.244
Quantity of RDT&E Articles											

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 Annual Report to Congress.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: DF8	8.111	3.133	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.			
FY 2011 Plans: Program will be reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.			
Accomplishments/Planned Programs Subtotals	8.111	3.133	-

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203801A: *Missile/Air Defense Product Improvement Program*	PROJECT DF9: *DF9*	

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
DF9: *DF9*	18.774	9.674	-	-	-	-	-	-	-	0.000	28.448
Quantity of RDT&E Articles											

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 Annual Report to Congress.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: DF 9	18.774	9.674	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.			
FY 2011 Plans: Information for this program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.			
Accomplishments/Planned Programs Subtotals	18.774	9.674	-

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-2, RDT&E Budget Item Justification: PB 2012 Army										DATE: February 2011	
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0203802A: *Other Missile Product Improvement Programs*							
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	3.979	-	-	-	-	-	-	-	-	0.000	3.979
78J: *CLOSE COMBAT MSL MOD FAMILY OF MSLS (Javelin)*	3.979	-	-	-	-	-	-	-	-	0.000	3.979

A. Mission Description and Budget Item Justification

The Javelin multi-purpose warhead (MPWH) provides increased safety through insensitive munitions (IM) improvements and improved lethality in military operations for urban terrain (MOUT) and other irregular warfare soft targets while maintaining lethality against heavy armor. The warhead design will use an advanced shaped-charge technology improvement.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	3.979	-	-	-	-
Current President's Budget	3.979	-	-	-	-
Total Adjustments	-	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• 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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203802A: *Other Missile Product Improvement Programs*	PROJECT 78J: *CLOSE COMBAT MSL MOD FAMILY OF MSLS (Javelin)*	

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
78J: *CLOSE COMBAT MSL MOD FAMILY OF MSLS (Javelin)*	3.979	-	-	-	-	-	-	-	-	0.000	3.979
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Javelin multi-purpose warhead (MPWH) provides increased safety through insensitive munitions (IM) improvements and improved lethality in military operations for urban terrain (MOUT) and other irregular warfare soft targets while maintaining lethality against heavy armor. The warhead design will use an advanced shaped-charge technology improvement.

The 2010 DoD Appropriations Act included $4 million in RDTE for the Javelin Warhead Improvement Program.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Design Verification Testing (DVT)	3.979	-	-
Articles:	0		
Description: Prototypes of MPWH designs have been fabricated in order to optimize fragmentation-penetration effects versus weight constraints to support accelerated Design Verification Testing (DVT). Funds have been put on contract to initiate MPWH performance requirements definition, identify viable warhead manufacturers, document the MPWH mid-body housing design, and to develop a MPWH program plan.			
FY 2010 Accomplishments: The FY10 funds procured hardware and began Design Verification Testing (DVT).			
Accomplishments/Planned Programs Subtotals	3.979	-	-

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
• Missile Procurement: *SSN CC0007 Javelin (AAWS-M)*	258.553	163.929	160.767		160.767		138.705	141.068	113.385	0.000	1,110.037
		9.999	17.340		17.340		73.749	121.839	61.600	0.000	333.935

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203802A: *Other Missile Product Improvement Programs*	PROJECT 78J: *CLOSE COMBAT MSL MOD FAMILY OF MSLS (Javelin)*

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
• Javelin Increment II EMD: *PE 0604611A, Proj 499 - Javelin (AAWS-M)*											

D. Acquisition Strategy

The Javelin warhead development effort leverages state of the art warhead design technology to develop a multi-purpose warhead. After all required qualification testing is completed, the Close Combat Weapons Systems (CCWS) Project Office will pursue cutting the MPWH into the Javelin Block I missile production line.

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 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0203808A: *TRACTOR CARD*						
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	19.249	14.870	42.754	-	42.754	28.065	17.068	17.352	17.587	Continuing	Continuing
DS1: *Tractor Barn*	-	-	13.749	-	13.749	-	-	-	-	0.000	13.749
DS2: *Tractor Puma*	-	-	10.229	-	10.229	10.433	-	-	-	0.000	20.662
E11: *DE11*	19.249	14.870	18.776	-	18.776	17.632	17.068	17.352	17.587	Continuing	Continuing

Note

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

A. Mission Description and Budget Item Justification

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	19.249	14.870	42.754	-	42.754
Total Adjustments	19.249	14.870	42.754	-	42.754
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	19.249	14.870	42.754	-	42.754

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203808A: *TRACTOR CARD*	PROJECT DS1: *Tractor Barn*	

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
DS1: *Tractor Barn*	-	-	13.749	-	13.749	-	-	-	-	0.000	13.749
Quantity of RDT&E Articles											

Note

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A. Mission Description and Budget Item Justification

This program is reported in accordance with Title 10, United States Code 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: .	-	-	13.749
Description: DS1			
FY 2012 Plans: SAP			
Accomplishments/Planned Programs Subtotals	-	-	13.749

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Not Applicable - SAP Program

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203808A: *TRACTOR CARD*	PROJECT DS2: *Tractor Puma*	

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
DS2: *Tractor Puma*	-	-	10.229	-	10.229	10.433	-	-	-	0.000	20.662
Quantity of RDT&E Articles											

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. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: . ***Description:*** DS2 ***FY 2012 Plans:*** SAP	-	-	10.229
Accomplishments/Planned Programs Subtotals	-	-	10.229

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Not applicable - SAP Program

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0203808A: *TRACTOR CARD*	PROJECT E11: *DE11*	

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
E11: *DE11*	19.249	14.870	18.776	-	18.776	17.632	17.068	17.352	17.587	Continuing	Continuing
Quantity of RDT&E Articles											

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. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Not applicable	19.249	14.870	18.776
Articles:	0	0	
Description: E11			
FY 2010 Accomplishments: SAP			
FY 2011 Plans: SAP			
FY 2012 Plans: SAP			
Accomplishments/Planned Programs Subtotals	19.249	14.870	18.776

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Not Applicable - SAP

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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0208053A: *Joint Tactical Ground 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**
Total Program Element	13.189	12.403	27.630	-	27.630	31.397	14.109	7.912	8.039	Continuing	Continuing
635: *JOINT TACT GRD STATION-P3I (MIP)*	13.189	12.403	27.630	-	27.630	31.397	14.109	7.912	8.039	Continuing	Continuing

Note

Change Summary Explanation: FY2012 funds were increased to initiate JTAGS P3I contract that will include deshelterization of the five units, upgrade to a LINUX 64-bit platform, and enhancement to the capability to downlink the GEO scanner/starer data when the Air Force satellite becomes operational.

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 composite Army Air and Missile Defense Brigades. This program element supports development of critical improvements and insertion of technological upgrades to the Joint Tactical Ground Station (JTAGS) and the research and development of the JTAGS Pre-Planned Product Improvement (P3I). JTAGS is presently a transportable information processing system that receives and processes in-theater, direct down-linked data from Defense Support Program (DSP) satellites. JTAGS disseminates warning, alerting, and cueing information on Ballistic Missiles and other tactical events of interest throughout the theater using existing communication networks. This program is designated as a DoD Space program. JTAGS provides critical support by providing Combatant Commanders near real-time warning of theater ballistic missiles and other battlespace characterization information in their Areas of Responsibility (AOR). The four OCONUS deployed JTAGS units constitute the Army's only in-theater system providing this space-based warning, and JTAGS is designated as the in-theater element of the United States Strategic Command's Theater Event System. JTAGS supports all Theater Missile Defense pillars and by being located in-theater, provides the shortest sensor to shooter connectivity. The objectives of the improvements are to upgrade JTAGS to a new configuration for operation with the next generation of Space Based Infrared System (SBIRS), and to improve warning accuracy and timeliness. These improvements will be accomplished in a two-Block P3I Program Improvement development effort. Block 1 activities include Information Assurance (IA) upgrades; Highly Elliptical Orbit (HEO) Automation Track Transfer (ATT) Integration bridging Initial Geosynchronous Capability (IGC); new commercial antennas; and SIPRNET capability. Utilizing FY12 and outyears funding, Block 2 upgrades will be executed. Phase 1 upgrade includes removal of five systems from the shelters and integration into operation centers and Geosynychronous (GEO) scanner capability (FY 13-14). Phase 2 integrates GEO starer capability and associated hardware upgrades (to include LINUX 64 bit platform).

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208053A: *Joint Tactical Ground System*	

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	13.258	12.403	12.630	-	12.630
Current President's Budget	13.189	12.403	27.630	-	27.630
Total Adjustments	-0.069	-	15.000	-	15.000
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	15.000	-	15.000
• Other Adjustments 1	-0.069	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208053A: *Joint Tactical Ground System*	PROJECT 635: *JOINT TACT GRD STATION-P3I (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
635: *JOINT TACT GRD STATION-P3I (MIP)*	13.189	12.403	27.630	-	27.630	31.397	14.109	7.912	8.039	Continuing	Continuing
Quantity of RDT&E Articles											

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 composite Army Air and Missile Defense Brigades. This program element supports development of critical improvements and insertion of technological upgrades to the Joint Tactical Ground Station (JTAGS) and the research and development of the JTAGS Pre-Planned Product Improvement (P3I). JTAGS is presently a transportable information processing system that receives and processes in-theater, direct down-linked data from Defense Support Program (DSP) satellites. JTAGS disseminates warning, alerting, and cueing information on Ballistic Missiles and other tactical events of interest throughout the theater using existing communication networks. This program is designated as a DoD Space program. JTAGS provides critical support by providing Combatant Commanders near real-time warning of theater ballistic missiles and other battlespace characterization information in their Areas of Responsibility (AOR). The four OCONUS deployed JTAGS units constitute the Army's only in-theater system providing this space-based warning, and JTAGS is designated as the in-theater element of the United States Strategic Command's Theater Event System. JTAGS supports all Theater Missile Defense pillars and by being located in-theater, provides the shortest sensor to shooter connectivity. The objectives of the improvements are to upgrade JTAGS to a new configuration for operation with the next generation of Space Based Infrared System (SBIRS), and to improve warning accuracy and timeliness. These improvements will be accomplished in a two-Block P3I Program Improvement development effort. Block 1 activities include Information Assurance (IA) upgrades; Highly Elliptical Orbit (HEO) Automation Track Transfer (ATT) Integration bridging Initial Geosynchronous Capability (IGC); new commercial antennas; and SIPRNET capability. Utilizing FY12 and outyears funding, Block 2 upgrades will be executed. Phase 1 upgrade includes removal of five systems from the shelters and integration into operation centers and Geosynchronous (GEO) scanner capability (FY 13-14). Phase 2 integrates GEO starer capability and associated hardware upgrades (to include LINUX 64 Bit platforms).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Execute Block 1 Upgrades	6.815	7.110	0.200
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Execute Block 1 Upgrade			
FY 2011 Plans: Complete Block 1 development			
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208053A: *Joint Tactical Ground System*	PROJECT 635: *JOINT TACT GRD STATION-P3I (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Software, Information Assurance (IA) Upgrade Testing			
Title: Software Upgrades, IA Maintenance, Software Deficiency Report (DR) Resolution and Exercise Participation ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Scheduled IA Maintenance, Software Deficiency Report (DR) Resolution, and Exercise Participation ***FY 2011 Plans:*** Scheduled IA Maintenance, Software Deficiency Report (DR) Resolution, and Exercise Participation ***FY 2012 Plans:*** Scheduled IA Maintenance, Software Deficiency Report (DR) Resolution, and Exercise Participation	1.000 0	1.734 0	0.750
Title: JTAGS Test and Evaluation Support ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Test of Commercial Antennas; Joint Interop Test Command (JITC) Certification ***FY 2011 Plans:*** Test of IGC ***FY 2012 Plans:*** Test of Deshelterization and Hardware Upgrades	0.734 0	0.233 0	1.700
Title: P3I Upgrades (Deshelterization; Hardware/Software Upgrades, Direct Downlink of GEO Starer Data. Includes Government IPPD) ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Develop JTAGS P3I Requirements Specification ***FY 2011 Plans:***	4.640 0	3.326 0	24.980

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208053A: *Joint Tactical Ground System*	PROJECT 635: *JOINT TACT GRD STATION-P3I (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
P3I RFP and Source Selection ***FY 2012 Plans:*** Begin P3I Upgrades			
Accomplishments/Planned Programs Subtotals	13.189	12.403	27.630

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
• SSN BZ8401: *Joint Tactical Ground Station (JTAGS)*	6.682	9.279	1.199		1.199		9.740	4.432	4.496	Continuing	Continuing
• PE 0604869A,: *Patriot/MEADS Combined Aggregate Program (CAP)*	570.831	467.139	406.605		406.605					Continuing	Continuing
• PE 0605456A,: *PAC-3/MSE Missile*		62.500	88.993		88.993		68.938	63.468	64.215	Continuing	Continuing
• SSN C53101,: *MSE Missile*			74.953		74.953		532.540	487.049	560.099	Continuing	Continuing
• SSN C53201, PATRIOT/MEADS GSE: *SSN C53201, PATRIOT/ MEADS GSE*											
• PE 0102419A, Proj E55: *JLENS*	317.132	372.493	344.655		344.655		58.124	19.717	19.726	Continuing	Continuing
• SSN BZ0525,: *JLENS Production*							501.459	454.966	416.888	Continuing	Continuing
• PE 0604802A, Proj S23: *SLAMRAAM*	56.441									Continuing	Continuing
• PE 0605450A, Project S35: *SLAMRAAM*		23.700	19.931		19.931					Continuing	Continuing
• SSN C81002: *SLAMRAAM Launcher*		116.732								Continuing	Continuing
• SSN C81004: *SLAMRAAM Missile*											
• PE 0603305A, Proj TR7: *Protection Capability II - Intercept*		4.296	21.126		21.126		89.021	92.999	142.738	Continuing	Continuing
		91.467	7.958		7.958					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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208053A: *Joint Tactical Ground System*	PROJECT 635: *JOINT TACT GRD STATION-P3I (MIP)*

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
• SSN WK5053, FAAD GBS: *SSN WK5053, FAAD GBS*											
• PE 0603327A, Proj S34,: *AMD System of System Engineering and Integration*	164.719									Continuing	Continuing
• 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
• SSN BZ5075: *Army IAMD Battle Command System (IBCS)*							23.587	100.560	256.855	Continuing	Continuing
• PE 0604820A, Proj E10: *SENTINEL*			2.890		2.890		1.983	1.968	2.937	Continuing	Continuing

D. Acquisition Strategy

Under this program element, critical improvements will be developed making maximum use of Non-Developmental Items (NDI)/Commercial Off-The-Shelf (COTS) components. After design and integration, the system will be subject to a thorough developmental and limited user test (LUT) to verify performance, operational effectiveness and suitability. All Block 1 activities (formerly known as Defense Support Program (DSP)-Only Multi-Mission Mobile Processor (M3P) (DM3P)) were rebaselined and resources refocused to maintain viability of JTAGS. Block 1 activites include Information Assurance (IA) upgrades; Highly Elliptical Orbit (HEO) Automation Track Transfer (ATT) Integration upgrades; and a bridging Initial Geosynchronous Capability (IGC); new commercial antennas; and SIPRNET capability. Block 1 will be fielded in the FY2011-2012 timeframe. Utilizing FY12 and outyears funds, Block 2 upgrades will be executed. These include removal of five systems from the shelters and integration into operation centers; and Geosynchronous (GEO) scanner/starer capability and associated hardware upgrades.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208053A: *Joint Tactical Ground System*	PROJECT 635: *JOINT TACT GRD STATION-P3I (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
Government IPPD	Various	various:various	33.015	5.458		6.558		-		6.558	Continuing	Continuing	Continuing
Contractor IPPD	Various	TBD:TBD	18.595	1.478		1.678		-		1.678	Continuing	Continuing	Continuing
		Subtotal	51.610	6.936		8.236		-		8.236			

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
Primary Hardware Development	Various	Lockheed:Arlington, VA	29.191	-		-		-		-	Continuing	Continuing	Continuing
Engineering Services Software	Various	Northrop Grumman:Arlington, VA	17.844	1.750		0.750		-		0.750	Continuing	Continuing	Continuing
Engineering Services Hardware	Various	Northrop Grumman:Arlington, VA	8.428	2.903		-		-		-	Continuing	Continuing	Continuing
Government Furnished Equipment	Various	various:various	1.260	0.125		0.200		-		0.200	Continuing	Continuing	Continuing
P3I Development	Various	TBD:TBD	-	-		16.744		-		16.744	0.000	16.744	0.000
		Subtotal	56.723	4.778		17.694		-		17.694			

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
Contractor Engineering Integrated Product & Process Development (IPPD) Support	Various	various:various	22.024	0.439		0.450		-		0.450	Continuing	Continuing	Continuing
		Subtotal	22.024	0.439		0.450		-		0.450			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208053A: *Joint Tactical Ground System*	PROJECT 635: *JOINT TACT GRD STATION-P3I (MIP)*

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	Various	various:various	5.006	0.250		1.250		-		1.250	Continuing	Continuing	Continuing
		Subtotal	5.006	0.250		1.250		-		1.250			

Remarks

N/A-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	135.363	12.403		27.630		-		27.630			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208053A: *Joint Tactical Ground System*	PROJECT 635: *JOINT TACT GRD STATION-P3I (MIP)*

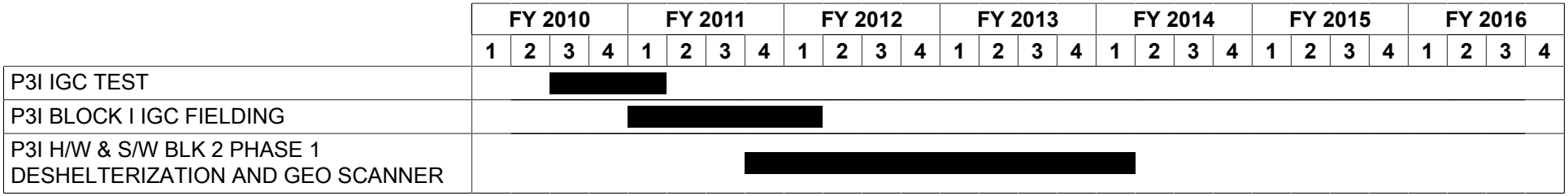

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208053A: *Joint Tactical Ground System*	**PROJECT** 635: *JOINT TACT GRD STATION-P3I (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
P3I IGC TEST	3	2010	1	2011
P3I BLOCK I IGC FIELDING	1	2011	1	2012
P3I H/W & S/W BLK 2 PHASE 1 DESHELTERIZATION AND GEO SCANNER	4	2011	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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0208058A: *Joint High Speed Vessel (JHSV)*							
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	2.961	3.153	3.044	-	3.044	3.229	3.307	3.365	3.418	Continuing	Continuing
JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*	2.961	3.153	3.044	-	3.044	3.229	3.307	3.365	3.418	Continuing	Continuing

Note

Funding in FY12 realigned to support Army higher priority requirements.

A. Mission Description and Budget Item Justification

The Joint High Speed Vessel (JHSV) program is a merger of the Army's Theater Support Vessel (TSV) program and the Marine Corps/Navy High Speed intra-theater surface Connector (HSC) program into a joint (multi-service) High Speed Vessel program.

The JHSV program takes advantage of inherent commonality hull forms to create a more flexible asset for the Department of Defense and leverage the Navy's core competency in ship acquisition. The JHSV program will provide high speed intra-theater surface connector capability to rapidly deploy troops and equipment together and then immediately transition to execute, even in the absence of developed infrastructure, and conduct deployment and sustainment activities in support of multiple simultaneous, distributed, decentralized battles and campaigns. The primary missions include: support to Theater Security Cooperation Program (TSCP) and Global War on Terrorism (GWOT), littoral maneuver, and seabasing support. Department of Army (DA) and Department of Navy (DoN) will maintain separate and distinct funding streams to support this joint program. DA will resource to the critical Army requirement set validated for the joint Initial Capabilities Document (ICD) for High Speed Intra-theater Surface Connector (HSC)and the Capability Development Document (CDD) for JHSV . DA and DoN will focus on the development of common capabilities, each Department will source their unique developmental costs for unique service capabilities that cannot be incorporated into a combined solution set. FY10/11 funding will procure for the Army Integrated Logistics Support (ILS)/Integrated Electronic Technical Manuals.(IETMs).

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	3.066	3.153	3.135	-	3.135
Current President's Budget	2.961	3.153	3.044	-	3.044
Total Adjustments	-0.105	-	-0.091	-	-0.091
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-0.105	-	-0.091	-	-0.091

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208058A: *Joint High Speed Vessel (JHSV)*	PROJECT JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*	

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
JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*	2.961	3.153	3.044	-	3.044	3.229	3.307	3.365	3.418	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Joint High Speed Vessel (JHSV) program is a merger of the Army's Theater Support Vessel (TSV) program and the Marine Corps/Navy High Speed intra-theater surface Connector (HSC) program into a joint (multi-service) High Speed Vessel program.

The JHSV program takes advantage of inherent commonality hull forms to create a more flexible asset for the Department of Defense and leverage the Navy's core competency in ship acquisition. The JHSV program will provide high speed intra-theater surface connector capability to rapidly deploy troops and equipment together and then immediately transition to execute, even in the absence of developed infrastructure, and conduct deployment and sustainment activities in support of multiple simultaneous, distributed, decentralized battles and campaigns. The primary missions include: support to Theater Security Cooperation Program (TSCP) and Overseas Contingency Operations (OCO), littoral maneuver, and seabasing support. Department of Army (DA) and Department of Navy (DoN) will maintain separate and distinct funding streams to support this joint program. DA will resource to the critical Army requirement set validated for the joint Initial Capabilities Document (ICD) for High Speed Intra-theater Surface Connector (HSC)and the Capability Development Document (CDD) for JHSV . DA and DoN will focus on the development of common capabilities, each Department will source their unique developmental costs for unique service capabilities that cannot be incorporated into a combined solution set. FY12 funding will allow the Army to develop and design Army-unique Command, Control, Communications, Computers and Intelligence (C4I) and Anti-Terrorist/ Force Protection Capabilities in support of the Army JHSV concept of operations.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: JHSV ACQUISITION /DOCUMENTATION DEVELOPMENT	1.800	0.170	1.900
Articles:	0	0	
Description: FY10: Provide Program Management Support			
FY 2010 Accomplishments: PROVIDES ACQUISITION /DOCUMENTATION DEVELOPMENT			
FY 2011 Plans: PROVIDES ACQUISITION /DOCUMENTATION DEVELOPMENT			
FY 2012 Plans: PROVIDES ACQUISITION /DOCUMENTATION DEVELOPMENT			
Title: JHSV ILS	0.250	2.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0208058A: *Joint High Speed Vessel (JHSV)*	**PROJECT** JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Articles:	0	0	
Description: FY10: Integrated Logistics Support (ILS)/Integrated Electronic Technical Manuals (IETMs) ***FY 2010 Accomplishments:*** Integrated Logistics Support (ILS)/Integrated Electronic Technical Manuals (IETMs) ***FY 2011 Plans:*** Integrated Logistics Support (ILS)/Integrated Electronic Technical Manuals (IETMs)			
Title: JHSV PROGRAM SUPPORT	0.911	0.983	1.144
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** PROGRAM SUPPORT ***FY 2011 Plans:*** PROGRAM SUPPORT ***FY 2012 Plans:*** PROGRAM SUPPORT			
Accomplishments/Planned Programs Subtotals	2.961	3.153	3.044

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
• JHSV: *OPA 3, M11203, Joint High Speed Vessel (JHSV),*	202.475	202.764	223.845		223.845		25.604	24.773	22.409	Continuing	Continuing

D. Acquisition Strategy

The JHSV program will combine the two separate programs (Theater Support Vessel (TSV) - Army and High Speed Connector (HSC) - Navy) and take advantage of inherent commonality of hull forms to create a more flexible asset for the Department of Defense. Based on the efforts accomplished and data collected to date by the two services, it appears that a hardware solution will incorporate the evolutionary development of commercial based high speed vessel technology employing integrated military unique capabilities/adaptations. The JHSV would be acquired competitively and production would be based in the United States. The Joint High

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208058A: *Joint High Speed Vessel (JHSV)*	PROJECT JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*

Speed Vessel (JHSV) program's updated Acquisition Strategy is currently under development. The JHSV program Milestone A Defense Acquisition Board (DAB) was in April 2006. Milestone B occurred November 2008.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0208058A: *Joint High Speed Vessel (JHSV)*	PROJECT JH1: *JOINT HIGH SPEED VESSEL MANUFACTURING TECHNOLOGY*

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	PM Force Projection,TACOM,:Warren, MI	5.200	0.983		1.144		-		1.144	Continuing	Continuing	Continuing
SBIR/STTR	Various	PM Force Projection, TACOM,:Warren, MI	0.086	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	5.286	0.983		1.144		-		1.144			

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
Technical/Design Development	Various	PEO Ships:Washington DC	17.693	-		-		-		-	Continuing	Continuing	Continuing
Acquisition/Documentation Development	Various	PEO Ships:Washington DC	7.077	0.170		1.900		-		1.900	Continuing	Continuing	Continuing
		Subtotal	24.770	0.170		1.900		-		1.900			

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
Integrated Logistics Support (ILS)/Integrated Electronic Technical Manuals (IETMs)	Various	NSWCCD:Norfolk, VA	2.000	2.000		-		-		-	Continuing	Continuing	Continuing
		Subtotal	2.000	2.000		-		-		-			

	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	32.056	3.153		3.044		-		3.044			

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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0303028A: *Security and Intelligence Activities*							
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	17.348	-	2.854	-	2.854	2.739	2.540	2.219	1.792	Continuing	Continuing
H13: *INFORMATION DOMINANCE CENTER (IDC) - TIARA*	17.348	-	2.854	-	2.854	2.739	2.540	2.219	1.792	Continuing	Continuing

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

INSCOM's RDTE program provides the Army with low-density, high-demand, extremely advanced offensive cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power.

Justification: INSCOM conducts RDTE of offensive Cyberspace technologies in direct support of the full range of missions called for in the National Defense Strategy, Comprehensive National Cyber-Security Initiative, National Security Strategy, National Defense Guidance, NSPD-38, NSPD-54 and HSPD-23.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	9.777	-	-	-	-
Current President's Budget	17.348	-	2.854	-	2.854
Total Adjustments	7.571	-	2.854	-	2.854
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-2.392	-	-	-	-
• Other Adjustments 1	9.963	-	2.854	-	2.854

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303028A: *Security and Intelligence Activities*	PROJECT H13: *INFORMATION DOMINANCE CENTER (IDC) - TIARA*	

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
H13: *INFORMATION DOMINANCE CENTER (IDC) - TIARA*	17.348	-	2.854	-	2.854	2.739	2.540	2.219	1.792	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

INSCOM's RDTE program provides the Army with low-density, high-demand, extremely advanced offensive cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power.

Justification: INSCOM conducts RDTE of offensive Cyberspace technologies in direct support of the full range of missions called for in the National Defense Strategy, Comprehensive National Cyber-Security Initiative, National Security Strategy, National Defense Guidance, NSPD-38, NSPD-54 and HSPD-23.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Cyberspace technologies	17.348	-	2.854
Articles:	0		
Description: INSCOM's RDTE program provides the Army with low-density, high-demand, extremely advanced offensive cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power.			
FY 2010 Accomplishments: Utilized to support cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power.			
FY 2012 Plans: Utilized to support cyberspace technologies designed to degrade, deny, disrupt, or destroy adversary C4I and shape the operational warfighting environment in order to create conditions favorable to the application of other elements of national power. Supports the conduct of offensive Cyberspace technologies in direct support of the full range of missions called for in the National Defense Strategy, Comprehensive National Cyber-Security Initiative, National Security Strategy, National Defense Guidance, NSPD-38, NSPD-54 and HSPD-23.			
Accomplishments/Planned Programs Subtotals	17.348	-	2.854

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303028A: *Security and Intelligence Activities*	**PROJECT** H13: *INFORMATION DOMINANCE CENTER (IDC) - TIARA*

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303028A: *Security and Intelligence Activities*	PROJECT H13: *INFORMATION DOMINANCE CENTER (IDC) - TIARA*

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
Mobile Objects/PHAEDRUS	Various	TBD:TBD	-	-		2.854		-		2.854	Continuing	Continuing	Continuing
		Subtotal	-	-		2.854		-		2.854			

Remarks

FY08 and FY09: Congressional Adds: Mobile Objects/PHAEDRUS to develop an analytical tool that leverages the value of merging structured and unstructured data into a consolidated result set providing the analyst with: 1.) a faster query and retrieval process, 2) a more comprehensive view of both types of data, and 3) enhanced situational awareness. This effort supports the development of a system that will help increase the user's recall (ability to extract relevant information) from disparaging sources and then process it to improve their understanding of the collected data.

FY10-11: Global Horizontal Integration (GHI) is a multi-phased Department of Defense Joint experiment, led by the Army, to build a capability for real-time fusion of multi-discipline and coalition intelligence available from tactical, operational, combined, and national levels. GHI and the Information Dominance Center are complementary programs, with GHI applying IDC capabilities to Joint and Coalition environments.

	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	-	-		2.854		-		2.854			

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 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*					
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	61.313	54.784	61.220	-	61.220	55.924	52.301	50.520	47.881	Continuing	Continuing
491: *INFORMATION ASSURANCE DEVELOPMENT*	14.698	11.905	15.709	-	15.709	9.454	9.616	7.133	5.265	Continuing	Continuing
501: *ARMY KEY MGT SYSTEM*	1.810	-	-	-	-	-	-	-	-	0.000	1.810
50B: *BIOMETRICS*	23.771	8.267	8.060	-	8.060	8.199	7.330	7.046	6.922	Continuing	Continuing
5PM: *DOD BIOMETRICS PROGRAM MANAGEMENT*	21.034	34.612	37.451	-	37.451	38.271	35.355	36.341	35.694	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Communications Security Equipment Program develops Information Systems Security (ISS) equipment and techniques required to combat threat Signal Intelligence capabilities and to insure the integrity of data networks. The Army's Research Development Test and Evaluation (RDTE) ISS program objective is to implement National Security Agency (NSA) developed security technology in Army information systems. Communications Security Equipment(COMSEC)technology ensures total signal and data security for all Army information systems to include any operational enhancement and specialized Army configurations. The Army Key Management System (AKMS) automates key generation and distribution while supporting joint interoperability. It provides communications and network planning with key management. AKMS is a part of the management/support infrastructure for the Warfighter Information Network - Tactical (WIN-T) program. Additional modifications to the AKMS baseline are required to support the emerging WIN-T architecture. System security engineering, integration of available Information Security (INFOSEC) products, development, and testing are provided to ensure that Command, Control, Communications and Computer Intelligence (C4I) systems are protected against malicious or accidental attacks. Several joint service/NSA working groups exist in the area of key management in order to avoid duplication and assure interoperability between all systems, including the establishment of standards and testing. The Defense Information Systems Agency (DISA) Multi-Level Security (MLS) working group coordinates all the different ongoing technology efforts. This program will also develop, integrate, and demonstrate Command and Control (C2) Protect Common Tools into C4I systems that manage, protect, detect and react to C2 system vulnerabilities, threats, reconfigurations, and reconstitutions. Modeling, simulation, and risk management tools will be used to develop C2 Protect capabilities, enabling the warfighter to distribute complete and unaltered information and maintain a dynamic, continuous synchronous operational force.

Biometrics (measurable physical and behavioral characteristics that enable the establishment and verification of an individual's identity), is a component within the Information System Security Program (ISSP). The Biometrics Identity Management Agency (BIMA), formerly the Biometrics Task Force (BTF), (Project 50B) leads DoD activities to program, integrate, and synchronize biometric technologies and capabilities and to operate and maintain DoD's authoritative biometric database to support the National Security Strategy. DoDD 8521.01E established the DoD Biometrics Program and designated the Secretary of the Army as the Executive Agent for DoD Biometrics; the Director of BIMA is the Executive Manager for executing these functions across the military Services and DoD agencies.

PM DoD Biometrics (Project 5PM) is responsible for the development and procurement of the Biometrics Enabling Capability (BEC), an Acquisition Category (ACAT) I - Special Interest Program, which is the DoD Program of Record for an enterprise biometric system authoritative database/repository and enterprise biometric services.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*

Capabilities shall include multi-modal storage and matching, state-of-the-art Service Oriented Architecture (SOA), management portal, Biometrically Enabled Watch-List (BEWL), increased system capacity and processing ability and system interoperability and data sharing with government agencies and stakeholders including Department of Justice (DOJ), Federal Bureau of Investigation (FBI), Department of Homeland Security (DHS), National Ground Intelligence Center (NGIC), Department of State (DOS), United States Central Command (CENTCOM), United States Special Operations Command (SOCOM) and other DOD and Federal agencies as required. The current prototype capability, Next Generation Automated Biometric Identification System (NG-ABIS) was developed as a Quick Reaction Capability (QRC) based on a CENTCOM Joint Urgent Operational Needs Statement (JUONS). NG-ABIS provides a robust capability for distinguishing friend from foe in hot spots around the globe. NG-ABIS enables near-instantaneous device-to-database communication and lays the foundation for enhanced device-to-device communication, reducing cycle and response times. NG-ABIS receive submissions from existing QRC-based collection devices. NG-ABIS also receives requests by authorized users to perform storage retrieval, searches of biometric data collection and matching results. NG-ABIS provides a reliable and effective tool for overseas operations by allowing the Warfighter to make near real-time retention, capture or release decision. NG-ABIS will transition into BEC Increment 0 upon receiving a Full Deployment Decision (FDD) during 3QFY11.

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	61.077	119.806	56.583	-	56.583
Current President's Budget	61.313	54.784	61.220	-	61.220
Total Adjustments	0.236	-65.022	4.637	-	4.637
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	0.236	-65.022	4.637	-	4.637

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 491: *INFORMATION ASSURANCE 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
491: *INFORMATION ASSURANCE DEVELOPMENT*	14.698	11.905	15.709	-	15.709	9.454	9.616	7.133	5.265	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project implements National Security Agency (NSA) developed security technologies in Army information systems. Project objectives are to provide systems security mechanisms through encryption, trusted software or standard operating procedures, and to integrate these mechanisms into specified systems, securing operations in as transparent a manner as possible. This entails architecture studies, modeling, system integration and testing, installation kits, and certification and accreditation of Automation Information Systems. Project will also assess, develop, integrate and demonstrate information assurance (IA) common tools (hardware and software) providing protection for fixed infrastructure post, camp and station networks as well as efforts on tactical networks. The cited work is consistent with Strategic Planning Guidance and the Army Modernization Plan.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Tactical C2 Protect Tools	6.040	5.980	5.000	-	5.000
Articles:	0	0			
Description: Description: This program will right or adjust COMSEC policies to assure COMSEC policy remains in coordination with the latest COMSEC technologies. ***FY 2010 Accomplishments:*** Developed Information Assurance research and development near term solutions for the Warfighter such as the Armadillo Linux Hardening tool. This tool has applicability to Army Certification Agencies (ACA) as well as other other Army Programs of Record (POR). ***FY 2011 Plans:*** Continue development and plan for transition of solutions to the Army Warfighter, ACAs and other PORs. Tools being developed are Armadillo and the Purge Farm and will see early use by the cognizant Army users. Continue to enhance these baselines and work closely with users for other changes or enhancements. ***FY 2012 Base Plans:*** This program will right or adjust COMSEC policies to assure COMSEC policy remains in coordination with the latest COMSEC technologies.					
Title: Crypto Mod and Key Management Program	8.658	5.925	4.268	-	4.268

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 491: *INFORMATION ASSURANCE DEVELOPMENT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Articles:	0	0			
Description: Description: This program develops and integrates new and emerging cryptographic systems to support the Army Crypto Mod Transformational Initiative. There are currently 1.6 million embedded and stand alone Army crypto devices undergoing an extensive transformation to net-centricity. This modernization of the Army crypto inventory is a complex, technology driven information assurance effort. Device specifications are constantly evolving, and this program is accountable for legacy device interoperability. A thorough technical analysis allows for the greatest chance of success. ***FY 2010 Accomplishments:*** Evaluated the performance of Crypto Mod compliant 10 G and Synchronous Optical Networking (SONET) devices, including KG245X, KG75A, and KG340. Evaluated the performance of alternate and special purpose Last Mile devices including the Really Simple Key Loader (RSKL) and Tactical Key Loader (TKL). Evaluated the performance of software releases and changes to Electronic Key Management System (EKMS) and Army Key Management System (AKMS). ***FY 2011 Plans:*** Evaluate the performance Crypto Mod compliant devices, including new software releases to High Assurance Internet Protocol Encryptor (HAIPE) 4.0 devices. As part of Comprehensive National Cybersecurity Initiative (CNCI) integration, begin migration to NSA approved Commercial Off The Shelf (COTS) solutions, including secure laptop and data-at-rest solutions. Evaluate the performance of initial software releases to Key Management Infrastructure (KMI) CI-2. Begin to evaluate the performance of initial Electronic Key Management System (EKMS) / Army Key Management System (AKMS) to KMI transition strategies. ***FY 2012 Base Plans:*** Will evaluate the performance of Crypto Mod compliant devices including the initial Suite B IPSec devices built on commercial standards. This is the initial step in the migration to NSA approved Commercial Off the Shelf (COTS) devices for Secret and below information in place of Governmnet Off The Shelf (GOTS) devices. Will evaluate Secure Smartphone based on a COTS platform for Mobile secure use. Will evaluate Key Management Infrastructure (KMI) CI-2, Spiral 2 initial release and migrate initial crypto devices (High Assurance Internet Protocol Encryptor HAIPE) to KMI based key delivery. Will evaluate delivery of NSA produced keys for COTS devices.					
Title: Network Operations	-	-	6.441	-	6.441

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 491: *INFORMATION ASSURANCE DEVELOPMENT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Resourcing will support the network operations from end-to-end throughout the force and the COE thus mitigating IA networked vulnerabilities to national information security systems. ***FY 2012 Base Plans:*** Resourcing will support the network operations from end-to-end throughout the force and the COE thus mitigating IA networked vulnerabilities to national information security systems.					
Accomplishments/Planned Programs Subtotals	14.698	11.905	15.709	-	15.709

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

The objective of this project is to develop, integrate and validate hardware and software solutions that will secure current and objective architecture and electronic business/commerce transactions. Project focuses on completing development and evaluation of Battle Command and control IA common tools and the procurement and institutionalization of information assurance related hardware and software, as well as techniques and procedures. The objective of the DOD Crypto Modernization Program is to provide adaptive, flexible, and programmable cryptographic systems using best practices, lessons learned and programmatic management to meet the challenge of modernizing the Army's aging cryptographic systems. The network operations effort will support the network operations from end-to-end throughout the force and the COE thus mitigating IA networked vulnerabilities to national information security systems.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 491: *INFORMATION ASSURANCE 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
System Engineering	C/FP	CECOM RDEC:CECOM RDEC Ft Monmouth, NJ	59.876	5.652		2.572		-		2.572	Continuing	Continuing	Continuing
Hardware/Software Engineering	C/FP	CECOM RDEC:Ft Monmouth, NJ	5.224	-		-		-		-	Continuing	Continuing	Continuing
C2 Protect Common Tools	C/FP	Multiple:Multiple	9.899	-		-		-		-	Continuing	Continuing	Continuing
Engineering Support	C/FP	CECOM RDEC:Ft Monmouth, NJ	7.847	-		-		-		-	Continuing	Continuing	Continuing
Engineering Support	C/FFP	Lockheed Martin/SRI Int.:Eatontown, NJ	1.918	-		-		-		-	Continuing	Continuing	Continuing
Information Assurance System Engineering Support	C/FFP	MITRE:McLean, VA	2.878	0.150		0.150		-		0.150	Continuing	Continuing	Continuing
Malicious Mobile Code Analysis	C/FFP	ILEX:Tinton Falls, NJ	0.577	-		-		-		-	Continuing	Continuing	Continuing
Information Assurance System Engineering Support	C/FFP	DSCI Consulting:Eatontown, NJ	3.587	2.053		-		-		-	Continuing	Continuing	Continuing
Engineering Support	C/FFP	VIATECH:Eatontown, NJ	3.826	-		1.939		-		1.939	Continuing	Continuing	Continuing
Tactical Intrusion Detection System	C/FFP	MIT:Cambridge, MA	0.135	-		-		-		-	Continuing	Continuing	Continuing
M&S for Information Assurance Trainer	C/FFP	Atlantic Consulting Services:Shrewsbury, NJ	1.020	-		-		-		-	Continuing	Continuing	Continuing
Defense Healthcare Information Assurance Program	C/FP	CIO/G6 BMO:Crystal City, VA	12.027	-		-		-		-	Continuing	Continuing	Continuing
DoD Biometrics Program	C/FP	CIO/G6 BMO,:Crystal City, VA	18.280	-		-		-		-	Continuing	Continuing	Continuing
Crypto Mod	C/FP	CECOM RDEC:Ft Monmouth, NJ	0.274	-		-		-		-	Continuing	Continuing	Continuing
Engineering Support	C/FP	CACI:Eatontown, NJ	2.050	0.550		0.500		-		0.500	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 491: *INFORMATION ASSURANCE 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
Engineering Support	C/FP	Booz Allen Hamilton:Eatontown, NJ	2.093	-		-		-		-	Continuing	Continuing	Continuing
Engineering Support.	C/FP	VIATECH:Eatontown, NJ	-	-		-		-		-	Continuing	Continuing	Continuing
Engineering Support	C/FP	CSC:Eatontown, NJ	7.844	3.500		2.107		-		2.107	Continuing	Continuing	Continuing
Network Operations	Various	TBD:TBD	-	-		6.441		-		6.441	0.000	6.441	0.000
		Subtotal	139.355	11.905		13.709		-		13.709			

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
Test Support	C/CPFF	TBD:TBD	-	-		2.000		-		2.000	0.000	2.000	0.000
		Subtotal	-	-		2.000		-		2.000	0.000	2.000	0.000

Remarks

Not Applicable

	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	139.355	11.905		15.709		-		15.709			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 491: *INFORMATION ASSURANCE DEVELOPMENT*

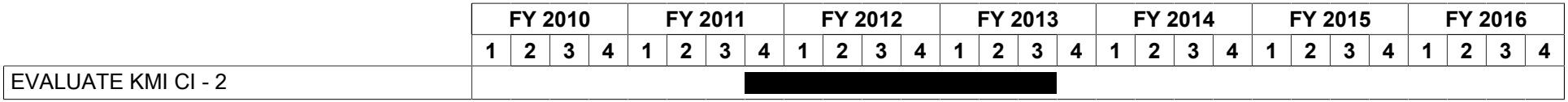

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 491: *INFORMATION ASSURANCE DEVELOPMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
EVALUATE KMI CI - 2	4	2011	3	2013

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 501: *ARMY KEY MGT 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
501: *ARMY KEY MGT SYSTEM*	1.810	-	-	-	-	-	-	-	-	0.000	1.810
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Provides Commander with an automated capability to plan, engineer, distribute, and manage all systems that employ Electronic Key, Electronic Protection (EP), and Signal Operating Instructions (SOI).
- Army Key Management System (AKMS) AKMS consists of two Workstations, one hosting Local COMSEC Management Software (LCMS) for COMSEC Management, one hosting Automated Communication Engineering System (ACES) for Cryptonet Planning and the Simple Key Loader (SKL).
- LCMS is the Communications Security (COMSEC) accounting and generation software that provides Information Systems with Cryptographic Key capability.
- ACES provides Information Systems with Cryptonet Planning & SOI/EP Fill for Combat Net and supports Coalition Joint Spectrum Management Planning Tool (CJSMPT).
- SKLs move the ACES/LCMS data to End Crypto Units (ECUs).
- CJSMPT software enables more efficient and accurate management of critical spectrum resources supporting de-confliction of Improvised Explosive Device (IED) Jammers and Blue Force comms.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: AKMS ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Continue enhancements and support of next set of software tools for the AKMS workstation to support Army modularity requirements.	1.157 0	-	-	-	-
Title: Engineering Support ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Provide engineering Support to program	0.450 0	-	-	-	-
Title: Test and Evaluation ***Articles:***	0.150 0	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 501: *ARMY KEY MGT SYSTEM*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** provide funding for test and evaluation efforts					
Title: SBIR/SBTT	0.053	-	-	-	-
Articles:	0				
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** Small Business Innovative Research/Small Business Technology Transfer Programs					
Accomplishments/Planned Programs Subtotals	1.810	-	-	-	-

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
• BA1201: *TSEC - AKMS*	29.434	25.959	12.541		12.541		16.352	10.899	10.872	Continuing	Continuing

D. Acquisition Strategy

AKMS Milestone III was conducted/approved in FY99. LCMS completed fielding of software v5.0.3 in FY09 to all COMSEC custodians to provide Encrypted Key capability. LCMS hardware refresh began 2QFY10. The AKMS acquisition strategy to procure Simple Key Loaders was updated in an Acquisition Decision Memorandum (ADM) approved by the PEO C3T Milestone Decision Authority (MDA) 3QFY02. SKL Fielding began 3QFY05 and continues. SAIC began efforts in 1QFY09 to upgrade SKL software and v6.0 was released 2QFY10 to provide interoperability with emerging systems (all services). ACES software v2.0 development began in FY09 and was released 2QFY10. ACES software development continues with v2.1 supporting Vista scheduled for release 2QFY11. ACES hardware refresh occurred in FY10. CJSMPT software v2.1 was completed 1QFY09, the Approval to Operate (ATO) was received 1QFY09, and a Joint Military Utility Assessment (JMUA) was successfully conducted 2QFY09. CJSMPT software upgrade v2.1.1 is being developed and a limited deployment of CJSMPT was conducted in FY10 with management of the CJSMPT program transitioning to DISA beginning FY11. FY 10 continued enhancement and support of next generation of AKMS software tools to meet emerging Army systems' requirements.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 50B: *BIOMETRICS*	

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
50B: *BIOMETRICS*	23.771	8.267	8.060	-	8.060	8.199	7.330	7.046	6.922	Continuing	Continuing
Quantity of RDT&E Articles											

Note

This Project (50B) was previously under PE 0303140A, Project 491. Beginning with FY11, PM DoD Biometrics funding is reported under Project 5PM. Funding for the Biometrics Identity Management Agency (BIMA) will continue under Project 50B.

A. Mission Description and Budget Item Justification

Biometrics (measurable physical and behavioral characteristics that enable the establishment and verification of an individual's identity), is a component within the Information System Security Program (ISSP). There are two biometrics organizations executing funds described in this R Form: the Biometrics Identity Management Agency (BIMA), formerly the Biometrics Task Force (BTF), and Program Manager (PM) Department of Defense (DoD) Biometrics.

The BIMA (Project 50B) leads DoD activities to program, integrate, and synchronize biometric technologies and capabilities and to operate and maintain DoD's authoritative biometric database to support the National Security Strategy. DoDD 8521.01E established the DoD Biometrics Program and designated the Secretary of the Army as the Executive Agent for DoD Biometrics; the Director of BIMA is the Executive Manager for executing these functions across the military Services and DoD agencies.

PM DoD Biometrics (Project 5PM starting in FY11) is responsible for the development and procurement of the Biometrics Enabling Capability (BEC), an Acquisition Category (ACAT) I - Special Interest Program), is the DoD Program of Record for an enterprise biometric system authoritative database/repository and enterprise biometric services. Capabilities shall include multi-modal storage and matching, state-of-the-art Service Oriented Architecture (SOA), management portal, Biometrically Enabled Watch-List (BEWL), increased system capacity and processing ability and system interoperability and data sharing with government agencies and stakeholders including Department of Justice's (DOJ), Federal Bureau of Investigation (FBI), Department of Homeland Security (DHS), National Ground Intelligence Center (NGIC), Department of State (DOS), United States Central Command (CENTCOM), United States Special Operations Command (SOCOM) and other DoD and Federal agencies as required.

The current prototype capability, Next Generation Automated Biometric Identification System (NG-ABIS) was developed as a Quick Reaction Capability (QRC) based on a CENTCOM Joint Urgent Operational Needs Statement (JUONS). NG-ABIS provides a robust capability for distinguishing friend from foe in hot spots around the globe. NG-ABIS enables near-instantaneous device-to-database communication and lays the foundation for enhanced device-to-device communication, reducing cycle and response times. NG-ABIS receives submissions from existing QRC-based collection devices (e.g. Biometrics Automated Toolset [BAT] and Handheld Interagency Identity Detection Equipment [HIIDE]) and objective tactical collection devices being developed as part of the Joint Personnel Identification version 2 (JPIv2) program. NG-ABIS also receives request by authorized users to perform storage retrieval, searches of biometric data collection and matching results. NG-ABIS provides a reliable and effective tool for overseas operations by allowing the Warfighter to make near real-time retention, capture or release decision. NG-ABIS will transition into BEC Increment 0 upon Full Deployment Decision (FDD) during 3QFY11.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 50B: *BIOMETRICS*

FY12 Base funding continues to develop and integrate biometric capabilities that include new/emerging technologies and modalities to support the warfighter and interagency operations. These resources provide for development of new matching algorithms, software enhancement, equipment design, data storage technology, matching capabilities and exploitation that when proven may be transitioned to enduring capabilities.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Biometrics Identity Management Agency (BIMA)	6.906	8.267	8.060	-	8.060
Articles:	0	0			
Description: Biometrics Identity Management Agency (BIMA) ***FY 2010 Accomplishments:*** BIMA continued to develop a demonstration to identify, screen, and verify persons biometrically in support of HSPD 12; continued development of a DNA database; continued two Biometric Technology Demonstrations involving facial recognition to further enhance the capture quality facial images at a distance, and demonstrations of biometric handheld devices designed for multi-modality capture capabilities; provided software design, development, data tagging tool and integration for cryptobinding with the Navy's System for Intelligence and Identity Management Operations (SIIMON). Funded the design, development, and testing of an application that will reproject a face from one or more images for biometric analysis to allow users to visually compare two-dimensional images to 3D models of questioned and known subjects and provide a measure of similarity between the two. ***FY 2011 Plans:*** BIMA will continue to develop and integrate biometric capabilities that include new/emerging technologies and modalities to support the warfighter and interagency operations. These resources provide for development of new matching algorithms, software enhancement, equipment design, data storage technology, matching capabilities and exploitation that when proven may be transitioned to enduring capabilities. ***FY 2012 Base Plans:*** BIMA will continue to develop and integrate biometric capabilities that include new/emerging technologies and modalities to support the warfighter and interagency operations. These resources provide for development of new matching algorithms, software enhancement, equipment design, data storage technology, matching capabilities and exploitation that when proven may be transitioned to enduring capabilities.					
Title: PM DoD Biometrics	16.865	-	-	-	-
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 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 50B: *BIOMETRICS*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Program Manager (PM) Department of Defense (DoD) Biometrics. Funding for FY 2011 and out is reflected on Project Unit 5PM of this Program Element. ***FY 2010 Accomplishments:*** Biometrics Enabling Capability (BEC) performed test and evaluation of the Transaction Manager integration (TMi) to be incorporated into Next Generation-Automated Biometric Identification System (NG-ABIS) which will allow near real-time retention, capture, or release decisions to be made by the Warfighter. In addition, BEC performed system maintenance to keep NG-ABIS at the high level performance objectives of reliability, maintainability, availability, scalability, capacity and technical refreshment as well as detailed system sizing analysis of the current ABIS configuration relative to the known current user submissions and projected user submissions. Funding also supported government civilian labor and operational support. OCO funding in the amount of $2.22M supported operational change requests for minor improvements to the system that required development and testing.					
Accomplishments/Planned Programs Subtotals	23.771	8.267	8.060	-	8.060

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
• BIMA Direct: *BIMA Operations and Maintenance Army*	14.001	27.560	19.622		19.622		29.252	30.417	30.934	Continuing	Continuing
• BIMA OCO: *BIMA Operations and Maintenance Army OCO*	104.811	69.548								0.000	174.359

D. Acquisition Strategy

C. Acquisition Strategy Support DoD Acquisition organizations in developmental testing, systems integration, and/or independent verification and validation of biometric systems.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 50B: *BIOMETRICS*

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
Enterprise Development	Various	Various:various	81.261	8.267		8.060		-		8.060	Continuing	Continuing	Continuing
FY 10: Funding for DoD Biometrics Program Management	Various	Various:various	16.445	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	97.706	8.267		8.060		-		8.060			

	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	97.706	8.267		8.060		-		8.060			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 5PM: *DOD BIOMETRICS PROGRAM MANAGEMENT*	

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
5PM: *DOD BIOMETRICS PROGRAM MANAGEMENT*	21.034	34.612	37.451	-	37.451	38.271	35.355	36.341	35.694	Continuing	Continuing
Quantity of RDT&E Articles											

Note

In FY 2010, funds supporting the Biometrics Enabling Capability (BEC) were reflected under Project 50B within this program element. Funds for FY 2010 supporting the Joint Personnel Identification version 2 (JPIv2) are reflected in the this Project; funds for FY 2011 and out are reflected in Project BI7 of Program Element 0307665A.

A. Mission Description and Budget Item Justification

Biometrics Enabling Capability (BEC), an Acquisition Category (ACAT) I - Special Interest Program, will be the Department of Defense's (DoD) authoritative biometric enterprise database repository. Capabilities shall include multi-modal storage and matching, state-of-the-art Service Oriented Architecture (SOA), management portal, Biometrically Enabled Watch-List (BEWL), increased system capacity and processing ability and system interoperability and data sharing with government agencies and stakeholders including Department of Justice's (DOJ), Federal Bureau of Investigation (FBI), Department of Homeland Security (DHS), National Ground Intelligence Center (NGIC), Department of State (DOS), United States Central Command (CENTCOM), United States Special Operations Command (SOCOM) and other DoD and Federal agencies as required.

The current prototype capability, Next Generation Automated Biometric Identification System (NG-ABIS) was developed as a Quick Reaction Capability (QRC) based on a CENTCOM Joint Urgent Operational Needs Statement (JUONS). NG-ABIS provides a robust capability for distinguishing friend from foe in hot spots around the globe. NG-ABIS enables near-instantaneous device-to-database communication and lays the foundation for enhanced device-to-device communication, reducing cycle and response times. NG-ABIS receive submissions from existing QRC-based collection devices (e.g. Biometrics Automated Toolset [BAT] and Handheld Interagency Identity Detection Equipment [HIIDE]) and objective tactical collection devices being developed as part of the Joint Personnel Identification version 2 (JPIv2) program. NG-ABIS also receives request by authorized users to perform storage retrieval, searches of biometric data collection and matching results. NG-ABIS provides a reliable and effective tool for overseas operations by allowing the Warfighter to make near real-time retention, capture or release decision. NG-ABIS will transition into BEC Increment 0 upon receiving a Full Deployment Decision (FDD) during 3QFY11.

FY12 Base Funding will support Product Development activities. These include System Integration competitive contract awards to support NG-ABIS system integration and Milestone B activities and documentation, and Engineering and Manufacturing Development (EMD) activities and documentation. System interoperability collaboration with DHS and FBI. Leverage biometric capabilities and data sharing with government agencies and stakeholders, including DOS, DHS, FBI, NGIC, CENTCOM and SOCOM. Funds will also support system capacity and throughput based on rapidly increasing submission rates from the Warfighter. Funds will support Homeland Security Presidential Directive 24 (HSPD 24)/ National Security Presidential Directive 59 (NSPD 59).

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 5PM: *DOD BIOMETRICS PROGRAM MANAGEMENT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Biometrics Enabling Capability (BEC) ***Articles:***	-	34.612 0	37.451	-	37.451

Description: Biometrics Enabling Capability (BEC) will be the Department of Defense's (DoD) biometric enterprise authoritative database and repository.

FY 2011 Plans:
Product Development: System Integration competitive contract awards to support NG-ABIS system integration and Milestone B activities and documentation. Plan to incorporate Transaction Manager integration (TMi) into NG-ABIS providing the Warfighter with near real-time matching results for retention, capture, or release decisions. System interoperability collaboration with DHS and DOJ's FBI. Leverage biometric capabilities and data sharing with government agencies and stakeholders, including DOS, DHS, FBI, NGIC, CENTCOM and SOCOM. Support additional system capacity and throughput based on rapidly increasing submission rates from the Warfighter. Support Homeland Security Presidential Directive 24 (HSPD 24)/ National Security Presidential Directive 59 (NSPD 59) and maintain the compliance of the system consistent with current information assurance guidance, DoD policy and biometric standards. Improve the NG-ABIS data algorithms. //Support Cost: Support government civilian labor and operational support including travel, training, supplies, infrastructure and facility costs. //Test and Evaluation: Support continued testing and evaluation of the Transaction Manager integration (TMi) in preparation for the full deployment to the operational environment. Support integration, test and verification efforts supporting Service Oriented Architecture (SOA) based web services required to develop the system interoperability and BEWL system releases. Support inter-agency test and evaluation of the interoperability of the BEWL. //Management Services: Funds will provide PM contractor support to plan, develop and prepare Army and Office of the Secretary of Defense (OSD) level documentation consistent with DoD Instruction 5000.02, the Defense Acquisition System and compliant with existing statutory and regulatory policies for a Full Deployment Decision (FDD) in FY11 for BEC Increment 0 and a Milestone B decision in FY12 for BEC Increment 1.

FY 2012 Base Plans:
Product Development: System Integration competitive contract awards to support NG-ABIS system integration and Milestone B activities and documentation, and Engineering and Manufacturing Development (EMD) activities and documentation. System interoperability collaboration with DHS and DOJ's FBI. Leverage biometric capabilities and data sharing with government agencies and stakeholders, including DOS, DHS, FBI, NGIC, CENTCOM and SOCOM. Support system capacity and throughput based on rapidly increasing submission rates from the Warfighter. Support Homeland Security Presidential Directive 24 (HSPD 24)/ National

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 5PM: *DOD BIOMETRICS PROGRAM MANAGEMENT*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Security Presidential Directive 59 (NSPD 59) and maintain the compliance of the system consistent with current information assurance guidance, DoD policy and biometric standards. //Support Costs: Support government civilian labor and operational support including travel, training, supplies, infrastructure and facility costs. //Test and Evaluation: Support test and evaluation activities under an EMD contract for BEC to include development of test plans, conducting preliminary testing of system functionality, production of test reports and support of technical reviews. //Management Services: Funds will provide PM contractor support to plan, develop and prepare Army and Office of the Secretary of Defense (OSD) level documentation consistent with DoD Instruction 5000.02, the Defense Acquisition System, and compliant with existing statutory and regulatory policies for a Milestone B decision in FY12 for BEC Increment 1.					
Title: Joint Personel Identification version 2 (JPIv2) ***Articles:*** ***Description:*** JPIv2 Program development and management ***FY 2010 Accomplishments:*** Test and Evaluation: Provides T&E activities supporting operation and evaluation of prototype devices as part of the Preliminary Design Review (PDR) in preparation for an Acquisition Category (ACAT) I - (Special Interest) Milestone B decision. //Support Costs: Funds will be used for government civilian labor and operational support to include travel, training, supplies, infrastructure, and facility costs. //Management Services: Funds will provide PM contractor support to plan, develop and prepare Army and Office of the Secretary of Defense (OSD) - level documentation consistent with DoD Instruction 5000.02, The Defense Acquisition System, and compliant with existing statutory and regulatory policy for a Milestone B decision in FY12.	21.034 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	21.034	34.612	37.451	-	37.451

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
• TA0600: *Information Systems Security Program, Other Procurment, Army*	138.215	63.340								0.000	201.555
• 432144: *Operations and Maintenance , Army Base*	0.884	1.712	1.735		1.735		1.822	1.864		0.000	9.799

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 5PM: *DOD BIOMETRICS PROGRAM MANAGEMENT*

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
• 135197: *Operations and Maintenance, Army OCO*	17.585	298.162	0.000	241.900	241.900					0.000	557.647

D. Acquisition Strategy

The USD (AT&L) held a biometrics Materiel Development Decision (MDD) on 10 June 2009 during which he directed the Army was directed to conduct an Analysis of Alternatives (AoA) for the BEC program. The Army completed the AoA on 30 April 2010 and recommended an enhanced status quo acquisition approach. On 19 July 2010, the DoD Biometrics Overarching Integrated Product Team (OIPT) met to review the enterprise and decide on a recommendation for the Milestone Decision Authority (MDA) to approve the Army's AoAs alternatives and proposed development program structure. The OIPT concurred with initiating the BEC Increment 0 (currently fielded Next Generation Automated Biometric Identification System [NG-ABIS] at a Full Deployment Decision (FDD) in FY11 and initiating BEC Increment 1 program at Milestone (MS) B in FY12. An Acquisition Decision Memorandum (ADM) is expected in 2QFY11. A Capabilities Production Document (CPD) will be completed in FY11 to support the FDD/BEC Increment 0. A Capabilities Development Document (CDD) will be completed in FY11 to document the required system enhancements and to support a Milestone B in FY12 (BEC Increment 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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*	PROJECT 5PM: *DOD BIOMETRICS PROGRAM MANAGEMENT*

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 Management Services	Various	PM DoD Biometrics:Various	6.052	11.079		12.479		-		12.479	Continuing	Continuing	Continuing
		Subtotal	6.052	11.079		12.479		-		12.479			

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
Products Development	Various	Various:Varius	-	21.017		21.665		-		21.665	Continuing	Continuing	Continuing
		Subtotal	-	21.017		21.665		-		21.665			

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 Civilian Personnel and other support costs	Various	PM DoD Biometrics:Various	1.300	1.516		2.320		-		2.320	Continuing	Continuing	Continuing
		Subtotal	1.300	1.516		2.320		-		2.320			

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	Various	Army Test and Evaluation Commend (ATEC); Joint Interoperability Test Command:Various	1.300	1.000		0.987		-		0.987	Continuing	Continuing	Continuing
		Subtotal	1.300	1.000		0.987		-		0.987			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140A: *Information Systems Security Program*		PROJECT 5PM: *DOD BIOMETRICS PROGRAM MANAGEMENT*

	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	8.652	34.612		37.451		-		37.451			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 5PM: *DOD BIOMETRICS PROGRAM MANAGEMENT*

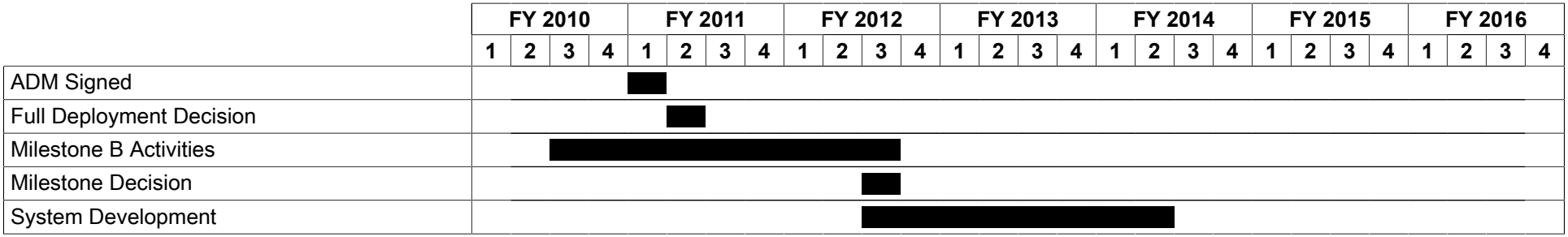

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140A: *Information Systems Security Program*	**PROJECT** 5PM: *DOD BIOMETRICS PROGRAM MANAGEMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ADM Signed	1	2011	1	2011
Full Deployment Decision	2	2011	2	2011
Milestone B Activities	3	2010	3	2012
Milestone Decision	3	2012	3	2012
System Development	3	2012	2	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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support 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**
Total Program Element	138.764	125.569	100.505	-	100.505	81.927	55.003	45.907	41.960	Continuing	Continuing
083: *GLOBAL COMBAT SUPPORT SYS - ARMY (GCSS-ARMY)*	87.695	95.623	79.721	-	79.721	68.634	50.252	44.457	40.860	Continuing	Continuing
08A: *Army Enterprise System Integration Program (AESIP)*	51.069	29.946	4.464	-	4.464	13.293	-	-	-	Continuing	Continuing
VU2: *INSTALLATION FIXED BASE (IFB)*	-	-	16.320	-	16.320	-	4.751	1.450	1.100	Continuing	Continuing

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Global Combat Support System-Army (GCSS-Army) has two components: a functional component titled GCSS-Army (Field/Tactical) (F/T) and a technology enabler component titled Product Lifecycle Management Plus (PLM+). GCSS-Army (F/T) coupled with GCSS-Army (PLM+) are information and communications technology investments that will provide key enabling support to the transformation of the Army into a network-centric, knowledge-based future force. The GCSS-Army approved Joint Capability Description Document (CDD) requires an enterprise approach to replace current logistics and maintenance Standard Army Management Information Systems (STAMIS). GCSS-Army will provide the Army's Sustainment Support (CS/CSS) warfighter with a seamless flow of timely, accurate, accessible and secure information management that gives combat forces a decisive edge. PLM+ will provide interfaces to external systems and limited Master Data Management. GCSS-Army will implement best business practices to streamline supply, accountability, maintenance, distribution, and reporting procedures in support of the future force transition path of the Army Campaign Plan.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army					DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*		R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*			
B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	143.979	125.569	77.329	-	77.329
Current President's Budget	138.764	125.569	100.505	-	100.505
Total Adjustments	-5.215	-	23.176	-	23.176
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-5.215	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	23.176	-	23.176

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 083: *GLOBAL COMBAT SUPPORT SYS - ARMY (GCSS-ARMY)*	

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
083: *GLOBAL COMBAT SUPPORT SYS - ARMY (GCSS-ARMY)*	87.695	95.623	79.721	-	79.721	68.634	50.252	44.457	40.860	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Global Combat Support System-Army will provide the Army's Tactical warfighter with a seamless flow of timely, accurate, accessible, actionable, and secure information not readily available today that gives combat forces a decisive edge. GCSS-Army will modernize automated logistics by implementing best business practices to streamline supply operations, maintenance operations, property accountability, and tactical logistics and financial management and integration procedures in support of the Future Force transition path of the Army Campaign Plan. This effort will implement a comprehensive logistics automation solution for the field (deployable) Army and provide the Commander on the battlefield with an integrated, interoperable view of the battle-space in time to support decisions that will affect the outcome of combat operations, combat power, and planning for future operations. This solution implements Commercial-Off-The-Shelf (COTS) Enterprise Resource Planning (ERP) products from SAP AG. This will also allow the Army to retire multiple custom designed stand-alone business software baselines optimized to existing Army business processes and replace them with a single integrated business software baseline that has been optimized to industry defined best business practices. GCSS-Army is a key component of the Federated ERP Integration solution that will optimize tactical logistics and finance domain business processes into a single federated approach. It will eliminate the need for extensive maintenance and modification of aging, diverse software systems resulting in improved and efficient change control and configuration management through implementation of an enterprise system.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Project Management	10.323	10.529	10.600
Articles:	0	0	
Description: PM Operations			
FY 2010 Accomplishments: PM GCSS-Army accomplished a Critical Design Review (CDR) of Release 1.1 which led to a Go Live on 5 July 2010 at the National Training Center at Ft Irwin, CA. The PM office is comprised of a Project Management Team, embedded combat developers, matrix activities such as Sec-Lee, ISEC Engineers as well as a multitude of Subject Matter Experts (SME's) from various commands.			
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 083: *GLOBAL COMBAT SUPPORT SYS - ARMY (GCSS-ARMY)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Funding continue sustainment of a Project Management Team, embedded combat developers, matrix activities such as Sec-Lee, ISEC Engineers as well as a multitude of Subject Matter Experts (SME's) from various commands. The Operational Assessment 2 for Release 1.1 will continue leading to a MS C in 2nd Qtr FY 11 and an IOT&E 4th Qtr FY11. ***FY 2012 Plans:*** Funding will continue sustainment of a Project Management Team, embedded combat developers, matrix activities such as Sec-Lee, ISEC Engineers as well as a multitude of Subject Matter Experts (SME's) from various commands. GCSS-Army is scheduled for an FD decision in Feb 12 leading to the training and fielding of the system.			
Title: GCSS-Army ERP	77.372	85.094	69.121
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** Funds Critical Design Review (CDR) was held which led to the successful Go live of Release 1.1 at the 11th ACR at the National Training Center on 5 July 2010. This operational assessment will continue while the government performs an Independent Government Test of Release 1.1. Break/fix activities are ongoing as well as planning for Release 1.2 ***FY 2011 Plans:*** GCSS-Army is scheduled for a MS C in 2nd Qtr leading to an IOT&E 4th Qtr FY11. Plan, analyze and design will be ongoing for Release 1.2 through the remainder of FY11. ***FY 2012 Plans:*** GCSS-Army will complete the design and build phase for Release 1.2 which will lead to a DT&E/LUT in 4th Qtr FY12. The program will seek a full deployment decision in 2nd Qtr FY12 and begin fielding to the Army.			
Accomplishments/Planned Programs Subtotals	87.695	95.623	79.721

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
• W00800: *STACOMP (OPA)*	13.392	28.849	143.122		143.122		93.404	81.506	82.052	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 083: *GLOBAL COMBAT SUPPORT SYS - ARMY (GCSS-ARMY)*

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
• 4236120: *OMA*	10.030	10.170	26.760		26.760		69.400	81.000	162.500	Continuing	Continuing

D. Acquisition Strategy

GCSS-Army has an evolutionary acquisition strategy as defined in DoD Directive 5000.01 and DoD Instruction 5000.02 and will define, develop and produce/deploy an initial, militarily useful (and supportable) operational capability based upon proven technology, time-phased requirements, projected threat assessments, and demonstrated manufacturing capabilities in as short a time as possible. The system will be developed in multiple releases as functional capabilities are defined and as integration and synchronization opportunities with related systems present opportunities for subsequent releases. Release 1.2 will be a viable stand alone capability that will not require subsequent releases to be operational.

GCSS-Army Increment I will consist of three releases. Release 1.0 is an initial prototype of retail supply capability that has been deployed to the 11th Armored Cavalry Regiment at the National Training Center as part of an operational assessment and continuous evaluation. Release 1.1 will add the capabilities of Unit Level Supply, Maintenance, Property Book, and Finance (support to tactical supply and maintenance). Release 1.2 will add Disconnected Operations, additional finance functionality, extended Enterprise Master Data Management, prepare to use Enterprise services to interface with avaiation maintenance system and installation based maintenance.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 083: *GLOBAL COMBAT SUPPORT SYS - ARMY (GCSS-ARMY)*

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
PMO Operations	Various	TBD:TBD	42.543	4.459		4.664		-		4.664	Continuing	Continuing	Continuing
		Subtotal	42.543	4.459		4.664		-		4.664			

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
Enterprise Resource Planning (ERP) Implementation	Various	Northrop Grumman,:Arlington, VA	161.965	80.719		64.404		-		64.404	Continuing	Continuing	Continuing
Tactical Combat Developer	Various	CASCOM,:Ft. Lee, VA	13.980	1.275		1.276		-		1.276	Continuing	Continuing	Continuing
		Subtotal	175.945	81.994		65.680		-		65.680			

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
PMO Operations	Various	TBD:TBD	42.543	1.020		1.080		-		1.080	Continuing	Continuing	Continuing
Engineering and Security	Various	ISEC,:Various	19.304	1.553		1.571		-		1.571	Continuing	Continuing	Continuing
Technical Services	Various	Log Mgt Institute,:Various	20.706	3.497		3.584		-		3.584	Continuing	Continuing	Continuing
		Subtotal	82.553	6.070		6.235		-		6.235			

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
Army Evaluation Center	Various	AEC:Virginia	4.882	3.100		3.142		-		3.142	Continuing	Continuing	Continuing
		Subtotal	4.882	3.100		3.142		-		3.142			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 083: *GLOBAL COMBAT SUPPORT SYS - ARMY (GCSS-ARMY)*

	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	305.923	95.623		79.721		-		79.721			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 083: *GLOBAL COMBAT SUPPORT SYS - ARMY (GCSS-ARMY)*

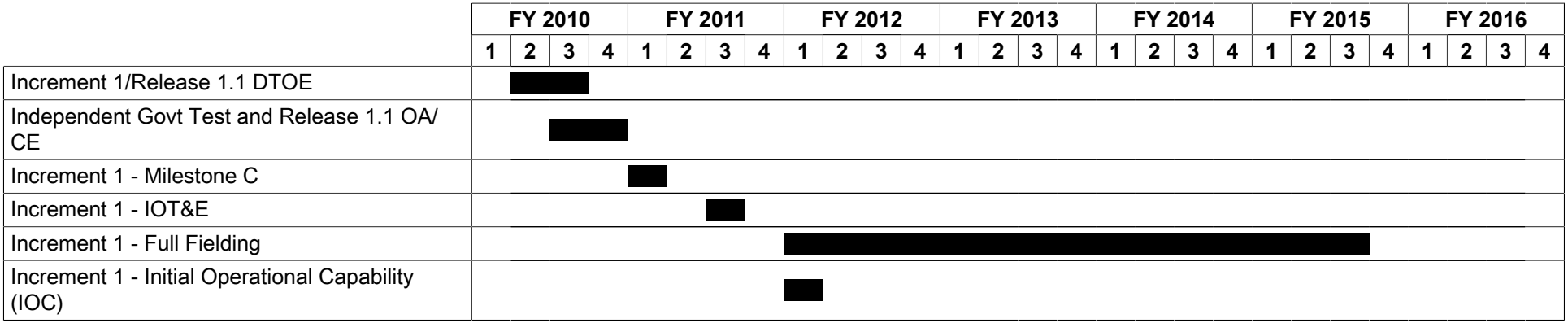

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 083: *GLOBAL COMBAT SUPPORT SYS - ARMY (GCSS-ARMY)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment 1/Release 1.1 DTOE	2	2010	3	2010
Independent Govt Test and Release 1.1 OA/CE	3	2010	4	2010
Increment 1 - Milestone C	1	2011	1	2011
Increment 1 - IOT&E	3	2011	3	2011
Increment 1 - Full Fielding	1	2012	3	2015
Increment 1 - Initial Operational Capability (IOC)	1	2012	1	2012

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 08A: *Army Enterprise System Integration Program (AESIP)*	

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
08A: *Army Enterprise System Integration Program (AESIP)*	51.069	29.946	4.464	-	4.464	13.293	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Army Enterprise Systems Integration Program (AESIP), mission is to integrate Army business processes by providing a single source for enterprise hub services, centralized master data management, and business intelligence and analytics. AESIP will support the Army's federated approach and enable the integration of end-to-end logistical and financial processes. The Army has successfully addressed concerns about the lack of integration of ERPs by leveraging AESIP core capabilities and expanding those benefits across the Army enterprise. AESIP will be an Army specific commercial off-the-shelf (COTS) web portal implementation via the NetWeaver Platform from developer Systems Applications and Products (SAP) American Group to support Army process scenarios and requirements that will provide core competencies:

Enterprise Service Bus (Hub Services) - For a Service oriented, Single Point of Entry to connect, mediate, and control the exchange of data.
Business Intelligence/Business Warehouse - Aggregates data from ERP and non-ERP systems to provide flexible Enterprise level reporting.
Enterprise Master Data - For a single source of authoritative data and improved workflow and business processes.

Hence, the AESIP solution establishes a framework for a fully integrated ERP centric environment that will ultimately provide Commanders Total Visibility from Factory to Foxhole thereby ensuring delivery of the right equipment to the right unit at the right time, while reducing backlogs of material on the battlefield.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: System Development and Demonstration (SDD) Phase Contract Activity	40.087	16.076	2.351
Articles:	0	0	
Description: Manage a myriad of Government contracts associated with work relating to acquisition, engineering, planning and integration activities supporting SDD. These contracts support an evolutionary development strategy for enterprise hub services, centralized master data management and business intelligence/business warehouse applications using SAP products and architecture. The current efforts support the Milestone Decision Authority federated approach. It is also synchronized with the Global Combat Support System-Army (GCSS-Army), the Logistics Modernization Program (LMP), the Manufacturing Execution System (MES) and the General Fund Enterprise Business System (GFEBS) to enable end-to-end integration of the Army's logistical and financial ERP programs.			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program (AESIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: Managed a myriad of Government contracts associated with work relating to acquisition, engineering, planning and integration activities supporting SDD. Work accomplished in FY10 by the DoD lead systems integrator included designing, building and testing interfaces required for hub services and the material master. During this fiscal year the work plan included the transition of sustainment and infrastructure services from the current DoD lead systems integrator to government control through the Center of Expertise at Picatinny Arsenal. Also application server hosting was provided by Redstone Arsenal and enterprise disaster recovery support by Acquisition Logistics and Technology Enterprise System and Services (ALTESS). ***FY 2011 Plans:*** Continue to manage a myriad of Government contracts associated with work relating to acquisition, engineering, planning and integration activities supporting SDD. The focus of work planned for FY11 includes designing, building and testing hub services and the material master interfaces required for GCSS-Army Rel 1.1 and LMP Deploy #3. During this fiscal year the work plan includes the transition of architecture and development services from the current DoD lead systems integrator to government control through the Center of Expertise at Picatinny Arsenal.FY 11 work also includes development, testing and implementation of Material Master release 3.1 to support the Army Central Logistics Data Base sunset and Milestone C. The plan for application server hosting and enterprise disaster recovery support remains unchanged at Redstone Arsenal and ALTESS respectively. ***FY 2012 Plans:*** Continue to manage a myriad of Government contracts associated with work relating to acquisition, engineering, planning and integration activities supporting SDD. The focus of work planned for FY12 includes designing, building and testing hub services and the material master interfaces required for GCSS-Army Rel 1.2 and complete material master release functionality and attain a Full Deployment Decision. Funding will support the initiation of convergence of the ERP programs IAW the federated approach. During this fiscal year the work plan includes finalizing the transition from the current DoD lead systems integrator to government control through the Center of Expertise at Picatinny Arsenal. The plan for application server hosting and enterprise disaster recovery support remains unchanged at Redstone Arsenal and ALTESS respectively.			
Title: PM Operations	10.524	11.580	1.921
Articles:	0	0	
Description: Provide functional support across a wide array of specialty areas to sustain product development. ***FY 2010 Accomplishments:*** Continued providing functional support across a wide array of specialty areas to sustain product 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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 08A: *Army Enterprise System Integration Program (AESIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Continue to provide functional support across a wide array of specialty areas to sustain product development. ***FY 2012 Plans:*** Continue to provide functional support across a wide array of specialty areas to sustain product development.			
Title: Government System Test and Evaluation ***Articles:*** ***Description:*** Plans, conducts and reports on developmental tests and assists in planning, conducting, and reporting of operational and interoperability tests, assessments, and experiments in order to provide essential information for the acquisition and fielding of warfighting systems. ***FY 2010 Accomplishments:*** Worked with Army Test and Evaluation Command (ATEC), Operational Test Command (OTC) and Joint Interoperability Test Command (JITC), planned and initiated limited user test of Enterprise Service Bus (Hub Services) products including but not limited to Business Intelligence/Business Warehouse, Material Master Data and Equipment Master Data applications to support achieving Milestone C and full deployment. ***FY 2011 Plans:*** Continue ATEC, OTC and JITC testing and evaluation of Enterprise Service Bus (Hub Services) products including but not limited to Business Intelligence/Business Warehouse, Material Master Data and Equipment Master Data applications to support achieving Milestone C. ***FY 2012 Plans:*** Continue ATEC, OTC and JITC testing and evaluation of Enterprise Service Bus (Hub Services) products including but not limited to Business Intelligence/Business Warehouse, Material Master Data and Equipment Master Data applications for full deployment.	0.458 0	2.210 0	0.042
Title: Small Business Innovative Research/Small Business Technology Transfer Programs ***Articles:*** ***Description:*** Small Business Innovative Research/Small Business Technology Transfer Programs ***FY 2011 Plans:*** Initiate transition of systems integration to small business firms. ***FY 2012 Plans:*** Continue expansion of systems integration.	- 0	0.080 0	0.150
Accomplishments/Planned Programs Subtotals	51.069	29.946	4.464

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program (AESIP)*

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
• W11001: *Army Enterprise System Integration Program (AESIP)*	10.233	11.599	10.623		10.623		4.562	6.735	6.770	Continuing	Continuing
• 423612: *AESIP Sustainment*	17.220	23.116	10.279		10.279		19.987	20.472	42.226	Continuing	Continuing

D. Acquisition Strategy

As the technical component of GCSS-Army, AESIP employs an evolutionary acquisition strategy as defined in DoD Directive 5000.1 and DoD Instruction 5000.2, and will define, develop and produce/deploy an initial operational capability based upon proven technology, time-phased requirements, projected threat assessments, and demonstrated manufacturing capabilities in as short a time as possible. The system will be developed in multiple increments then integrated and synchronized with related systems presenting opportunities for subsequent increments. Increment I will be a viable stand alone capability that will not require subsequent increments to be operational.

AESIP will support the same Release 1.1 and 1.2 schedules of GCSS-Army by providing Enterprise Service Bus (Hub Services), Enterprise Material Master Data, and Business Intelligence/Business Warehouse capabilities in support of the entire GCSS-Army program.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 08A: *Army Enterprise System Integration Program (AESIP)*	

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
PMO Operations	Various	PM AESIP:PMO Operations	7.480	2.520		0.426		-		0.426	Continuing	Continuing	Continuing
		Subtotal	7.480	2.520		0.426		-		0.426			

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
2. Enterprise Resource Planning (ERP) Implementation	FFRDC	MITRE Corporation 7615 Colshire Dr McLean 22102:Technical Support Services	-	1.015		0.172		-		0.172	Continuing	Continuing	Continuing
1 . Enterprise Resource Planning (ERP) Implementation	C/FP	Computer Sciences Corporation (CSC) 3160 Fairview Park Dr FallsChurch 22042:Systems Integration	94.340	3.763		-		-		-	Continuing	Continuing	Continuing
3. Enterprise Resource Planning (ERP) Implementation	IA	US Army ARDEC Picatinny Arsenal NJ 08706:Government Lead Systems Integrator	6.440	12.178		1.529		-		1.529	Continuing	Continuing	Continuing
4. Enterprise Resource Planning (ERP) Implementation	C/FP	Systems, Applications and Products (SAP) 1300 Pennyslvania Avenue Washington DC 20004:Technical Support Services	-	3.017		0.430		-		0.430	Continuing	Continuing	Continuing
	C/FP		-	-		0.070		-		0.070	0.000	0.070	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 08A: *Army Enterprise System Integration Program (AESIP)*

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
5. Enterprise Resource Planning (ERP)		TBD:ERP/SAP Technical and Management Support Services											
6. Enterprise Resource Planning (ERP)	C/FP	TBD:Enterprise Application Services	-	-		0.050		-		0.050	0.000	0.050	0.000
7. Enterprise Resource Planning (ERP)	C/FP	TBD:Enterprise Integration Services	-	-		0.050		-		0.050	0.000	0.050	0.000
8. Enterprise Resource Planning (ERP)	C/FP	TBD:Infrastracture Services	-	-		0.050		-		0.050	0.000	0.050	0.000
		Subtotal	100.780	19.973		2.351		-		2.351			

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
1. PM Support	C/FFP	Program Management Support Services (PMSS2)/L3 250 Royall Street Canton, MA 02021:Program Management Support Services	6.118	1.630		0.337		-		0.337	Continuing	Continuing	Continuing
2. PM Support	C/FP	LMI Government Consulting 2000 Corporate Ridge McLean, Virginia 22102-7805:Program Management Support Services	6.656	1.815		0.509		-		0.509	Continuing	Continuing	Continuing
3. PM Support	C/FP		-	1.798		0.304		-		0.304	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 08A: *Army Enterprise System Integration Program (AESIP)*

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
		Science Applications International Corporation (SAIC) 1710 SAIC Drive McLean, VA 22102:Program Management Support Services											
4. PM Support	C/FP	EDC Consulting/Alion 8201 Greensboro Drive, Suite 105 McLean, VA 22102:Program Management Support Services	-	-		-		-		-	Continuing	Continuing	Continuing
5. PM Support	C/FP	CAP Gemini Governement Solutions LLC 2250 Corporate Park Dr Ste. 406 Herndon VA 20171:Independent Verification and Validation	-	-		0.495		-		0.495	0.000	0.495	0.000
		Subtotal	12.774	5.243		1.645		-		1.645			

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	IA	ATEC, OTC, & JITC	1.422	2.210		0.042		-		0.042	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT 08A: *Army Enterprise System Integration Program (AESIP)*

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
		Multiple Locations:Test and Evaluation											
		Subtotal	1.422	2.210		0.042		-		0.042			

	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	122.456	29.946		4.464		-		4.464			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program (AESIP)*

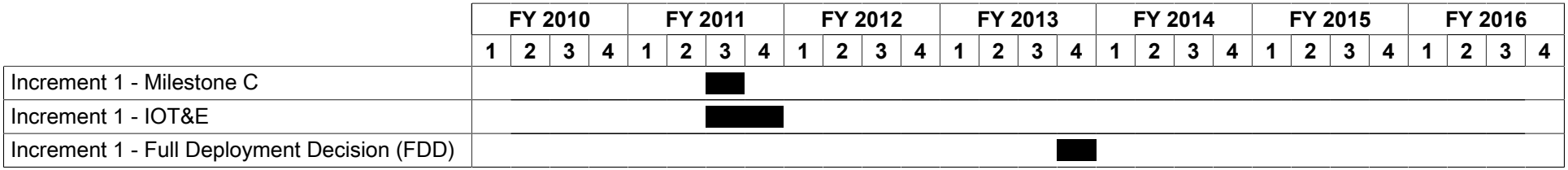

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141A: *Global Combat Support System*	**PROJECT** 08A: *Army Enterprise System Integration Program (AESIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment 1 - Milestone C	3	2011	3	2011
Increment 1 - IOT&E	3	2011	4	2011
Increment 1 - Full Deployment Decision (FDD)	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141A: *Global Combat Support System*	PROJECT VU2: *INSTALLATION FIXED BASE (IFB)*	

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
VU2: *INSTALLATION FIXED BASE (IFB)*	-	-	16.320	-	16.320	-	4.751	1.450	1.100	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Installation Fixed Base delivers the GCSS-Army Enterprise Solution to Installations. It integrates Installation Director Of Logistics/Financial Business Processes and the Tactical Army Logistics/Financial Business Processes into a single Enterprise Resource Planning System that will enable Army Force Generation (ARFORGEN) capability to generate land power capabilities that support the Joint Forces Commander's operational needs and conforms with Title 10 functions. IFB entails a modification to expand the GCSS-Army Enterprise Resource Planning (ERP) baseline software system to include the functions required for logistical tasks performed at Army Installations. IFB will result in enhanced management of Army inventory including a national view of Class IX and Class V stocked at all 88 Army installations; and will support expanded mission - (RESET, ARFORGEN, Expanded Fleet Management, National Maintenance Management) and will provide more accurate and actionable data, fully automated and integrated billing process between installation, AMC MSC, and DFAS.

FY12 Base funding supports initial development work on IFB capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2010	FY 2011	FY 2012
Title: Installation Fixed Base ***Description:*** Initiate development and software configuration for IFB software capabilities. ***FY 2012 Plans:*** Initiate development and software configuration for IFB software capabilities	-	-	16.320
Accomplishments/Planned Programs Subtotals	-	-	16.320

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

IFB will support the needs of installation level logistics across the Army. It will do this by exploiting and building on GCSS-Army products to produce/deploy an operational capability that is based upon proven technology, and that readily integrates with other Army systems.

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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*							
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	32.453	33.694	12.104	-	12.104	12.372	11.635	11.360	9.944	Continuing	Continuing
253: *DSCS-DCS (PHASE II)*	6.878	11.447	5.766	-	5.766	5.927	5.548	5.513	5.343	Continuing	Continuing
456: *MILSATCOM SYSTEM ENGINEERING*	21.555	22.247	6.338	-	6.338	6.445	6.087	5.847	4.601	Continuing	Continuing
562: *MBAND INT SAT TERM MIST*	4.020	-	-	-	-	-	-	-	-	0.000	4.020

Note

Change Summary Explanation: Funding - FY 2012 : Funding realigned ($20,819) to other Army priorities.

A. Mission Description and Budget Item Justification

Military Satellite Communication (MILSATCOM) systems are joint program/project efforts to satisfy ground mobile requirements for each Service, the Joint Chiefs of Staff (JCS), the National Command Authority, the combatant commanders, the National Security Agency, the Office of the Secretary of Defense, and other governmental, non-DoD users. The worldwide MILSATCOM systems are: Ultra High Frequency (UHF) Follow-On Satellite System; Air Force Satellite (FLTSAT/ AFSAT) system; the Mobile User Objective System (MUOS); the Super High Frequency (SHF) Defense Satellite Communications System (DSCS); the Wideband Global SATCOM (WGS); the MILSTAR Extremely High Frequency (EHF)(Low Data Rate (LDR) and Medium Data Rate (MDR); the Advanced Extremely High Frequency (AEHF); and future MILSATCOM capabilities, all of these systems are required to support legacy, interim and emerging communication space architectures and Objective Force requirements. The Army is responsible for materiel development, acquisition, product improvement, testing, fielding and integrated logistics support of ground satellite terminals and SATCOM control subsystems and all associated equipment used to provide range extension of Command, Control and Communications Systems for the Warfighter. The Army also participates in the development of MILSATCOM programs, including architectures, payloads, waveforms, antennas and terminal developments to ensure US Army equities are appropriately addressed with our sister services. This includes technology assessment efforts associated with the integration of MILSATCOM components to US Army Landwarnet This responsibility also includes maintaining the life cycle logistics support required to achieve end-to-end connectivity and interoperability, satisfying JCS Command, Control, Communications and Intelligence (C3I) in support of the President, JCS, combatant commanders, Military Departments, Department of State, and other government Departments and Agencies.

This program is designated as a DoD Space Program.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army					DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*		R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*			
B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	39.889	33.694	32.923	-	32.923
Current President's Budget	32.453	33.694	12.104	-	12.104
Total Adjustments	-7.436	-	-20.819	-	-20.819
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-6.272	-			
• SBIR/STTR Transfer	-1.164	-			
• Adjustments to Budget Years	-	-	-20.819	-	-20.819

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 253: *DSCS-DCS (PHASE II)*	

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
253: *DSCS-DCS (PHASE II)*	6.878	11.447	5.766	-	5.766	5.927	5.548	5.513	5.343	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project provides funds to develop strategic and tactical Ground Subsystem equipment and software in support of Chairman, Joint Chiefs of Staff (CJCS) validated Command, Control, Communications and Intelligence (C3I) requirements for the worldwide Defense Enterprise Wideband SATCOM System (DEWSS). DEWSS is composed of the Super High Frequency (SHF) Defense Satellite Communications System (DSCS) and Wideband Global SATCOM (WGS) programs. Expansion of the WGS constellation and upgrades to both DSCS and WGS are vital to support the Army's emerging power projection and rapid deployment role. DSCS and WGS provide Warfighters multiple channels of tactical connectivity as well as interfaces with strategic networks and national decision-makers.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Netcentic Systems Engineering and Analysis	1.857	3.874	3.166
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Provided Netcentric Systems Engineering and Analysis			
FY 2011 Plans: Continues Netcentric Systems Engineering and Analysis			
FY 2012 Plans: Future Netcentric Systems Engineering and Analysis			
Title: Initiate integration and test efforts on the Remote Monitor Control Equipment (RMCE)	2.500	5.000	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Initiated integration and test efforts on the Remote Monitor Control Equipment (RMCE)			
FY 2011 Plans: Continuing ntegration and test efforts on the Remote Monitor Control Equipment (RMCE)			
Title: SATCOM Engineering Lab (SEL), PM Administration and Systems Engineering Technical Assistance (SETA) efforts	2.521	2.573	2.600

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 253: *DSCS-DCS (PHASE II)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Articles:	0	0	
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** Funded SATCOM Engineering Lab (SEL), PM Admin and Systems Engineering Technical Assistance (SETA) efforts ***FY 2011 Plans:*** Continuing SATCOM Engineering Lab (SEL), PM Admin and Systems Engineering Technical Assistance (SETA) efforts ***FY 2012 Plans:*** Future SATCOM Engineering Lab (SEL), PM Admin and Systems Engineering Technical Assistance (SETA) efforts			
Accomplishments/Planned Programs Subtotals	6.878	11.447	5.766

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
• BB8500000: *DEWSS Other Procurement Army*	145.894	115.744	123.859		123.859		103.181	99.567	92.812	Continuing	Continuing

D. Acquisition Strategy

The Remote Monitoring and Control Equipment (RMCE) will provide the capability to remotely operate several Control subsystems to effect WGS payload control and monitoring from a Wideband SATCOM Operations Center (WSOC) to a geographically separated earth terminal. To operate these Control subsystems remotely (Gapfiller Satellite Configuration Control Element (GSCCE), Wideband Global SATCOM Spectrum Monitoring System (WGSMS), Joint Management and Operation System (JMOS), Replacement FM Orderwire (RFMOW), Global Terrestrial Critical Control Circuit System (GTC3S) and Interference Resolution) some system non-recurring engineering modifications will be necessary. PM DCATS employs Netcentric Systems Engineering to develop the technology for new ground segment equipments which will include studies, risk mitigation, system integration and advanced demonstrations for netcentric baseband and policy based control to accommodate technology insertion, data sharing, remote operations, architecture efforts and use of commercial technology to conform to Department of Defense (DoD) requirements.

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-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 253: *DSCS-DCS (PHASE II)*

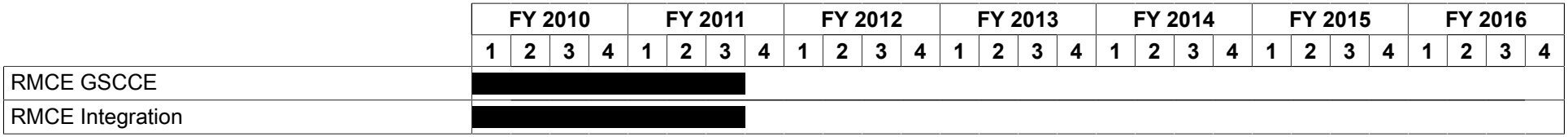

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 253: *DSCS-DCS (PHASE II)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
RMCE GSCCE	1	2010	3	2011
RMCE Integration	1	2010	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 456: *MILSATCOM SYSTEM 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
456: *MILSATCOM SYSTEM ENGINEERING*	21.555	22.247	6.338	-	6.338	6.445	6.087	5.847	4.601	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

`MILSATCOM System Engineering provides centralized funding for US Army participation in the joint development of MILSATCOM programs. This includes engineering, technical and Cost As An Independent Variable (CAIV) related analyses supporting architecture, payloads, network and terminal requirement and design decisions across all MILSATCOM programs

MILSATCOM System Engineering also supports experimentation and/or development of new and emerging SATCOM related technologies and standards. This includes prototyping efforts to address technology gaps identified by US Army Program of Records (POR) in the US Army Technology Transition Matrix.

FY2012 funds suppport efforts in the area of both Wideband/Commerical and Protected Communications related efforts.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Protected Advanced EHF (AEHF) Communications System Engineering	3.000	1.600	2.100
Articles:	0	0	
Description: Protected Advanced EHF (AEHF) Communications System Engineering			
FY 2010 Accomplishments: Protected Advanced EHF (AEHF) Communications System Engineering			
FY 2011 Plans: Protected Advanced EHF (AEHF) Communications System Engineering			
FY 2012 Plans: Protected Advanced EHF (AEHF) Communications System Engineering			
Title: Wideband Global SATCOM (WGS) Communications System Engineering and Intelligence, Surveillance, Reconnanisance (ISR) Migration	2.000	1.300	1.600
Articles:	0	0	
Description: Wideband Global SATCOM (WGS) Communications System Engineering			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 456: *MILSATCOM SYSTEM ENGINEERING*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2010 Accomplishments: Wideband Global SATCOM (WGS) Communications System Engineering ***FY 2011 Plans:*** Wideband Global SATCOM (WGS) Communications System Engineering ***FY 2012 Plans:*** Wideband Global SATCOM (WGS) Communications System Engineering and Intelligence, Surveillance, Reconnanisance (ISR) Migration			
Title: Experimentation, development, testing and certification of critical SATCOM and SOTM communication and network technologies. ***Articles:*** ***Description:*** Experimentation, development, testing and certification of critical SATCOM and SOTM communication and network technologies. ***FY 2010 Accomplishments:*** Experimentation, development, testing and certification of critical SATCOM and SOTM communication and network technologies. ***FY 2011 Plans:*** Experimentation, development, testing and certification of critical SATCOM and SOTM communication and network technologies. ***FY 2012 Plans:*** Experimentation, development, testing and certification of critical SATCOM and SOTM communication and network technologies.	3.072 0	4.000 0	1.538
Title: Federal Communications Commission/ International Telecommunciations Union (FCC/ITU) SOTM Regulatory Proposals/ Analyses/Modifications ***Articles:*** ***Description:*** Federal Communications Commission/ International Telecommunciations Union (FCC/ITU) SOTM Regulatory Proposals/Analyses/Modifications ***FY 2010 Accomplishments:*** Federal Communications Commission/ International Telecommunciations Union (FCC/ITU) SOTM Regulatory Proposals/ Analyses/Modifications ***FY 2011 Plans:***	1.200 0	1.130 0	0.700

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 456: *MILSATCOM SYSTEM ENGINEERING*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Federal Communications Commission/ International Telecommunciations Union (FCC/ITU) SOTM Regulatory Proposals/ Analyses/Modifications ***FY 2012 Plans:*** Federal Communications Commission/ International Telecommunciations Union (FCC/ITU) SOTM Regulatory Proposals/ Analyses/Modifications			
Title: Protected Terminal COTM and Wide Area Network (WAN) Prototyping ***Articles:*** ***Description:*** Protected Wide Area Network (WAN) and Terminal Prototyping ***FY 2010 Accomplishments:*** Protected Wide Area Network (WAN) Prototyping ***FY 2011 Plans:*** Protected Wide Area Network (WAN) Prototyping ***FY 2012 Plans:*** Protected Terminal COTM and Wide Area Network (WAN) Prototyping	1.500 0	2.100 0	0.400
Title: Intelligence, Surveillance, Reconnanisance (ISR) POR Migration to OPM WIN T SATCOM Solutions. Includes Reginal Hub Node (RHN) mods, Joint Management and Operations Subsystem (JMOS) mods, Terminal Cert ***Articles:*** ***Description:*** Intelligence, Surveillance, Reconnanisance (ISR) POR Migration to OPM WIN T SATCOM Solutions. Includes Reginal Hub Node (RHN) mods, Joint Management and Operations Subsystem (JMOS) mods, Terminal Certifications (WGS) ***FY 2010 Accomplishments:*** Intelligence, Surveillance, Reconnanisance (ISR) POR Migration to OPM WIN T SATCOM Solutions. Includes Reginal Hub Node (RHN) mods, Joint Management and Operations Subsystem (JMOS) mods, Terminal Certifications (WGS) ***FY 2011 Plans:*** Intelligence, Surveillance, Reconnanisance (ISR) POR Migration to OPM WIN T SATCOM Solutions. Includes Reginal Hub Node (RHN) mods, Joint Management and Operations Subsystem (JMOS) mods, Terminal Certifications (WGS)	1.000 0	1.500 0	-
Title: Small Business Innovative Research/Small Business Technology Transfer Programs ***Articles:***	0.783 0	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 456: *MILSATCOM SYSTEM ENGINEERING*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Small Business Innovative Research/Small Business Technology Transfer Programs ***FY 2010 Accomplishments:*** Small Business Innovative Research/Small Business Technology Transfer Programs			
Title: Protected COTM Technical Reference Terminal Prototyping	9.000	10.617	-
Articles:	0	0	
Description: Protected COTM Technical Reference Terminal Prototyping ***FY 2010 Accomplishments:*** Protected COTM Technical Reference Terminal Prototyping ***FY 2011 Plans:*** Protected COTM Technical Reference Terminal Prototyping			
Accomplishments/Planned Programs Subtotals	21.555	22.247	6.338

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

This project funds advanced systems engineering, research, development, test and evaluation of new and emerging technologies to optimize terminal performance and communications control. Once the technologies are mature and deemed feasible, funding and management responsibility for implementation of the technology will transition to 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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 456: *MILSATCOM SYSTEM ENGINEERING*	

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 Oversight	MIPR	PM WIN T:PM WIN T	0.674	0.440		0.300		-		0.300	Continuing	Continuing	Continuing
Advanced Architecture/ Advanced Wideband System Architecture	MIPR	MIT Lincoln Labs:Lexington , MA	9.924	0.750		-		-		-	Continuing	Continuing	Continuing
		Subtotal	10.598	1.190		0.300		-		0.300			

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
Protected Advanced EHF and WGS Communications Syststem Engineering	C/CPFF	Various:PM WIN T	19.351	2.169		1.000		-		1.000	Continuing	Continuing	Continuing
Experimentation, development , testing & certification of SATCOM & SOTM communciation & networking.	TBD	Various:PM WIN T	11.013	4.000		0.940		-		0.940	Continuing	Continuing	Continuing
Protected COTM Tactical Reference Terminal Prototyping and Protected Wide Area Network Prototyping	TBD	Various:PM WIN T	8.000	5.088		0.400		-		0.400	Continuing	Continuing	Continuing
FCC/ITU SOTM Regulatory Proposals/Analyses/ Modifications	MIPR	John Hopkins Universtiy Applied Physics Lab:Laurel, MD	-	-		0.700		-		0.700	Continuing	Continuing	0.000
Terminal Upgrades, SNE, Engineering Support	MIPR	General Dynamics:Tauton, MA	3.024	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	41.388	11.257		3.040		-		3.040			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 456: *MILSATCOM SYSTEM ENGINEERING*	

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 (In House)	MIPR	Core, Matrix,:PM WIN T	19.090	2.000		1.048		-		1.048	Continuing	Continuing	Continuing
Engineering Contractors Support	C/CPFF	JANUS, Linquest:PM WIN T	29.235	3.800		0.600		-		0.600	Continuing	Continuing	Continuing
System Architecture & Analysis	Various	MIT Lincoln Labs, Lexington, MA; MITRE, CERDEC:PM WIN T	14.463	0.400		-		-		-	Continuing	Continuing	Continuing
		Subtotal	62.788	6.200		1.648		-		1.648			

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
Terminal Certification, ISR POR Migration	FFRDC	MITRE:PM WIN T	0.554	0.600		0.150		-		0.150	Continuing	Continuing	Continuing
Test Support	MIPR	MATRIX:PM WIN T	19.732	1.500		0.600		-		0.600	Continuing	Continuing	Continuing
Testing, Certification	MIPR	CERDEC Support Technical Testing:PM WIN T	2.500	1.500		0.600		-		0.600	Continuing	Continuing	Continuing
		Subtotal	22.786	3.600		1.350		-		1.350			

	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	137.560	22.247		6.338		-		6.338			

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303142A: *SATCOM Ground Environment (SPACE)*	PROJECT 562: *MBAND INT SAT TERM MIST*	

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
562: *MBAND INT SAT TERM MIST*	4.020	-	-	-	-	-	-	-	-	0.000	4.020
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

A. Mission Description and Budget Item Justification: Multi-band Integrated Satellite Terminal (MIST) funds were to develop the high capacity communications capability (HC3) for Increment 1.

The HC3 was to provide high data rate communications capabilities that would be pervasively integrated into the Army's Future Modular Force communication architecture, as well as other Service and Joint communication architectures.

As a result of recent Department of Defense (DoD) decision to terminate the Transformational Satellite Communications System (TSAT), the HC3 program has been restructured. Various risk mitigation studies and analyses will be executed with tri-service participation in order to further lower risk prior the development of a follow on satellite terminal.

FY10 was the last year of funding and the FY10 funds supported detailed studies and analyses of future MILSATCOM capabilities to support Army requirements.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Requirements process/analysis	4.020	-	-
Articles:	0		
Description: Requirements process/analysis			
FY 2010 Accomplishments: Requirements process/analysis			
Accomplishments/Planned Programs Subtotals	4.020	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

D. Acquisition Strategy

Plans are starting to be developed for a follow on satellite terminal to support recent DoD budget decisions.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303142A: *SATCOM Ground Environment (SPACE)*	**PROJECT** 562: *MBAND INT SAT TERM MIST*

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 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0303150A: *WWMCCS/Global Command and Control 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**
Total Program Element	13.683	13.024	23.937	-	23.937	15.253	14.614	13.961	13.738	Continuing	Continuing
C86: *ARMY GLOBAL C2 SYSTEM*	13.683	13.024	23.937	-	23.937	15.253	14.614	13.961	13.738	Continuing	Continuing

Note

Change Summary Explanation: Funding FY 12: +18.280 million increase to support continuation of Battle Command requirements.

A. Mission Description and Budget Item Justification

Global Command and Control System-Army (GCCS-A): This project is the Army component system that directly supports the implementation of the Global Command and Control System Family of Systems. GCCS-A provides automated command and control tools for Army Strategic and Operational Theater Commanders to enhance warfighter capabilities throughout the spectrum of conflict during joint and combined operations in support of the National Command Authority (NCA). The GCCS-A developed software systems dramatically improves the Army's ability to analyze courses of action; develop and manage Army Forces; and ensure feasibility of war plans. GCCS-A provides a client-server layered architecture and functional best-of-breed software applications to develop a totally integrated component of the Global Command and Control System Family of Systems that integrates the GCCS-Joint picture with the Army Battle Command Systems. The GCCS-A strategic tools have been modernized and replaced by DRRS-A, a suite of web based applications for Army Readiness, Force Registration and Force Projection.

B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	11.972	13.024	1.632	-	1.632
Current President's Budget	13.683	13.024	23.937	-	23.937
Total Adjustments	1.711	-	22.305	-	22.305
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	1.711	-	22.305	-	22.305

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303150A: *WWMCCS/Global Command and Control System*	PROJECT C86: *ARMY GLOBAL C2 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
C86: *ARMY GLOBAL C2 SYSTEM*	13.683	13.024	23.937	-	23.937	15.253	14.614	13.961	13.738	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Global Command and Control System-Army (GCCS-A): This project is the Army component system that directly supports the implementation of the Global Command and Control System Family of Systems (FoS). GCCS-A provides automated command and control tools for Army Strategic and Operational Theater Commanders to enhance warfighter capabilities throughout the spectrum of conflict during Joint and combined operations in support of the National Command Authority (NCA). The GCCS-A developed software systems dramatically improves the Army's ability to analyze courses of action; develop and manage Army Forces; and ensure feasibility of war plans. GCCS-A provides a client-server layered architecture and functional best-of-breed software applications to develop a totally integrated component of the Global Command and Control System FoS that integrates the GCCS-Joint picture with the Army Battle Command Systems. The GCCS-A strategic tools for readiness reporting have been modernized and replaced by Defense Readiness Reporting System-Army (DRRS-A), a suite of web based applications for Army Readiness, Force Registration and Force Projection. DRRS-A will implement the Global Force Management Data Initiative (GFM DI) for consumption and use of authoritative, standarized force structure data enabling machine-to-machine integration and transfer of data in the GFM process.

GCCS-Army is a part of the GCCS Family of Systems. As such and responding to Congressional direction (Section 247 of Fiscal Year 2010 National Defense Authorization Act (NDAA)), it will form the basis for the evolution of new command and control capabilities within the Department of Defense (DoD). While sustaining and synchronizing currently fielded operations, the Army will modernize and enhance current capabilities to support both the Service and Joint warfighter as a part of a synchronized, orchestrated DoD-wide effort that will transition the current GCCS FoS into a more agile, net-centric, services-oriented environment. These efforts will take advantage of both streamlined processes within the requirements community, such as the "IT Box" and ongoing changes in the information technology acquisition process, as described in Ch 6 of the March 2009 Report of the Defense Science Board (DSB) Task Force on DoD Policies and Procedures for the Acquisition of Information Technology (Section 804 of Fiscal Year 2010 NDAA).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: GCCS-A Software and System Engineering	0.348	0.264	0.460
Articles:	0	0	
Description: Software and System Engineering for Version 4.1, 4.2 and future developmental requirements			
FY 2010 Accomplishments: Software and System Engineering for Version 4.1			
FY 2011 Plans:			

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Software and System Engineering for Version 4.2 ***FY 2012 Plans:*** Software and System Engineering for Version 4.2			
Title: GCCS-A Data Engineering ***Articles:*** ***Description:*** GCCS-A Data Engineering for Version 4.1, 4.2 and future developmental requirements ***FY 2010 Accomplishments:*** Data Engineering for Version 4.1 ***FY 2011 Plans:*** Data Engineering for Version 4.2 ***FY 2012 Plans:*** Data Engineering for Version 4.2	0.734 0	1.312 0	1.416
Title: GCCS-A and DRRS-A Software Development of Automated Command and Control Tools ***Articles:*** ***Description:*** Software Development of Automated Command and Control Tools for Version 4.1, 4.2 and future developmental requirements ***FY 2010 Accomplishments:*** Software Development of Automated Command and Control Tools for Version 4.1 ***FY 2011 Plans:*** Software Development of Automated Command and Control Tools for Version 4.2 ***FY 2012 Plans:*** Software Development of Automated Command and Control Tools for GCCS-A Version 4.2 and DRRS-A	10.877 0	9.868 0	20.481
Title: GCCS-A Test and Evaluation ***Articles:*** ***Description:*** Test and Evaluation for Version 4.1, 4.2 and future developmental requirements ***FY 2010 Accomplishments:***	0.162 0	0.500 0	0.500

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
Test and Evaluation for Version 4.1 ***FY 2011 Plans:*** Test and Evaluation for Version 4.2 ***FY 2012 Plans:*** Test and Evaluation for Version 4.2			
Title: GCCS-A Program Support and Management	1.562	1.080	1.080
Articles:	0	0	
Description: Support and Management for Version 4.1, 4.2 and future developmental requirements ***FY 2010 Accomplishments:*** Program Support and Management for Version 4.1 ***FY 2011 Plans:*** Program Support and Management for Version 4.2 ***FY 2012 Plans:*** Program Support and Management for Version 4.2			
Accomplishments/Planned Programs Subtotals	13.683	13.024	23.937

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
• BA8250: *Global Command & Control System-Army (GCCSA)*	22.992	20.387	18.788		18.788		6.604			Continuing	Continuing

D. Acquisition Strategy

GCCS-A was slated for replacement by the future Department of Defense (DoD) Command and Control (C2) system, the Net Enabled Command Capability (NECC) program. The NECC program was cancelled by the Defense Acquisition Executive (DAE) on 2 November 2009. The GCCS-A will be maintained and upgraded as necessary until a future DoD C2 system is available. The strategy for Defense Readiness Reporting System-Army (DRRS-A) is based on annual software releases integrating Headquarters, Department of the Army (HQDA)(Office of Defense Readiness) directed changes.

In accordance with the Training and Doctrine Command (TRADOC) requirements document approved in 2008, entitled GCCS-A 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

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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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
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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
Program Office Management	Various	PM Battle Command:Fort Monmouth, NJ	9.748	1.080		1.080		-		1.080	Continuing	Continuing	Continuing
SBIR	Various	PM Battle Command:Various	0.235	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	9.983	1.080		1.080		-		1.080			

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 (Completed Contracts)	Various	Lockheed Martin Corp (LMC):Springfield, VA	147.652	-		-		-		-	Continuing	Continuing	Continuing
Software Development (Current Contract)	C/CPAF	Lockheed Martin Corp (LMC):Springfield, VA	-	8.107		11.800		-		11.800	Continuing	Continuing	0.000
Software Development (Future Contracts)	Various	To be determined:To be determined	-	-		7.409		-		7.409	Continuing	Continuing	0.000
Defense Readiness Reporting System-Army	Various	CACI Accenture:Eatontown, NJ	5.692	1.500		1.000		-		1.000	Continuing	Continuing	Continuing
Developmental Hardware/ Licensing	Various	Various:Various	0.005	-		-		-		-	Continuing	Continuing	Continuing
Technical Management	Various	PM Battle Command:Fort Monmouth, NJ	38.101	-		-		-		-	Continuing	Continuing	Continuing
Matrix	Various	CECOM:Aberdeen Proving Ground, MD	5.668	0.261		0.272		-		0.272	Continuing	Continuing	Continuing
System Engineering	Various	Various:Various	5.178	0.264		0.460		-		0.460	Continuing	Continuing	Continuing
ABCS System Engineering & Integration Efforts	Various	PEO C3T:Fort Monmouth, NJ	1.514	-		-		-		-	Continuing	Continuing	Continuing
GFE	Various	Various:Various	1.464	-		-		-		-	Continuing	Continuing	Continuing
Product Studies	Various	SAIC:Eatontown, NJ	2.391	-		-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
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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
COE Support	Various	Various:Various	1.766	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	209.431	10.132		20.941		-		20.941			

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
FCBS/CSC	C/FP	Various:Various	2.389	-		-		-		-	0.000	2.389	Continuing
INRI	C/FP	Various:Various	0.200	-		-		-		-	0.000	0.200	Continuing
Support Contractors	C/FP	Various:Various	10.989	1.312		1.416		-		1.416	Continuing	Continuing	Continuing
		Subtotal	13.578	1.312		1.416		-		1.416			

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
Government	Various	Various:Various	4.735	-		-		-		-	Continuing	Continuing	Continuing
EPG	MIPR	Various:Various	0.786	-		-		-		-	Continuing	Continuing	Continuing
ATEC/JTIC/CTSF/SEC	MIPR	Various:Various	2.602	0.500		0.500		-		0.500	Continuing	Continuing	Continuing
		Subtotal	8.123	0.500		0.500		-		0.500			

	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	241.115	13.024		23.937		-		23.937			

Remarks

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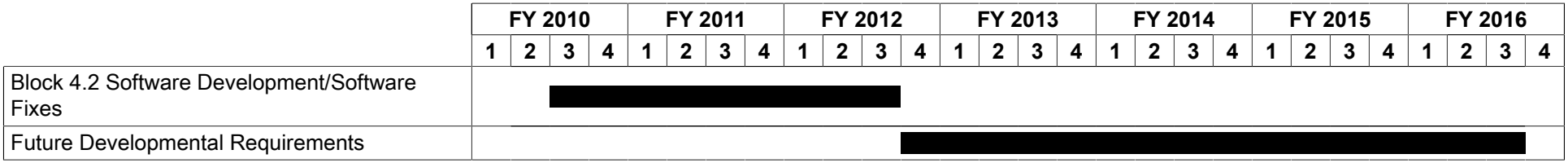

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 4.2 Software Development/Software Fixes	3	2010	3	2012
Future Developmental Requirements	4	2012	3	2016

Exhibit R-2, RDT&E Budget Item 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**
Total Program Element	262.655	54.300	40.650	-	40.650	15.681	24.420	12.019	19.420	Continuing	Continuing
114: *Tactical Unmanned Aerial Vehicle (TUAV) (MIP)*	62.188	1.672	-	-	-	-	-	-	-	0.000	63.860
11A: *Advanced Payload Develop & Spt (MIP)*	39.591	40.252	15.935	-	15.935	6.180	14.849	7.299	11.855	Continuing	Continuing
11B: *TSP DEVELOPMENT (MIP)*	19.393	5.336	20.392	-	20.392	5.221	5.375	2.677	4.313	Continuing	Continuing
123: *JOINT TECHNOLOGY CENTER SYSTEM INTEGRATION (MIP)*	4.389	6.698	4.323	-	4.323	4.280	4.196	2.043	3.252	Continuing	Continuing
D09: *EXTENDED RANGE UAV (MIP)*	135.136	-	-	-	-	-	-	-	-	Continuing	Continuing
D10: *SUAV (MIP)*	1.958	0.342	-	-	-	-	-	-	-	0.000	2.300

Note

Change Summary Explanation: Funding - FY 2011: Funds realigned to higher priority Army requirements.

A. Mission Description and Budget Item Justification

Project 114, Tactical Unmanned Aerial Vehicle (TUAV) Shadow 200 provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection. The Shadow provides the Brigade Commander with critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level. The TUAV Shadow system meets the required operating range of 50 kilometers and remains on station for up to five hours It consists of four air vehicles (each configured with an EO/IR sensor payload), launcher, ground control, and support equipment including power generation, communications equipment, automated recovery equipment, one system remote video terminals, vehicle mounted shelters, and High Mobility Multipurpose Wheeled Vehicles with trailer(s). Each system is equipped with one Maintenance Section Multifunctional (MSM) Vehicle and is supported at the division level by a Mobile Maintenance Facility (MMF).

Project 11A, The STARLite Synthetic Aperture Radar/Ground Moving Target Indicator (SAR/GMTI) payload will provide a wide-area search capability with a built-in imaging mode that provides essential all-weather surveillance and
increased situational awareness. The STARLite payload is a principal payload for the Gray Eagle UAV. The Electro Optical Infra Red w/Laser Designator (EO/IR/LD) Common Sensor Payload (CSP) was built at the direction
of the Vice Chief of Staff of the Army for the Gray Eagle system and has potential application to other platforms. The CSP system will provide a day/night capability to collect and display continuous imagery with the

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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ability to designate targets of interest for attack by laser guided precision weapons. Additional initiatives will continue to focus on the transition of technologies directly supporting emerging requirements and the
Army's Current and Future Force. This effort has been expanded to include High Definition (HD) Target Location Accuracy (TLA) capability

Project 11B, The Tactical Signals Intelligence (SIGINT) Payload (TSP) is an Unmanned Aircraft System (UAS) mounted SIGINT sensor that detects radio frequency (RF) emitters. TSP, through handoff from the Combat Aviation Brigade, is
capable of providing the Tactical Land Commander with an overwatch and penetrating SIGINT system capable of detecting, identifying, locating, and providing geolocation information on RF emitters throughout the Area of Operations. The TSP is scalable and modular, designed to provide maximum flexibility. TSP will provide near real time actionable intelligence that can immediately be used in the commander's decision cycle. The TSP electronic emitter information will be correlated with data from other systems (e.g. Prophet and Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS), at a Distributed Common Ground System-Army (DCGS-A) node to provide precise targeting information for immediate engagement. TSP maps and aligns with the 2009 Under Secretary of Defense for Intelligence Cross Cutting study and Force Sizing Assessment with Airborne Precision Geolocation and Tactical SIGINT capabilities. TSP also supports the 2009 Office of the Secretary of Defense Cross-Cutting Study: Six Overarching Axioms for Information Warfare, Intelligence, Surveillance, and Reconnaissance (ISR) Force Sizing, VCJCS Update, 25 Apr 09, with SIGINT (Geolocation) and SIGINT (Internals). TSP sensors are critical to providing Reconnaissance, Surveillance, and Target Acquisition (RSTA) information and contributing to the Joint ISR net.

Project 123, Joint Technology Center/System Integration Laboratory (JTC/SIL) is a joint facility that develops, integrates and supports the enhancement of its Multiple Unified Simulation Environment (MUSE) capability for Army systems and operational concepts. The JTC/SIL conducts prototype hardware and software development (i.e., TUAV Tactical Unmanned Control System (TUCS), TUAV Institutional Mission Simulation (IMS) Trainer, TUAV C4I module), modeling and simulation support. The MUSE develops real-time, operator in-the-loop simulations that are capable of tactical Hardware-In-the-Loop (HWIL) interoperability for multiple intelligence systems, that may be integrated with larger simulations in support of Service training and exercises. MUSE provides a realistic operational environment, supporting a wide range of C4I applications. This project funds the management of the JTC/SIL and MUSE enhancements.

Project D09, Production Extended Range Multi-Purpose (ERMP) Unmanned Aircraft system (UAS) will consist of 12 Unmanned Aircraft System each equipped with multi-mission payloads and a Standard Equipment Package (SEP). The threshold payload is an EO/IR/LD sensor. The SEP includes a communications relay package, Identify Friend or Foe (IFF) equipment and Air Traffic Control radios. Associated Ground Support Equipment (GSE) will have One

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B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	202.116	54.300	90.418	-	90.418
Current President's Budget	262.655	54.300	40.650	-	40.650
Total Adjustments	60.539	-	-49.768	-	-49.768
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	60.539	-	-49.768	-	-49.768

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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
114: *Tactical Unmanned Aerial Vehicle (TUAV) (MIP)*	62.188	1.672	-	-	-	-	-	-	-	0.000	63.860
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Tactical Unmanned Aerial Vehicle (TUAV) Shadow 200 provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection. The Shadow provides the Brigade Commander with critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level. The TUAV Shadow system air vehicle meets the required operating range of 50 kilometers and remains on station for up to five hours. The TUAV Shadow system consists of four air vehicles (each configured with an EO/IR sensor payload), launcher, ground control and support equipment including: power generation, communications equipment, automated recovery equipment, one system remote video terminals, vehicle mounted shelters, and High Mobility Multipurpose Wheeled Vehicles with trailer(s). Each system is equipped with one Maintenance Section Multifunctional (MSM) Vehicle and is supported at the division level by a Mobile Maintenance Facility (MMF).

The TUAV has logged over 575,000 flight hours since Jun 01, most of which were flown in support of Operation Iraqi Freedom and Operation Enduring Freedom. Block upgrades are required for continued improvement and interoperability. Common Systems Integration is required to ensure interoperability with other manned and unmanned weapon systems, to include One System Remote Video Transceiver (OSRVT). Additional development and integration is also required to provide greater capabilities and improved operational flexibility to the Brigade Commander. These improvements to the airframe, avionics, payloads, ground control equipment, and support equipment are based on documented requirements and lessons learned from operational units. Only the SIGINT effort with the payloads improvement is new for FY12. Work previously shown under OIF Improvements/Block Upgrades/Capability Improvements in previous budgets is broken out for greater clarity.

Funding shifts to PE 0305233A - RQ-7 UAV MODS, Project RQ7 in FY11.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Base: Block Upgrades / Capability Improvements	8.237	1.672	-	-	-
Articles:	0	0			
Description: Funding is provided for the following effort					
FY 2010 Accomplishments: Base: OIF Improvements / Block Upgrades / Capability Improvements					
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
Base: OIF Improvements / Block Upgrades / Capability Improvements					
Title: Base: 4th Generation Wireless Exploitation ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Base: 4th Generation Wireless Exploitation	2.400 0	-	-	-	-
Title: Base: Test and Evaluation ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Base: Test and Evaluation	2.264 0	-	-	-	-
Title: Base: Common System Integration (UGCS, Trainers, OSRVT) ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Base: Common System Integration (UGCS, Trainers, OSRVT)	16.124 0	-	-	-	-
Title: Base: TUAS Heavy Fuel Engine (HFE) ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Base: TUAS Heavy Fuel Engine (HFE)	1.600 0	-	-	-	-
Title: Base: Program Management Support ***Articles:*** ***Description:*** Funding is provided for the following effort	0.234 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
FY 2010 Accomplishments: Base: Program Management Support					
Title: Base: Other Government Agencies (OGA) ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** Base: Other Government Agencies (OGA)	1.829 0	-	-	-	-
Title: OCO; Shadow Encryption -- Type 2 Interim Encryption System (TIES) ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2010 Accomplishments:*** OCO; Shadow Encryption -- Type 2 Interim Encryption System (TIES)	29.500 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	62.188	1.672	-	-	-

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
• (A00018): *TUAV Procurement*	649.939	602.815	151.464		151.464		116.199	169.042	172.087	0.000	2,022.745
• (BS9738): *Initial Spares - TUAV*	2.743	2.628								Continuing	Continuing
• PE 0305233A RQ-7: *UAV RDTE*		7.805	31.940		31.940		22.507	22.687		0.000	108.309

D. Acquisition Strategy

A System Capability Demonstration (SCD) was conducted with four contractors. The results from the SCD in conjunction with proposal evaluations resulted in the competitive down select of a Best Value TUAV system. A successful Milestone II ASARC was conducted 21 Dec 99, and a TUAV LRIP contract was awarded to AAI Corporation 27 Dec 99. In order to accelerate fielding of the TUAV system, a second LRIP for four systems was awarded 30 Mar 01 following a successful OPTEMPO test. In order to maintain accelerated fielding and continue ramp up to full rate production, a third LRIP was awarded in Mar 02. A successful LRIP program led to a MS III decision 25 Sep 02. The full rate production contract was awarded 27 Dec 02. Continued development of the selected TUAV system will be accomplished through a series of modifications and retrofits such as Tactical Common Data Link (TCDL), Communications Relay, Laser Designator, and reliability upgrades.

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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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*		PROJECT 114: *Tactical Unmanned Aerial Vehicle (TUAV) (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
Program Management Personnel	Various	PM UAS:Huntsville, AL	9.443	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	9.443	-		-		-		-			

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: Target Location Error (TLE) / TCDL/JTRS / Laser Designator	Various	AAI Corporation:Hunt Valley, MD	52.200	-		-		-		-	Continuing	Continuing	Continuing
Base: OIF Improvements / Block Upgrades / Capability Improvements	Various	AAI Corporation:Hunt Valley, MD	13.918	1.672		-		-		-	Continuing	Continuing	Continuing
Base: Re-Wing	Various	AAI Corporation / Other Government Agency:Hunt Valley, MD	10.600	-		-		-		-	Continuing	Continuing	Continuing
Base: Shadow Flight in NAS	Various	AAI Corporation / Other:Hunt Valley, MD	-	-		-		-		-	Continuing	Continuing	Continuing
Base: Common System Integration (UCGS, Trainers, OSRVT)	Various	AAI Corporation / Other Government Agency:Hunt Valley, MD	7.082	-		-		-		-	Continuing	Continuing	Continuing
Base: TUAS Heavy Fuel Engine	Various	AAI Corporation / Other:Hunt Valley, MD	-	-		-		-		-	Continuing	Continuing	Continuing
Base: LALHAV	Various	AAI Corporation / Other Government Agency:Hunt Valley, MD	2.000	-		-		-		-	Continuing	Continuing	Continuing
Base: Small Sense and Avoid System (SSAASy)	Various	AAI Corporation / Other Government	-	-		-		-		-	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*		PROJECT 114: *Tactical Unmanned Aerial Vehicle (TUAV) (MIP)*

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
		Agency:Hunt Valley, MD											
OCO: FY10 OCO Shadow Encryption	Various	Various:Various	-	-		-		-		-	Continuing	Continuing	Continuing
Base: Fourth Generation Wireless Exploitation	Various	AAI Corporation:Hunt Valley, MD	-	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	85.800	1.672		-		-		-			

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
Contractor Engineering Support	Various	Various Contractors:Various	11.117	-		-		-		-	Continuing	Continuing	Continuing
Government Engineering and Logistics Support	Various	AMRDEC & IMMC:Various	8.008	-		-		-		-	Continuing	Continuing	Continuing
Government Engineering Support - Extended Range	Various	AMRDEC:Various	14.760	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	33.885	-		-		-		-			

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
Rolling Take Off	Various	Various Activities:Various	17.815	-		-		-		-	Continuing	Continuing	Continuing
Development Testing/ TCDL - Tactical Common Data Link	Various	Various Activities:Various	9.971	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	27.786	-		-		-		-			

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	156.914	1.672		-		-		-			

Remarks

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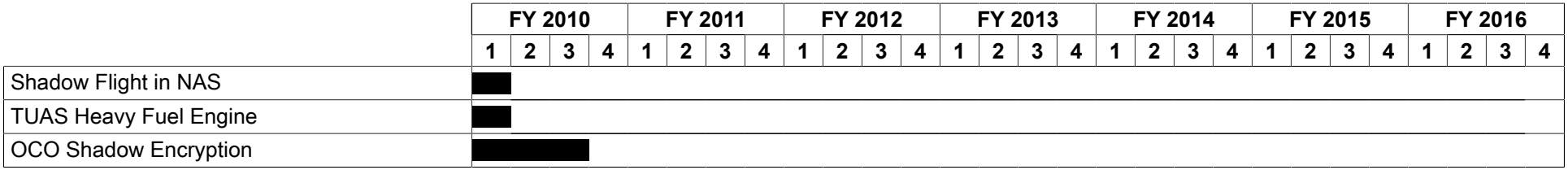

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 114: *Tactical Unmanned Aerial Vehicle (TUAV) (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Shadow Flight in NAS	1	2010	1	2010
TUAS Heavy Fuel Engine	1	2010	1	2010
OCO Shadow Encryption	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11A: *Advanced Payload Develop & Spt (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
11A: *Advanced Payload Develop & Spt (MIP)*	39.591	40.252	15.935	-	15.935	6.180	14.849	7.299	11.855	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

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) UAV priorities.

The STARLite Synthetic Aperture Radar/Ground Moving Target Indicator (SAR/GMTI) payload will provide a wide-area search capability with a built-in imaging mode that provides essential all-weather surveillance and increased situational awareness. The STARLite payload is a principal payload for the Gray Eagle (Extended Range/Multi-Purpose - ER/MP) UAS.

The Electro Optical Infra Red w/Laser Designator (EO/IR/LD) Common Sensor Payload (CSP) is being developed and built at the direction of the Vice Chief of Staff of the Army for the Gray Eagle (ER/MP) UAS program and has potential application to other platforms. The CSP system will provide a day/night capability to collect and display continuous imagery with the ability to designate targets of interest for attack by laser guided precision weapons. Additional initiatives will continue to focus on the transition of technologies directly supporting emerging requirements and the Army's Current and Future Force. This effort has been expanded to include High Definition (HD) Target Location Accuracy (TLA) capability.

The Tactical Signals Intelligence (SIGINT) Payload (TSP) is a SIGINT sensor, currently under development for the ER/MP UAS that detects radio frequency (RF) emitters. TSP, through handoff from the Combat Aviation Brigade, is capable of providing the Brigade Combat Team (BCT) Land Commander with an over watch and penetrating SIGINT system capable of detecting, identifying, locating, and providing Geolocation information on RF emitters throughout the Area of Operations. The TSP is scalable and modular, designed to provide maximum flexibility for the BCT mission profile. TSP will provide near real time actionable intelligence that can immediately be used in the commander's decision cycle. The TSP electronic emitter information will be correlated with data from other systems (e.g. Prophet and Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS)), at a Distributed Common Ground Station-Army (DCGS-A) node to provide precise targeting information for immediate engagement. TSP maps and aligns with the 2009 Under Secretary of Defense for Intelligence Cross Cutting study and Force Sizing Assessment with Airborne Precision Geolocation and Tactical SIGINT capabilities. TSP also supports the 2009 Office of the Secretary of Defense Cross-Cutting Study: 6 Overarching Axioms for Information Warfare, Intelligence, Surveillance, and Reconnaissance (ISR) Force Sizing, VCJCS Update, 25 Apr 09, with SIGINT (Geolocation) and SIGINT (Internals). TSP sensors are critical to providing coverage ISR / Reconnaissance Surveillance, and Target Acquisition (RSTA) information and contributing to the Joint ISR net. TSP EMD program will be funded through 11B (0305204A) TSP development in FY12 and beyond.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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FY12 Base development dollars in the amount of $16 million continues to support Non Recurring Engineering (NRE), design, build integration and testing for the CSP High Definition Target Location Accuracy (HD/TLA) upgrade ($14.3 million) and final platform integration funding for STARLite ($1.7 million).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Tactical Signals Intelligence (SIGINT) Payload ***Articles:*** ***Description:*** Tactical Signals Intelligence (SIGINT) Payload ***FY 2011 Plans:*** Tactical Signals Intelligence (SIGINT) Payload	-	11.000 0	-	-	-
Title: CSP High Definition Target Location Accuracy (HD/TLA) ***Articles:*** ***Description:*** CSP High Definition Target Location Accuracy (HD/TLA) - Non Recurring Engineering (NRE), design, build and test of 8 CSP HD/TLA integration and test assets. ***FY 2010 Accomplishments:*** Initial NRE and build of 8 CSP integration and test articles along with the procurement of long lead material required for the build process. ***FY 2011 Plans:*** Begin contractor qualification testing and commence aircraft and ground station integration. ***FY 2012 Base Plans:*** Complete contractor testing and Government DT testing on surrogate aircraft.	26.753 0	24.577 0	14.268	-	14.268
Title: STARLite (SAR/GMTI) ***Articles:*** ***Description:*** STARLite (SAR/GMTI) - Design, build and test of 3 integration and test systems with increased Range and reliability (Inc 1 - larger antenna and enhanced reliability) and Integration onto the host platform (Gray Eagle) ***FY 2010 Accomplishments:*** Design, build and test of 3 integration and test systems with increased Range and reliability (Inc 1 - larger antenna and enhanced reliability) ***FY 2011 Plans:***	12.838 0	4.675 0	1.667	-	1.667

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
Finalize testing events and integration onto host platform (Gray Eagle) ***FY 2012 Base Plans:*** Final integration onto host platform (Gray Eagle)					
Accomplishments/Planned Programs Subtotals	39.591	40.252	15.935	-	15.935

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
• A00020 - ACFT: *MQ-1 PAYLOAD - UAS*	72.908	100.413	134.366	10.800	145.166		169.984	221.618	192.816	Continuing	Continuing
• 0603774A 131: *Night Vision Systems Advanced Development*	8.000									0.000	8.000
• 0305204A 11B: *Tactical Unmanned Aerial Vehicle*	21.534	5.336	20.475		20.475		5.395	5.568	5.735	Continuing	Continuing

D. Acquisition Strategy

Common Sensor Payload (CSP) EO/IR/LD is a KPP requirement for the Gray Eagle UAS. The acquisition strategy for the CSP program was based on a full and open competition for the Army. It was briefed and approved at the Army Systems Acquisition Review Council (ASARC) in Dec 2006. A competitive contract was awarded in Nov 07 to Raytheon for the design, build, test and delivery of the Common Sensor Payload. A new requirement was acknowledged adding High Definition Target Location Accuracy (HD/TLA) capability to the CSP system. The approved acquisition strategy for this new requirement is a sole source task order through the competitively awarded Navy Basic Order Agreement (BOA) with Raytheon. In order to develop this new capability, two technologies needed to be matured - HD IR camera 2nd source Diode pump laser supplier. Once sufficiently matured, these technologies can be incorporated into the HD/TLA test assets and the block upgrade program can undergo testing and final integration (FY12). These two parallel baselines (CSP Standard Definition (SD) and CSP HD/TLA) will proceed until the HD/TLA upgrade has been fully tested and a Full Rate Production (FRP) decision can be made. If a FRP decision is approved for HD/TLA, annual system procurement will commence (FY13) and the CSP (SD) system will be replaced by the CSP HD/TLA. In addition to the annual CSP HD/TLA system procurement, an additional 12 CSP HD/TLA systems will be procured each year until all CSP (SD) systems have been replaced. The Gray Eagle UAS Independent Operational Test and Evaluation (IOT&E) event with the CSP (SD) system is planned for 4th Qtr FY11.

STARLite SAR/GMTI is a threshold requirement for the Gray Eagle UAS. The acquisition strategy for STARLite is for five years of production which was based on a full and open competition for the Army. A competitive contract was awarded in April 2008 to Northrop Grumman for the build, test and deliver STARLite systems with the option for improvements (Increment 1 - Increased Range and Reliability) as well as integration and test onto the Gray Eagle platform. The contract option to increase Range and Reliability has been exercised. STARLite plans to support the Gray Eagle UAS Follow-on Operational Test and Evaluation (FOT&E) event planned for 2nd

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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Qtr FY12. The final increment of installation funding slipped to FY12 due to delays with the software development. No impact to the STARLite program as it still planns to support the Gray Eagle FOT&E.

TSP is a Threshold requirement for the MQ-1C Gray Eagle UAS. The TSP Program will be based on full-and-open competition at each Acquisition phase (EMD, LRIP, and FRP) and will be focused on starting with a mature TRL 6+ sensor for integration and test onto the Gray Eagel platform and integration and test of TSP software into the Distributed Common Ground Station-Army (DCGS-A) workstation. The TSP Initial Operational Test and Evaluation is planned for 4QFY14. Non-Recurring Engineering (NRE) will occur in both the EMD and LRIP phases to meet the full set of threshold SIGINT requirements and complete integration and test. Solicitation for the EMD program shifted to FY11 due to requirements definition activities at Army Staff level. Early developmental TSP prototypes are currently fielded in support of SOCOM and INSCOM in manned aircraft in theater. TSP EMD program will be funded through 11B (0305204A) TSP development in FY12 and beyond.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11A: *Advanced Payload Develop & Spt (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
Program Mgmt Personnel	Various	PM RUS:Fort Mommouth, NJ - Aberdeen, MD	15.159	3.583		0.871		-		0.871	Continuing	Continuing	Continuing
TSP Program Management	SS/FP	PM, Aerial Common Sensors:Fort Monmouth, NJ	-	0.373		-		-		-	Continuing	Continuing	Continuing
TSP Matrix Support	SS/FP	CERDEC:Fort Monmouth, NJ	-	0.654		-		-		-	Continuing	Continuing	Continuing
		Subtotal	15.159	4.610		0.871		-		0.871			

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
CSP (EO/IR/LD) NRE, test & retrofit	C/IDIQ	Raytheon:McKinney, TX	42.118	-		-		-		-	Continuing	Continuing	Continuing
CSP (EO/IR/LD) HD/TLA Upgrade NRE, Build and Test	C/BOA	Raytheon:McKinney, TX	-	9.441		4.223		-		4.223	Continuing	Continuing	Continuing
STARLite (SAR/GMTI) Increment 1 Enhancement (Range and Reliability Improvements)	C/CPFF	Northrop Grumman:Linthicum, MD	2.923	3.668		-		-		-	Continuing	Continuing	Continuing
TSP Training Development	TBD	TBD:TBD	-	0.126		-		-		-	Continuing	Continuing	Continuing
TSP Other Licensing and Equipment	TBD	TBD:TBD	-	0.381		-		-		-	Continuing	Continuing	Continuing
		Subtotal	45.041	13.616		4.223		-		4.223			

Remarks

CSP EO/IR includes $12.593 million of ARH funding. Contract was terminated and available funds were returned.

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
Gray Eagle Integration Support (STARLite and CSP)	MIPR	PM UAS/General Atomics:Huntsville, AL	5.744	8.286		4.191		-		4.191	Continuing	Continuing	Continuing
Contractor Support	C/IDIQ	Raytheon:McKinney, TX	0.684	-		1.582		-		1.582	Continuing	Continuing	0.000
TSP Engineering Support	SS/FP	Various:Various	0.609	1.908		-		-		-	Continuing	Continuing	Continuing
		Subtotal	7.037	10.194		5.773		-		5.773			

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
CSP (EO/IR/LD) Testing	C/IDIQ	Various:McKinney, TX	9.171	-		-		-		-	Continuing	Continuing	Continuing
STARLite (SAR/GMTI) Increment 1 & 2 Testing	C/CPFF	Various:Linthicum, MD	-	2.359		-		-		-	Continuing	Continuing	Continuing
CSP (EO/IR/LD) HD/TLA Testing	MIPR	Various:Various	-	1.915		5.068		-		5.068	Continuing	Continuing	Continuing
TSP Development Test and OT Prep	SS/FP	Various:Various	-	6.908		-		-		-	Continuing	Continuing	Continuing
TSP Continuous Evaluation	SS/FP	ATEC, FT:Belvior, Va	-	0.650		-		-		-	Continuing	Continuing	Continuing
		Subtotal	9.171	11.832		5.068		-		5.068			

	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	76.408	40.252		15.935		-		15.935			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305204A: *Tactical Unmanned Aerial Vehicles*	**PROJECT** 11A: *Advanced Payload Develop & Spt (MIP)*

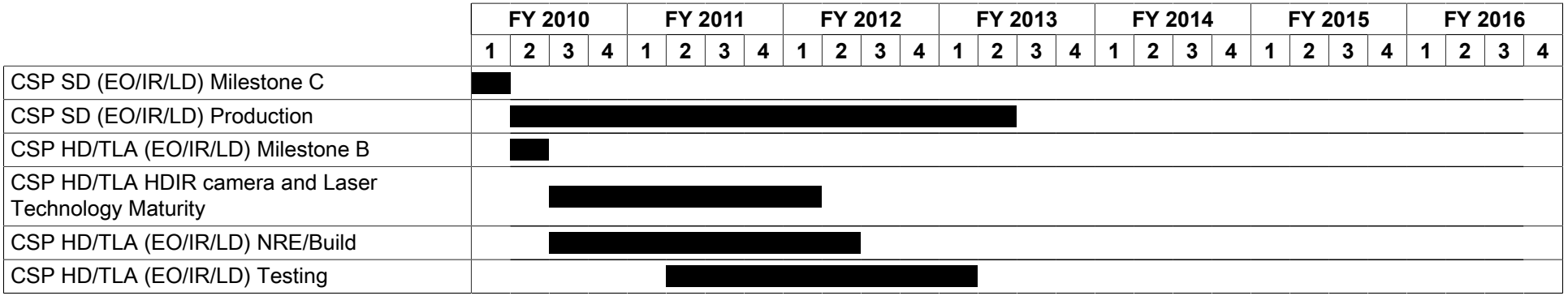

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CSP SD (EO/IR/LD) Milestone C	1	2010	1	2010
CSP SD (EO/IR/LD) Production	2	2010	2	2013
CSP HD/TLA (EO/IR/LD) Milestone B	2	2010	2	2010
CSP HD/TLA HDIR camera and Laser Technology Maturity	3	2010	1	2012
CSP HD/TLA (EO/IR/LD) NRE/Build	3	2010	2	2012
CSP HD/TLA (EO/IR/LD) Testing	2	2011	1	2013

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
11B: *TSP DEVELOPMENT (MIP)*	19.393	5.336	20.392	-	20.392	5.221	5.375	2.677	4.313	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Tactical Signals Intelligence (SIGINT) Payload (TSP) is an Unmanned Aircraft System (UAS) mounted SIGINT sensor that detects radio frequency (RF) emitters. TSP, through handoff from the Combat Aviation Brigade, is capable of providing the Tactical Land Commander with an overwatch and penetrating SIGINT system capable of detecting, identifying, locating, and providing geolocation information on RF emitters throughout the Area of Operations. The TSP is scalable and modular, designed to provide maximum flexibility. TSP will provide near real time actionable intelligence that can immediately be used in the commander's decision cycle. The TSP electronic emitter information will be correlated with data from other systems (e.g. Prophet and Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS), at a Distributed Common Ground System-Army (DCGS-A) node to provide precise targeting information for immediate engagement. TSP maps and aligns with the 2009 Under Secretary of Defense for Intelligence Cross Cutting study and Force Sizing Assessment with Airborne Precision Geolocation and Tactical SIGINT capabilities. The Tactical Signals Intelligence (SIGINT) Payload (TSP) is an Unmanned Aircraft System (UAS) mounted SIGINT sensor that detects radio frequency (RF) emitters. TSP, through handoff from the Combat Aviation Brigade, is
capable of providing the Tactical Land Commander with an overwatch and penetrating SIGINT system capable of detecting, identifying, locating, and providing geolocation information on RF emitters throughout the Area of
Operations. The TSP is scalable and modular, designed to provide maximum flexibility. TSP will provide near real time actionable intelligence that can immediately be used in the commander's decision cycle. The TSP electronic emitter information will be correlated with data from other systems (e.g. Prophet and Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS), at a Distributed Common Ground System-Army (DCGS-A) node to provide precise targeting information for immediate engagement. TSP maps and aligns with the 2009 Under Secretary of Defense for Intelligence Cross Cutting study and Force Sizing Assessment with Airborne Precision Geolocation and Tactical SIGINT capabilities. TSP also supports the 2009 Office of the Secretary of Defense Cross-Cutting Study: Six Overarching Axioms for Information Warfare, Intelligence, Surveillance,and Reconnaissance (ISR) Force Sizing, VCJCS Update, 25 Apr 09, with SIGINT (Geolocation) and SIGINT (Internals). TSP sensors are critical to providing Reconnaissance, Surveillance, and Target Acquisition (RSTA) information and contributing to the Joint ISR net.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: EMD NRE, Training Development, Other Licensing and Equipment	19.393	5.336	12.013	-	12.013
Articles:	0	0			
Description: EMD NRE, Training Development, Other Licensing and Equipment					
FY 2010 Accomplishments: EMD NRE, Training Development, Other Licensing and Equipment					
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11B: *TSP DEVELOPMENT (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continued EMD NRE, Training Development, Other Licensing and Equipment ***FY 2012 Base Plans:*** Continued EMD NRE(2), Training Development, Other Licensing and Equipment					
Title: TSP Development Test and OT Prep ***Description:*** TSP Test Program ***FY 2012 Base Plans:*** FY12 Development Test Program	-	-	8.379	-	8.379
Accomplishments/Planned Programs Subtotals	19.393	5.336	20.392	-	20.392

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
• NSA MIP (TSP): *NSA MIP (TSP)*	0.657	1.171					6.795	6.795		0.000	24.087
• A00020 Payload UAV: *A00020 Payload UAV*	14.832	20.000	28.966		28.966		67.318	66.772	51.200	0.000	311.736
• 0305204A 11A Tactical SIGINT Payloa: *0305204A 11A Tactical SIGINT Payload*		11.000								0.000	11.000

D. Acquisition Strategy

TSP is a Threshold requirement for the MQ-1C Gray Eagle UAS. The TSP Program will be based on a full and open competitive solicitation and will be focused on starting with a mature TRL 6+ sensor for integration and test
into the Distributed Common Ground Station-Army (DCGS-A) workstation. The TSP system will be integrated onto the Gray Eagle platform to reach an Initial Operational Test and Evaluation. Non-Recurring Engineering (NRE)
will occur in an EMD phase to meet the full set of threshold SIGINT requirements and complete integration and test. Following EMD, a Milestone C production decision will be sought to procure, build and deliver TSP
systems in support of the Gray Eagle platform. Solicitation for the EMD program shifted to FY11 due to requirements definition activities at Army Staff level. TSP prototypes are currently fielded in support of SOCOM and INSCOM
in manned aircraft in theater.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
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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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11B: *TSP DEVELOPMENT (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
Program Management	SS/FP	PM, Aerial Common Sensors, Fort Monmouth, NJ:TBD	2.092	-		1.164		-		1.164	Continuing	Continuing	Continuing
Matrix Support	Various	CERDEC, Fort Monmouth, NJ:TBD	2.125	-		0.725		-		0.725	Continuing	Continuing	Continuing
Contract Mods	SS/FP	TBD:TBD	-	-		2.064		-		2.064	0.000	2.064	0.000
		Subtotal	4.217	-		3.953		-		3.953			

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
TSP EMD NRE	C/CPIF	TBD:TBD	-	-		0.856		-		0.856	Continuing	Continuing	Continuing
TSP EMD Manufacturing	C/CPIF	TBD:TBD	-	5.336		1.718		-		1.718	0.000	7.054	0.000
Training Development	Various	TBD:TBD	-	-		-		-		-	Continuing	Continuing	Continuing
Program Recision	Various	TBD:TBD	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	-	5.336		2.574		-		2.574			

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
Systems Engineering Support	SS/CPIF	Mitre:TBD	1.573	-		5.061		-		5.061	Continuing	Continuing	Continuing
Engineering Support	Various	Various:TBD	0.440	-		0.425		-		0.425	Continuing	Continuing	Continuing
		Subtotal	2.013	-		5.486		-		5.486			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
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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 Test and Activities	C/CPIF	Various:TBD	4.139	-		8.379		-		8.379	Continuing	Continuing	Continuing
Continuous Evaluation	C/FP	ATEC, Ft Belvoir, VA:TBD	0.500	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	4.639	-		8.379		-		8.379			

	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	10.869	5.336		20.392		-		20.392			

Remarks

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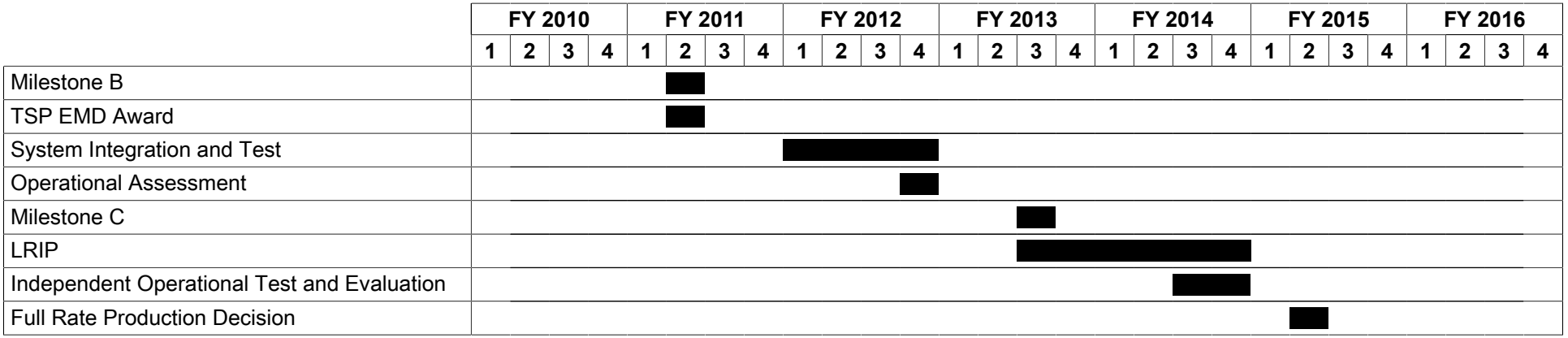

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 11B: *TSP DEVELOPMENT (MIP)*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Milestone B	2	2011	2	2011
TSP EMD Award	2	2011	2	2011
System Integration and Test	1	2012	4	2012
Operational Assessment	4	2012	4	2012
Milestone C	3	2013	3	2013
LRIP	3	2013	4	2014
Independent Operational Test and Evaluation	3	2014	4	2014
Full Rate Production Decision	2	2015	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 123: *JOINT TECHNOLOGY CENTER SYSTEM INTEGRATION (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
123: *JOINT TECHNOLOGY CENTER SYSTEM INTEGRATION (MIP)*	4.389	6.698	4.323	-	4.323	4.280	4.196	2.043	3.252	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Joint Technology Center/System Integration Laboratory (JTC/SIL) is a joint facility that develops, integrates and supports the enhancement of its Multiple Unified Simulation Environment (MUSE) capability for Army systems and operational concepts. The JTC/SIL conducts prototype hardware and software development, the UAS Institutional Mission Simulator (IMS) trainer for the Shadow, Hunter, and ERMP programs, and modeling and simulation support. The MUSE is a real-time, operator in-the-loop simulation that may be integrated with larger simulations in support of Army and Joint training and exercises. The MUSE is also employed as a Mission Rehearsal Tool for ongoing combat operations. This project funds the management of the JTC/SIL and MUSE enhancements.

This system supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Base: Product Development	1.868	3.902	3.807	-	3.807
Articles:	0	0			
Description: Funding is provided for the following effort					
FY 2010 Accomplishments: Base: Product Development					
FY 2011 Plans: Base: Product Development					
FY 2012 Base Plans: Base: Product Development					
Title: Support cost in support of OSD Joint Interoperability Requirements	2.000	2.000	-	-	-
Articles:	0	0			
Description: Funding is provided for the following effort					
FY 2010 Accomplishments:					

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
Support cost in support of OSD Joint Interoperability Requirements ***FY 2011 Plans:*** Support cost in support of OSD Joint Interoperability Requirements					
Title: Base: Management Services	0.521	0.796	0.516	-	0.516
Articles:	0	0			
Description: Funding is provided for the following effort ***FY 2010 Accomplishments:*** Base: Management Services ***FY 2011 Plans:*** Base: Management Services ***FY 2012 Base Plans:*** Base: Management Services					
Accomplishments/Planned Programs Subtotals	4.389	6.698	4.323	-	4.323

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 0603261N Navy: *PE 0305204N Navy*	3.703		3.573		3.573		3.629	3.667	1.689	0.000	19.861
• PE 0305206F Air Force: *PE 0305205F Air Force*	3.470	4.000	3.235		3.235		3.472	3.373	3.387	Continuing	Continuing

D. Acquisition Strategy

Continued MUSE development will be accomplished through a combination of Government in-house functional directorate support using a variety of existing contract vehicles.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT 123: *JOINT TECHNOLOGY CENTER SYSTEM INTEGRATION (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
Program Management	MIPR	AMC/AMCOM/ AMRDEC/SED:AMC/ AMCOM/ AMRDEC/ SED	22.851	0.796		0.516		-		0.516	Continuing	Continuing	Continuing
		Subtotal	22.851	0.796		0.516		-		0.516			

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
MUSE Development	MIPR	AMC/AMCOM/ AMRDEC/SED:AMC/ AMCOM/AMRDEC/ SED	22.851	3.902		1.807		-		1.807	Continuing	Continuing	Continuing
		Subtotal	22.851	3.902		1.807		-		1.807			

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
Interoperability Support	MIPR	AMC/RDECOM/ AMRDEC:AMC/ RDECOM/ AMRDEC	2.000	2.000		2.000		-		2.000	Continuing	Continuing	Continuing
		Subtotal	2.000	2.000		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	47.702	6.698		4.323		-		4.323			

Remarks

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
D09: *EXTENDED RANGE UAV (MIP)*	135.136	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The production Extended Range Multi-Purpose (ERMP) Unmanned Aircraft system (UAS) will consist of 12 Unmanned Aircraft Systems, each equipped with multi-mission payloads and a Standard Equipment Package (SEP). The threshold payload is an EO/IR/LD sensor. The SEP includes a communications relay package, Identify Friend or Foe (IFF) equipment and Air Traffic Control radios. Associated Ground Support Equipment (GSE) will have One System Ground Control Stations (OSGCS-V2 & V3), Tactical Common Data Links (TCDL) Ground Data Terminals (GDT), Portable GCS(PGCS), Portable GDT (PGDT), and Satellite Communication (SATCOM) Ground Data Terminal. Each system will also have the Automatic Take off and Landing System (ATLS), Tactical Automatic Landing System-Tracking Subsystems (TALS-TS). Each aircraft will have the connectivity, plus space, weight and power to support SATCOM and payloads; and each aircraft will be weaponized.

RDT&E funds continue to resource the Engineering Manufacturing and Development (EMD) phase for ERMP, as well as continuing improvements after EMD. FY12 funding will provide for continued system development and integration, developmental test, and Initial Operational Test and Evaluation (IOT&E).

Beginning in FY11, ERMP RDT&E funding shifts to PE 0305219A to comply with Section 214 of the FY09 National Defense Authorization Act to submit the ERMP budget in a dedicated Program Element.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: ERMP EMD System including Electro-Optical / Infrared, Synthetic Aperture Radar, and communications Relay Payloads ***Articles:*** ***Description:*** ERMP EMD System including Electro-Optical / Infrared, Synthetic Aperture Radar, and communications Relay Payloads ***FY 2010 Accomplishments:*** ERMP EMD System including Electro-Optical / Infrared, Synthetic Aperture Radar, and communications Relay Payloads	41.578 0	-	-	-	-
Title: Government Test Support including IOT&E, LUT, Logistics Demonstration Operational Tempo (OPTEMPO)	53.287 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
Articles: ***Description:*** Government Test Support including IOT&E, LUT, Logistics Demonstration Operational Tempo (OPTEMPO) ***FY 2010 Accomplishments:*** Government Test Support including IOT&E, LUT, Logistics Demonstration Operational Tempo (OPTEMPO)					
Title: ERMP System Training and Training Equipment Development ***Articles:*** ***Description:*** ERMP System Training and Training Equipment Development ***FY 2010 Accomplishments:*** ERMP System Training and Training Equipment Development	32.798 0	-	-	-	-
Title: ERMP Support including Engineering and Program Management ***Articles:*** ***Description:*** ERMP Support including Engineering and Program Management ***FY 2010 Accomplishments:*** ERMP Support including Engineering and Program Management	7.473 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	135.136	-	-	-	-

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
• (A00005): *MQ-1 UAV - APA - Base and OCO*	439.650	506.310	658.798		658.798		500.334	0.054		0.000	2,781.903
• (A00025): *MQ-1 UAV - APA*	3.786	14.729								0.000	18.515

D. Acquisition Strategy

The ERMP Operational Requirement Document (ORD) was approved by the Joint Requirement Oversight Council (JROC) 6 Apr 2005, Milestone B occurred 20 Apr 2005, and the System Development and Demonstration contract was awarded 8 Aug 2005, as a result of a competitive solicitation which included a vendor system capabilities demonstration. Capabilities Production Document was approved 14 Mar 09. To meet the required capability, evolutionary acquisition has been employed

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to implement the incremental approach outlined in the CPD. The ERMP UAS is being matured during the System Development and Demonstration (SDD) phase, which includes the development and integration of key components such as the Tactical Common Data Link (TCDL), Link-16, and integration of Government Furnished Equipment (GFE), payloads, appropriate Common Aviation Ground Support Equipment and the One System GCS. PM JAMS is developing the P+ model of the HELLFIRE missile and participating in the integration and test activities for the entire ERMP system. PM JAMS is budgeting for the procurement of missiles for the fielded systems. PM Night Vision/Reconnaissance, Surveillance, and Target Acquisition (RSTA) under PEO Intelligence and Electronic Warfare Systems (IEWS) develops, manages, and competes in the POM and is responsible for meeting all ERMP costs associated for payloads, payload integration, and payload sustainment. The US Army's Acquisition Objective for ERMP is 35 systems. The Army procurement Objective for ERMP is 13 systems. Field Tests at the Electronic Proving Grounds in Ft Huachuca, AZ, and integration tests at the Central Technical Support Facility in Ft Hood, TX, are examples of the tests planned to reduce risk in the SDD phase. The LRIP will:

a. Establish an effective and efficient production base for the system required to provide a solid foundation on which to build FRP systems.
b. Permit an orderly increase in production rate to mitigate risk.
c. Procure production representative equipment to support test & evaluation.
d. Support Doctrine, Training, Leadership Development, Organization, Materiel, Personnel and Facilities (DTLOMPF) and Tactics, Techniques and Procedures (TTP) development.
e. Provide an opportunity to incorporate lessons learned from the comprehensive test and evaluation program into the production baseline.

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
Program Management Personnel	MIPR	PM UAS, Redstone:PM UAS, Redstone	7.511	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	7.511	-		-		-		-			

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
Development Engineering & Prototype Manufacturing	Various	General Atomics/ ASI:General Atomics/ ASI	338.894	-		-		-		-	Continuing	Continuing	Continuing
Common System Integration	Various	Various:Various	3.663	-		-		-		-	0.000	3.663	Continuing
Government Furnished Equipment	Various	Various:Various	4.625	-		-		-		-	Continuing	Continuing	Continuing
Launcher Software Development	Various	PM JAMS:Various	1.000	-		-		-		-	0.000	1.000	Continuing
Aviation Mission Planning Systems	Various	Other Government Agencies:Various	1.615	-		-		-		-	0.000	1.615	Continuing
Next Generation Ice Protection	Various	AMRDEC:Various	1.920	-		-		-		-	0.000	1.920	Continuing
		Subtotal	351.717	-		-		-		-			

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
Contractor Engineering Support	C/FFP	Various Contractors:Various Contractors	9.084	-		-		-		-	Continuing	Continuing	Continuing
Government Engineering Support	MIPR		15.487	-		-		-		-	Continuing	Continuing	Continuing

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
		AMRDEC and IMMC:AMRDEC and IMMC											
ERMP System Training and Training Equipment Development	MIPR	Ft Huachuca:Ft Huachuaca	-	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	24.571	-		-		-		-			

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
System Test and Evaluation	MIPR	Various Government Agencies:Various Government Agencies	5.850	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	5.850	-		-		-		-			

	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	389.649	-		-		-		-			

Remarks

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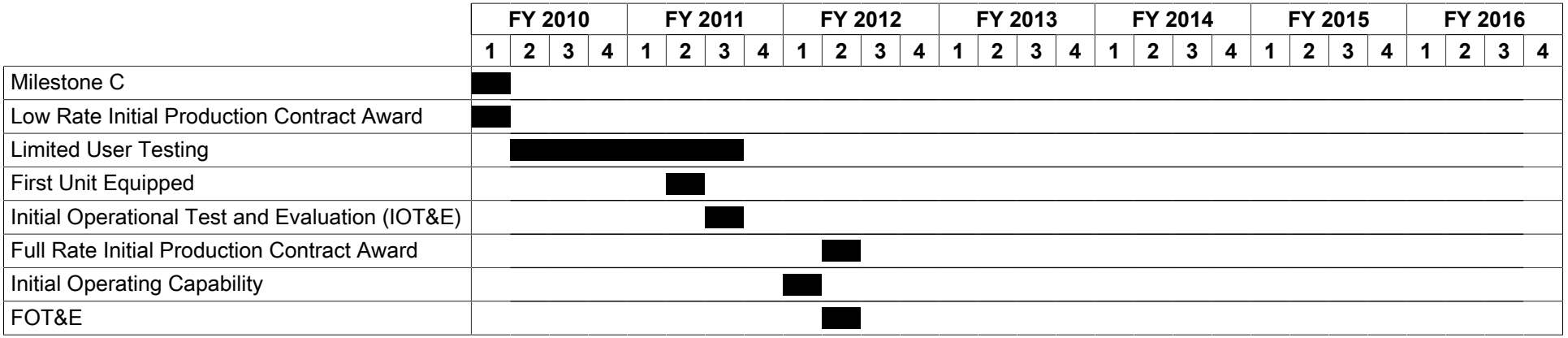

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone C	1	2010	1	2010
Low Rate Initial Production Contract Award	1	2010	1	2010
Limited User Testing	2	2010	3	2011
First Unit Equipped	2	2011	2	2011
Initial Operational Test and Evaluation (IOT&E)	3	2011	3	2011
Full Rate Initial Production Contract Award	2	2012	2	2012
Initial Operating Capability	1	2012	1	2012
FOT&E	2	2012	2	2012

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT D10: *SUAV (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
D10: *SUAV (MIP)*	1.958	0.342	-	-	-	-	-	-	-	0.000	2.300
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Small Unmanned Aircraft System (SUAS), RQ-11B Raven provides ground maneuver battalions and below with situational awareness and enhanced force protection. The Raven B is a man-portable, unmanned aircraft system capable of handling a wide variety of Intelligence, Surveillance & Reconnaissance (ISR) tasks. The Raven B aircraft has a wingspan of 4.5 feet and weighs 4.2 pounds. It is hand-launched and provides aerial observation, day or night, at line-of-sight ranges up to 10 kilometers. The aircraft has an endurance rate of 90 minutes and can deliver color or infrared imagery in real time to the ground control station and remote video terminal. Raven B obtained Milestone C approval on 6 Oct 05, and successfully completed IOT&E June 06. The program obtained Full Rate Production approval 5 Oct 06. A significant system upgrade completed in early FY10 incorporated a Digital Data Link (DDL) which improved operational capability by: incorporating encryption capability allowing for secure data links; increasing the number of channels allowing for more air vehicles to be flown in a smaller area; extending the operational range through communication relay capability; and integration of advanced digital payloads. The first DDL systems were fielded in December 2009.

Funding for this project shifts to PE 0305232A RQ-11 in FY11.

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 Improvement Studies and Development	1.419	-	-	-	-
Articles:	0				
Description: Product Improvement Studies and Development					
FY 2010 Accomplishments: Product Improvement Studies and Development					
Title: Program Management Support	0.381	0.342	-	-	-
Articles:	0	0			
Description: Program Management Support					
FY 2010 Accomplishments: Program Management Support					
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
Program Management Support					
Title: Other Government Agencies (OGA)	0.158	-	-	-	-
Articles:	0				
Description: Other Government Agencies (OGA)					
FY 2010 Accomplishments: Other Government Agencies (OGA)					
Accomplishments/Planned Programs Subtotals	1.958	0.342	-	-	-

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 0305232A RQ-11: *Raven (MIP) (RDT&E,A)*		1.941	1.938		1.938		2.884	2.943	2.990	0.000	14.625
• (A00010): *RQ-11 (RAVEN)/APA*	84.340	37.572	70.762		70.762		9.562	10.933	10.867	0.000	248.035

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT D10: *SUAV (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
Program Management	RO	PM UAS:PM UAS	0.675	0.342		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.675	0.342		-		-		-			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
Product Improvement Studies and Development	Various	AeroVironment:AeroVironment	13.281	-		-		-		-	Continuing	Continuing	0.000
Shadow Flight in the National Airspace	Various	AAI Corporation / Other:AAI Corporation / Other	2.000	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	15.281	-		-		-		-			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
Other Government Agencies (OGA)	RO	PM UAS:PM UAS	0.675	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.675	-		-		-		-			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
Other Government Agencies (OGA)	RO	PM UAS:PM UAS	0.675	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	0.675	-		-		-		-			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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305204A: *Tactical Unmanned Aerial Vehicles*	PROJECT D10: *SUAV (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	17.306	0.342		-		-		-			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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305208A: *Distributed Common Ground/Surface Systems*							
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	191.253	119.202	44.198	-	44.198	39.692	33.470	20.655	20.985	Continuing	Continuing
956: *Distributed Common Ground System (DCGS) (MIP)*	190.603	118.582	44.198	-	44.198	39.692	33.470	20.655	20.985	Continuing	Continuing
D15: *MUSE & TES TADSS (MIP)*	0.650	0.620	-	-	-	-	-	-	-	0.000	1.270

Note

Change Summary Explanation: FY10 Project 956 Congressional Adds: $2,000 for Asymmetric Threat Response and Analysis Project (ATRAP) and $788 for Army/ Joint STARS Surveillance and Control Data Link (SCDL). FY12 Project 956 increased $12,499 to fund Cloud Development.

A. Mission Description and Budget Item Justification

Distributed Common Ground System-Army (DCGS-A) is the Army's Intelligence, Surveillance, and Reconnaissance (ISR) family of systems (FoS) for joint, interagency, allied, coalition, and National data analysis, information sharing, and collaboration. DCGS-A is the ISR component of the modular and future forcesBattle Command System, the Army's component of the Defense Intelligence Information Enterprise (DI2E), and the Army's system for ISR sensor tasking, data processing, data exploitation, data dissemination, of combat information and intelligence. It provides commanders from maneuver company to Army Service Component Command access to the DI2E and National intelligence collection, analysis, and targeting capabilities.

DCGS-A provides a single integrated ground processing system composed of common Commercial off-the-shelf (COTS) and Government off-the-shelf (GOTS) components that are interoperable with National, theater, and tactical sensors, other information sources, Army and joint battle command systems and the DI2E, which includes the DoD DCGS FoS. DCGS-A software is tailored by echelon and is scalable to each units mission. DCGS-A provides commanders and staffs the ability to maintain an accurate and up to date understanding of the operational environment. DCGS-A's contributions to commanders' visualization and situational awareness, rapid planning, and the synchronization of all warfighting functions enable Army units to operate within the enemy's decision cycle. This capability enhances tactical and operational maneuver and the conduct of full spectrum operations across the range of military operations from humanitarian to major combat operations.

DCGS-A core functions are to receive and process space, aerial, ground, and maritime sensor data; to control select Army and joint sensors systems; to synchronize planning and operations; to integrate reconnaissance and surveillance; to fuse theater-wide information; and to direct and distribute relevant and timely threat, weather, and terrain data, information, and intelligence. It is designated a Major Automated Information System (MAIS) program that operates across multiple security levels throughout the DI2E. As enhanced capabilities are developed and tested, annual software releases are integrated into Army Common/commodity hardware and fielded to units IAW the Army Force Generation (ARFORGEN) process.

The DCGS-A configurations range from laptops to systems integrated in tactical shelters and mounted on tactical vehicles to large commodity servers operating in a Cloud Processing Architecture. Main cloud nodes will be placed in data centers strategically located across the globe, while tactical edge cloud nodes will be integrated within select existing equipment currently on units Modified Tables of Organization & Equipment (MTOE) lists. The fundamental intent and tenet of this approach is to reduce forward deployed equipment/footprint by co-locating the advanced analytics capabilities within the DCGS-A baseline with the regional data centers, where the

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
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data is stored. This infrastructure consolidation simultaneously reduces processor and communications requirements in tactical units by limiting the number of large data files transported across tactical communications systems. The first DCGS-A cloud node was deployed to Operation ENDURING FREEDOM (OEF) in 1QFY11. The design and deployment strategy of the tactical edge nodes will be finalized in FY11 as well. Following a successful operational assessment and Milestone C Oct 11/Full Deployment Decision in Sep 12, DCGS-A Software Baseline (DSB) 1.0 capability will be deployed across the DCGS-A enterprise.

DCGS-A consolidates and modernizes the tasking, processing, exploitation, and dissemination (TPED) capabilities found in the following programs: Joint Intelligence Operations Capability-Iraq (JIOC-I), All Source Analysis System (ASAS) FoS, Tactical Exploitation System (TES) FoS, Integrated Meteorological System (IMETS) FoS, Digital Topographic Support System (DTSS) FoS, Counterintelligence and Interrogation Operations (CI&I Ops) workstation, Guardrail Common Sensor Intelligence Processing Facility/Guardrail Ground Baseline, Common Ground Station, Prophet Control, and Enhanced Trackwolf processing capabilities. DCGS-A provides these technologically advanced PED capabilities in tailored and scalable mobile and fixed configurations in all combat and combat support units from company to Army Service Component Command, and in select combat service support units brigade and above. The program will also develop software packages that will be embedded into battle command and other select systems to provide required ISR/analytic capabilities. DCGS-A is a key component of the DoD ISR Task Force modernization efforts and a critical Army priority

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	188.465	119.202	31.699	-	31.699
Current President's Budget	191.253	119.202	44.198	-	44.198
Total Adjustments	2.788	-	12.499	-	12.499
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	12.499	-	12.499
• Other Adjustments 1	2.788	-	-	-	-

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
956: *Distributed Common Ground System (DCGS) (MIP)*	190.603	118.582	44.198	-	44.198	39.692	33.470	20.655	20.985	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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DCGS-A provides a single integrated ground processing system composed of common Commercial off-the-shelf (COTS) and Government off-the-shelf (GOTS) components that are interoperable with National, theater, and tactical sensors, other information sources, Army and joint battle command systems and the DI2E, which includes the DoD DCGS FoS. DCGS-A software is tailored by echelon and is scalable to each unit's mission. DCGS-A provides commanders and staffs the ability to maintain an accurate and up to date understanding of the operational environment. DCGS-A's contributions to commanders visualization and situational awareness, rapid planning, and the synchronization of all warfighting functions enable Army units to operate within the enemy's decision cycle. This capability enhances tactical and operational maneuver and the conduct of full spectrum operations across the range of military operations from humanitarian to major combat operations.

DCGS-A core functions are to receive and process space, aerial, ground, and maritime sensor data; to control select Army and joint sensors systems; to synchronize planning and operations; to integrate reconnaissance and surveillance; to fuse theater-wide information; and to direct and distribute relevant and timely threat, weather, and terrain data, information, and intelligence. It is designated a Major Automated Information System (MAIS) program that operates across multiple security levels throughout the DI2E. As enhanced capabilities are developed and tested, annual software releases are integrated into Army Common/commodity hardware and fielded to units IAW the Army Force Generation (ARFORGEN) process.

The DCGS-A configurations range from laptops to systems integrated in tactical shelters and mounted on tactical vehicles to large commodity servers operating in a Cloud Processing Architecture. Main cloud nodes will be placed in data centers strategically located across the globe, while tactical edge cloud nodes will be integrated within select existing equipment currently on unit's Modified Tables of Organization & Equipment (MTOE) lists. The fundamental intent and tenet of this approach is to reduce forward deployed equipment/footprint by co-locating the advanced analytics capabilities within the DCGS-A baseline with the regional data centers, where the data is stored. This infrastructure consolidation simultaneously reduces processor and communications requirements in tactical units by limiting the number of large data files transported across tactical communications systems. The first DCGS-A cloud node was deployed to Operation ENDURING FREEDOM (OEF) in 1QFY11. The design and deployment strategy of the tactical edge nodes will be finalized in FY11 as well. Following a successful operational assessment and Milestone C Oct 11/Full Deployment Decision in Sep 12, DCGS-A Software Baseline (DSB) 1.0 capability will be deployed across the DCGS-A enterprise.

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/ Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (DCGS) (MIP)*

DCGS-A consolidates and modernizes the tasking, processing, exploitation, and dissemination (TPED) capabilities found in the following programs: Joint Intelligence Operations Capability-Iraq (JIOC-I), All Source Analysis System (ASAS) FoS, Tactical Exploitation System (TES) FoS, Integrated Meteorological System (IMETS) FoS, Digital Topographic Support System (DTSS) FoS, Counterintelligence and Interrogation Operations (CI&I Ops) workstation, Guardrail Common Sensor Intelligence Processing Facility/Guardrail Ground Baseline, Common Ground Station, Prophet Control, and Enhanced Trackwolf processing capabilities. DCGS-A provides these technologically advanced PED capabilities in tailored and scalable mobile and fixed configurations in all combat and combat support units from company to Army Service Component Command, and in select combat service support units brigade and above. The program will also develop software packages that will be embedded into battle command and other select systems to provide required ISR/analytic capabilities. DCGS-A is a key component of the DoD ISR Task Force modernization efforts and a critical Army priority

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Design and Development of DCGS-A enterprise level net-centric architecture ***Articles:*** ***Description:*** Continue design and development of DCGS-A enterprise level net-centric architecture to include: Development & Integration of DCGS-A Software; Development and Assembly of Competitive Data Package; Limited User Test, Developmental Testing, Mobile Basic Data and Program Management support costs ***FY 2010 Accomplishments:*** Continued design and development of DCGS-A enterprise level net-centric architecture to include: Development & Integration of DCGS-A Software; Development and Assembly of Competitive Data Package; Limited User Test, Developmental Testing, Mobile Basic Data and Program Management support costs ***FY 2011 Plans:*** Continue design and development of DCGS-A enterprise level net-centric architecture to include: Development & Integration of DCGS-A Software; Development and Assembly of Competitive Data Package; Limited User Test, Developmental Testing, Mobile Basic Data and Program Management support costs ***FY 2012 Base Plans:*** Continue and complete design and development of DCGS-A enterprise level net-centric architecture to include: Development & Integration of DCGS-A Software; Development and Assembly of Competitive Data Package; Limited User Test, Developmental Testing, Mobile Basic Data and Program Management support costs	123.431 0	102.382 0	3.164	-	3.164
Title: Cloud development ***Articles:*** ***Description:*** Global Unified Data Environment (Cloud) development - creates near real-time multi-intelligence analytics environment, extends access and reduces analytic response time.	-	13.200 0	21.500	-	21.500

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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
FY 2011 Plans: Global Unified Data Environment (Cloud) development - creates near real-time multi-intelligence analytics environment, extends access and reduces analytic response time. ***FY 2012 Base Plans:*** Global Unified Data Environment (Cloud) development - creates near real-time multi-intelligence analytics environment, extends access and reduces analytic response time.					
Title: Human Terrain Teams ***Articles:*** ***Description:*** Human Terrain Teams - Develop software for the MAP-HT system for capabilities above the baseline 1.0 release. ***FY 2011 Plans:*** Human Terrain Teams - Develop software for the MAP-HT system for capabilities above the baseline 1.0 release	-	3.000 0	-	-	-
Title: Software evaluation, integration and test ***Articles:*** ***Description:*** Continue to evaluate, integrate and test new software applications and components for incorporation into the DCGS-A Software Baseline (DSB). ***FY 2010 Accomplishments:*** Continue to evaluate, integrate and test new software applications and components for incorporation into the DCGS-A Software Baseline (DSB).	21.601 0	-	-	-	-
Title: Army and Joint Testing ***Articles:*** ***Description:*** Ongoing Army and Joint interoperability testing and evaluation to include Operational Assessment (Empire Challenge)$1.8M, JITC ($1.1M), and Operational Test ($14.2M) ***FY 2010 Accomplishments:***	1.600 0	-	17.100	-	17.100

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
Ongoing Army and Joint interoperability testing and evaluation to include Operational Assessment (Empire Challenge)$1.8M, JITC ($1.1M), and Operational Test ($14.2M) ***FY 2012 Base Plans:*** Ongoing Army and Joint interoperability testing and evaluation to include Central Test Support Facility (CTSF) testing.					
Title: Migrate Sensor Fusion processes and Current Force systems capabilities ***Articles:*** ***Description:*** Continue to migrate sensor fusion processes and Current Force systems capabilities (multi-INT sources, geospatial and weather data) into DCGS-A Service Oriented Architecture (SOA) environment. Continue development and integration of SIGINT and All Source applications and the integration framework for DCGS-A Multi-Function Workstation (MFWS). ***FY 2010 Accomplishments:*** Continue to migrate sensor fusion processes and Current Force systems capabilities (multi-INT sources, geospatial and weather data) into DCGS-A Service Oriented Architecture (SOA) environment. Continue development and integration of SIGINT and All Source applications and the integration framework for DCGS-A Multi-Function Workstation (MFWS).	2.558 0	-	-	-	-
Title: Support Costs and Management Services ***Description:*** Funding is provided for the following effort ***FY 2012 Base Plans:*** Provide matrix support and PMO efforts	-	-	2.434	-	2.434
Title: Standard Sharable Geospatial Foundation Support ***Articles:*** ***Description:*** Standard Sharable Geospatial Foundation Development to support Unified Battle Command Shared Low Bandwidth Imagery ***FY 2010 Accomplishments:***	3.550 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
Standard Sharable Geospatial Foundation Development to support Unified Battle Command Shared Low Bandwidth Imagery					
Title: Develop and enhance two-way Battle Command ***Articles:*** ***Description:*** Continue to develop and enhance two-way Battle Command to include Joint Command and Control (JC2) interoperability. (previously Project D07) ***FY 2010 Accomplishments:*** Continue to develop and enhance two-way Battle Command to include Joint Command and Control (JC2) interoperability. (previously Project D07)	5.665 0	-	-	-	-
Title: Current and Future Force Multi-INT sensor ***Articles:*** ***Description:*** Continue to isolate and integrate Current Force Multi-INT sensor (Human Intelligence, Imagery Intelligence, Signal Intelligence, Measurement and Signature Intelligence) modules into the DCGS-A network. Continued planning and analysis of Future Force Multi-INT sensor modules for incorporation into the DCGS-A network. (previously Project D08) ***FY 2010 Accomplishments:*** Continue to isolate and integrate Current Force Multi-INT sensor (Human Intelligence, Imagery Intelligence, Signal Intelligence, Measurement and Signature Intelligence) modules into the DCGS-A network. Continued planning and analysis of Future Force Multi-INT sensor modules for incorporation into the DCGS-A network. (previously Project D08)	5.370 0	-	-	-	-
Title: HIPPIE ***Articles:*** ***Description:*** Continue Heuristic Internet Protocol Packet Inspection Engine. ***FY 2010 Accomplishments:*** Continue Heuristic Internet Protocol Engine.	1.040 0	-	-	-	-
Title: Intelligence Integrated Architecture ***Articles:***	23.000 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: Modify Intelligence Integrated Architecture (I2A) to apply cloud computing technology to operational and tactical DCGS-A architecture. ***FY 2010 Accomplishments:*** Modify Intelligence Integrated Architecture (I2A) to apply cloud computing technology to operational and tactical DCGS-A architecture.					
Title: Asymmetric Threat Response and Anaylsis Project (ATRAP) ***Articles:*** ***Description:*** Congressional add. Asymmetric Threat Response and Anaylsis Project (ATRAP) ***FY 2010 Accomplishments:*** Asymmetric Threat Response and Anaylsis Project (ATRAP)	2.000 0	-	-	-	-
Title: Army/Joint STARS Surveillance and Control Data Link (SCDL) ***Articles:*** ***Description:*** Congressional Add ***FY 2010 Accomplishments:*** Congressional Add	0.788 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	190.603	118.582	44.198	-	44.198

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
• BZ7316: *DCGS-A (MIP)*	335.588	334.516	144.548	83.000	227.548		265.032	316.418	437.621	Continuing	Continuing

D. Acquisition Strategy

The Distributed Common Ground System-Army (DCGS-A) program was created in response to the Department of Defense (DoD) Distributed Common Ground/ Surface System (DCGS) Mission Area Initial Capabilities Document (MA ICD) dated 13 Aug 2004, which captured the overarching requirements for an Intelligence, Surveillance, and Reconnaissance (ISR) Family of Systems (FoS) that will contribute to Joint and combined Warfighter needs. That ICD was updated as the Distributed Common Ground/Surface System (DCG/SS) Enterprise ICD, and approved by the Joint Requirements Oversight Council (JROC) 27 Feb 2009. The Army requirements were refined in the DCGS-A Capabilities Development Document (CDD), and approved by the JROC 31 Oct 2005. The DCGS-A program is currently

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in the Engineering, Manufacturing and Development (EMD) phase as authorized by the PEO IEW&S ADM dated 6 Apr 2006. DCGS-A was designated as a Major Automated Information System (MAIS) in OSD(AT&L) Memorandum, 29 Mar 2010.

DCGS-A is following an evolutionary acquisition approach to develop and field system capabilities over time to satisfy the requirements of the DCGS-A Capability Development Document (CDD). Following this approach, the first increment was defined and a Capability Production Document (CPD) was created with full consideration of all of the preceding supporting documents and analysis. As part of its initial staffing, a Cost Benefit Analysis was completed in support of the DCGS-A CPD. This analysis projected a significant cost avoidance/savings over the life cycle by not limiting the hardware configuration to a one size fits all unit types design but rather integrating the DCGS-A SW capabilities into common servers and other IT components fielded at that echelon. This approach was included in the CPD and is being added to an updated DCGS-A Acquisition Strategy. The CPD is currently in formal staffing at HQDA. It is anticipated that the JROC approval will be in 4th Quarter FY 11.

The DCGS-A System Engineering Plan (SEP) updated the current development plan and was approved by OSD DASD (C4ISR & IT Acquisition) on 3 Dec 2009. The DCGS-A Acquisition Strategy Report (ASR) was approved by the Defense Acquisition Executive (DAE) on 26 Jun 2010. It is anticipated the DCGS-A Acquisition Program Baseline will be approved as an Acquisition Category (ACAT) IAM in 3rd Quarter FY11 and Army will be instructed to transition the DCGS-A program into the Department's emerging Information Technology streamlined acquisition approach. The DCGS-A program is currently preparing for a milestone C in 1Q12 and an operational test in 2Q12 and on a subsequent FDD decision in 4Q12.

FY12 Funding Execution: Completion of the Operation Test and FDD. It also provides development and evaluation of technology initiatives and continues under competitively awarded contracts. CERDEC/SEC at Ft. Monmouth, NJ continues the DCGS-A Cloud development under a competitive 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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208A: *Distributed Common Ground/ Surface Systems*	PROJECT 956: *Distributed Common Ground System (DCGS) (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
Project Management	Various	PM, DCGS-A:APG, MD	8.175	6.957		2.434		-		2.434	Continuing	Continuing	Continuing
		Subtotal	8.175	6.957		2.434		-		2.434			

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 and development of DCGS-A architecture, software baseline and mobile hardware configuration.	Various	Northrop Grumman:Linthicum, Md.	-	74.699		3.164		-		3.164	Continuing	Continuing	Continuing
SETA Support to Visualization/Data Sharing, Modeling & Simulation	Various	Booz-Allen,:various	15.225	-		-		-		-	Continuing	Continuing	Continuing
DCGS-A Product Selection and Integration	Various	CERDEC/SEC,:various	17.270	-		-		-		-	Continuing	Continuing	Continuing
Metadata Catalog	Various	MITRE,:various	7.135	6.595		-		-		-	Continuing	Continuing	Continuing
SIL Software Integration	Various	CERDEC/ RDCOM:various	11.537	-		-		-		-	Continuing	Continuing	Continuing
Effects Based Approach to Operations	Various	Battle Labs:Austin, TX	2.600	-		-		-		-	Continuing	Continuing	Continuing
Heuristic Internet Protocol Engine	Various	Battle Labs:Austin, TX	2.000	-		-		-		-	Continuing	Continuing	Continuing
Blast Risk Analysis and Mitigation Application	Various	Battle Labs:Austin, TX	1.850	-		-		-		-	Continuing	Continuing	Continuing
Asymmetric Threat Response and Analysis Project	Various	Battle Labs:Austin, Tx.	4.900	-		-		-		-	Continuing	Continuing	Continuing
Beyond Line of Sight (BLOS) Network for MASINT Sensors	Various	Battle Labs:Austin, TX	0.800	-		-		-		-	Continuing	Continuing	Continuing
Silver Fox and MANTA	Various	Battle Labs:Austin, TX	2.000	-		-		-		-	Continuing	Continuing	Continuing
Human Terrain Teams - Develop software for the MAP-	Various	CERDEC/SEC:various	-	3.000		-		-		-	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208A: *Distributed Common Ground/ Surface Systems*	PROJECT 956: *Distributed Common Ground System (DCGS) (MIP)*	

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
HT system for capabilities above the baseline 1.0													
Constant Look Operational Support Environment (CLOSE)	Various	Battle Labs:various	0.800	-		-		-		-	Continuing	Continuing	Continuing
Global Unified Data Environment (Cloud) Development	Various	CERDEC/SEC:APG, MD	-	13.200		21.500		-		21.500	Continuing	Continuing	Continuing
SCDL	Various	CUBIC:Orlando, Fla.	-	-		-		-		-	Continuing	Continuing	0.000
		Subtotal	66.117	97.494		24.664		-		24.664			

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
Objective Doctrine/TTP Development	Various	various:various	7.023	-		-		-		-	Continuing	Continuing	Continuing
Matrix Support	Various	CECOM:CECOM	6.574	3.591		-		-		-	Continuing	Continuing	Continuing
		Subtotal	13.597	3.591		-		-		-			

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 Test	Various	ATEC:ATEC	-	2.738		-		-		-	Continuing	Continuing	Continuing
LUT	Various	ATEC:Various	-	5.381		-		-		-	Continuing	Continuing	Continuing
Operational Test support for DCGS-A	Various	ATEC:ATEC	4.765	2.421		14.200		-		14.200	Continuing	Continuing	Continuing
Operational Assessment	Various	Empire Challenge:CA.	-	-		1.800		-		1.800	0.000	1.800	0.000
JITC	Various	TBD:TBD	-	-		1.100		-		1.100	0.000	1.100	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208A: *Distributed Common Ground/ Surface Systems*	PROJECT 956: *Distributed Common Ground System (DCGS) (MIP)*

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
		Subtotal	4.765	10.540		17.100		-		17.100			

	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	92.654	118.582		44.198		-		44.198			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/ Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (DCGS) (MIP)*

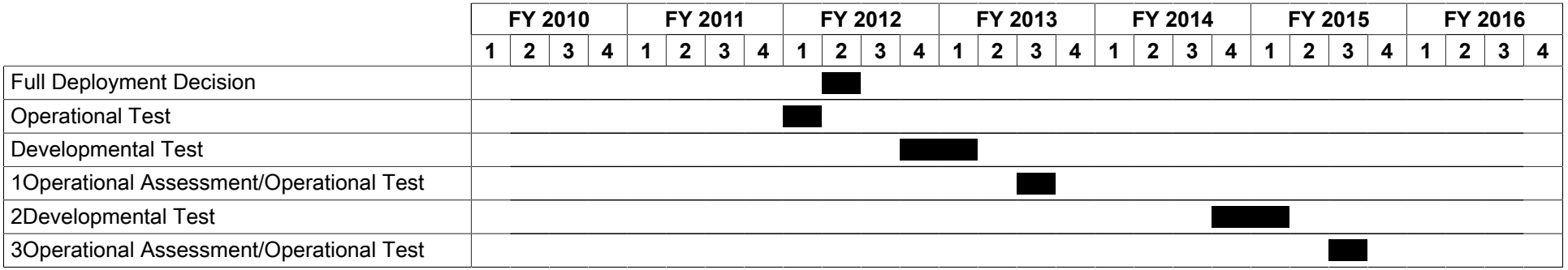

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208A: *Distributed Common Ground/ Surface Systems*	**PROJECT** 956: *Distributed Common Ground System (DCGS) (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Full Deployment Decision	2	2012	2	2012
Operational Test	1	2012	1	2012
Developmental Test	4	2012	1	2013
1Operational Assessment/Operational Test	3	2013	3	2013
2Developmental Test	4	2014	1	2015
3Operational Assessment/Operational Test	3	2015	3	2015

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208A: *Distributed Common Ground/ Surface Systems*	PROJECT D15: *MUSE & TES TADSS (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
D15: *MUSE & TES TADSS (MIP)*	0.650	0.620	-	-	-	-	-	-	-	0.000	1.270
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

funds Training Aids, Devices, Simulators and Simulations (TADSS) for the Tactical Exploitation System (TES).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: TADSS	0.650	0.620	-	-	-
Articles:	0	0			
Description: Funding is provided for the following effort					
FY 2010 Accomplishments: Providerd Training Aids, Devices, Simulators and Simulations (TADSS)					
FY 2011 Plans: Continue Training Aids, Devices, Simulators and Simulations (TADSS)					
Accomplishments/Planned Programs Subtotals	0.650	0.620	-	-	-

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-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219A: *MQ-1 Sky Warrior - Army UAV (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
Total Program Element	-	123.156	137.038	-	137.038	66.124	9.847	0.306	19.530	Continuing	Continuing
MQ1: *MQ-1 SKY WARRIOR - ARMY UAV (MIP)*	-	123.156	137.038	-	137.038	66.124	9.847	0.306	19.530	Continuing	Continuing

Note

Change Summary Explnation: Funding - FY 11 program was transferred to its own stand alone PE. Prior to FY 2011, ERMP RDT&E funding was in PE 0305204A, Project D09.

A. Mission Description and Budget Item Justification

The production Extended Range Multi-Purpose (ERMP) Unmanned Aircraft system (UAS) will consist of 12 Unmanned Aircraft Systems (UAS), each equipped with multi-mission payloads and a Standard Equipment Package (SEP). The threshold payload is an EO/IR/LD sensor. The SEP includes a communications relay package, Identify Friend or Foe (IFF) equipment and Air Traffic Control radios. Associated Ground Support Equipment (GSE) will have One System Ground Control Stations (OSGCS-V2 & V3), Tactical Common Data Links (TCDL) Ground Data Terminals (GDT), Portable GCS, (PGCS), Portable GDT?s (PGDT), and a ground Satellite Communication (SATCOM) system. Each system will also have the Automatic Take off and Landing System (ATLS), Tactical Automatic Landing System-Tracking Subsystems (TALS-TS). Each UA will have the connectivity, plus space, weight and power to support SATCOM and payloads; each UA will be weaponized.

RDT&E funds continue to resource the Engineering Manufacturing and Development (EMD) phase for ERMP, as well as continuing improvements after EMD. The FY12 funding will provide for continued system development and integration, developmental test, Limited User Testing (LUT), and Initial Operational Test and Evaluation (IOT&E).

Prior to FY11, ERMP RDT&E funding was in PE 0305204A, Project D09.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army	DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Sky Warrior - Army UAV (MIP)*

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	123.156	60.725	-	60.725
Current President's Budget	-	123.156	137.038	-	137.038
Total Adjustments	-	-	76.313	-	76.313
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	76.313	-	76.313

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219A: *MQ-1 Sky Warrior - Army UAV (MIP)*	PROJECT MQ1: *MQ-1 SKY WARRIOR - ARMY UAV (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
MQ1: *MQ-1 SKY WARRIOR - ARMY UAV (MIP)*	-	123.156	137.038	-	137.038	66.124	9.847	0.306	19.530	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The production Extended Range Multi-Purpose (ERMP) Unmanned Aircraft system (UAS) will consist of 12 Unmanned Aircraft Systems, each equipped with multi-mission payloads and a Standard Equipment Package (SEP). The threshold payload is an EO/IR/LD sensor. The SEP includes a communications relay package, Identify Friend or Foe (IFF) equipment and Air Traffic Control radios. Associated Ground Support Equipment (GSE) will have One System Ground Control Stations (OSGCS-V2 & V3), Tactical Common Data Links (TCDL) Ground Data Terminals (GDT), Portable GCS(PGCS), Portable GDT (PGDT), and Satellite Communication (SATCOM) Ground Data Terminal. Each system will also have the Automatic Take off and Landing System (ATLS), Tactical Automatic Landing System-Tracking Subsystems (TALS-TS). Each aircraft will have the connectivity, plus space, weight and power to support SATCOM and payloads; each aircraft will be weaponized.

RDT&E funds continue to resource the Engineering Manufacturing and Development (EMD) phase for ERMP, as well as continuing improvements after EMD. The FY12 funding will provide for continued system development and integration, developmental test, Limited User Testing (LUT), and Initial Operational Test and Evaluation (IOT&E).

Prior to FY11, ERMP RDT&E funding was in PE 0305204A, Project D09.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: ERMP EMD System including Electro-Optical / Infrared, synthetic Aperture Radar, and communications Relay Payloads ***Articles:*** ***Description:*** ERMP EMD System including Electro-Optical / Infrared, synthetic Aperture Radar, and communications Relay Payloads ***FY 2011 Plans:*** ERMP EMD System including Electro-Optical / Infrared, synthetic Aperture Radar, and communications Relay Payloads ***FY 2012 Plans:*** ERMP EMD System including Electro-Optical / Infrared, synthetic Aperture Radar, and communications Relay Payloads	-	61.656 0	94.231
Title: Government Test support including IOT&E, LUT, Logistics Demonstration Operational Tempo (OPTEMPO) ***Articles:*** ***Description:*** Government Test support including IOT&E, LUT, Logistics Demonstration Operational Tempo (OPTEMPO)	-	20.500 0	18.165

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219A: *MQ-1 Sky Warrior - Army UAV (MIP)*	PROJECT MQ1: *MQ-1 SKY WARRIOR - ARMY UAV (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
FY 2011 Plans: Government Test support including IOT&E, LUT, Logistics Demonstration Operational Tempo (OPTEMPO) ***FY 2012 Plans:*** Government Test support including IOT&E, LUT, Logistics Demonstration Operational Tempo (OPTEMPO)			
Title: ERMP System Training and Training Equipment Development ***Articles:*** ***Description:*** ERMP System Training and Training Equipment Development ***FY 2011 Plans:*** ERMP System Training and Training Equipment Development ***FY 2012 Plans:*** ERMP System Training and Training Equipment Development	-	18.900 0	20.764
Title: ERMP Support including Engineering and Program Management ***Articles:*** ***Description:*** ERMP Support including Engineering and Program Management ***FY 2011 Plans:*** ERMP Support including Engineering and Program Management ***FY 2012 Plans:*** ERMP Support including Engineering and Program Management	-	22.100 0	3.878
Accomplishments/Planned Programs Subtotals	-	123.156	137.038

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
• MQ-1 UAV - APA (A00005): *MQ-1 UAV - APA (A00005) - Base and OCO*	439.650	506.310	658.798		658.798		500.334	0.054		0.000	2,781.903
	3.786	14.729								0.000	18.515

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219A: *MQ-1 Sky Warrior - Army UAV (MIP)*	PROJECT MQ1: *MQ-1 SKY WARRIOR - ARMY UAV (MIP)*

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
• MQ-1 UAV - APA (A00025): *MQ-1 UAV - APA (A00025)*											

D. Acquisition Strategy

The ERMP Operational Requirement Document (ORD) was approved by the Joint Requirement Oversight Council (JROC) 6 Apr 2005, Milestone B occurred 20 Apr 2005, and the System Development and Demonstration contract was awarded 8 Aug 2005, as a result of a competitive solicitation which included a vendor system capabilities demonstration. Capabilities Production Document was approved 14 Mar 09. To meet the required capability, evolutionary acquisition has been employed to implement the incremental approach outlined in the CPD. The ERMP UAS is being matured during the System Development and Demonstration (SDD) phase, which includes the development and integration of key components such as the Tactical Common Data Link (TCDL), Link-16, and integration of Government Furnished Equipment (GFE), payloads, appropriate Common Aviation Ground Support Equipment and the One System GCS. PM JAMS is developing the P+ model of the HELLFIRE missile and participating in the integration and test activities for the entire ERMP system. PM JAMS is budgeting for the procurement of missiles for the fielded systems. PM Night Vision/Reconnaissance, Surveillance, and Target Acquisition (RSTA) under PEO Intelligence and Electronic Warfare Systems (IEWS) develops, manages, and competes in the POM and is responsible for meeting all ERMP costs associated for payloads, payload integration, and payload sustainment. The US Army's Acquisition Objective for ERMP is 35 systems. The Army procurement Objective for ERMP is 13 systems. Field Tests at the Electronic Proving Grounds in Ft Huachuca, AZ, and integration tests at the Central Technical Support Facility in Ft Hood, TX, are examples of the tests planned to reduce risk in the SDD phase. The LRIP will:

a. Establish an effective and efficient production base for the system required to provide a solid foundation on which to build FRP systems.
b. Permit an orderly increase in production rate to mitigate risk.
c. Procure production representative equipment to support test & evaluation.
d. Support Doctrine, Training, Leadership Development, Organization, Materiel, Personnel and Facilities (DTLOMPF) and Tactics, Techniques and Procedures (TTP) development.
e. Provide an opportunity to incorporate lessons learned from the comprehensive test and evaluation program into the production baseline.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219A: *MQ-1 Sky Warrior - Army UAV (MIP)*	PROJECT MQ1: *MQ-1 SKY WARRIOR - ARMY UAV (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
Program Management Personnel	RO	PM UAS:PM UAS	-	6.158		0.843		-		0.843	Continuing	Continuing	Continuing
		Subtotal	-	6.158		0.843		-		0.843			

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
Development Engineering & Prototype Manufacturing	Various	General Atomics/ ASI:General Atomics/ ASI	-	88.775		56.426		-		56.426	Continuing	Continuing	Continuing
Ground Support Equipment	Various	Various:Various	-	-		0.189		-		0.189	0.000	0.189	0.000
		Subtotal	-	88.775		56.615		-		56.615			

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
Contractor Engineering Support	Various	Various Contractors:Various Contractors	-	-		37.617		-		37.617	Continuing	Continuing	Continuing
Government Engineering Support	MIPR	AMRDEC and IMMC:AMRDEC and IMMC	-	-		3.034		-		3.034	Continuing	Continuing	Continuing
ERMP System Training and Training Equipment Development	MIPR	Ft. Huachuca:Ft. Huachuca	-	18.186		20.764		-		20.764	Continuing	Continuing	Continuing
		Subtotal	-	18.186		61.415		-		61.415			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219A: *MQ-1 Sky Warrior - Army UAV (MIP)*	PROJECT MQ1: *MQ-1 SKY WARRIOR - ARMY UAV (MIP)*	

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
System Test and Evaluation	MIPR	Various Government Agencies:Various Government Agencies	-	10.037		18.165		-		18.165	Continuing	Continuing	Continuing
		Subtotal	-	10.037		18.165		-		18.165			

	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	-	123.156		137.038		-		137.038			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219A: *MQ-1 Sky Warrior - Army UAV (MIP)*	PROJECT MQ1: *MQ-1 SKY WARRIOR - ARMY UAV (MIP)*

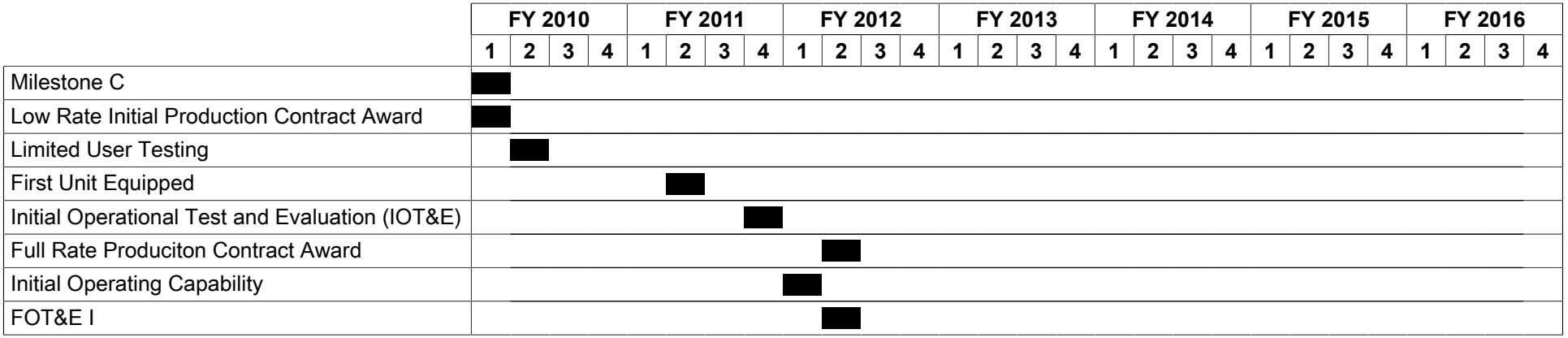

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219A: *MQ-1 Sky Warrior - Army UAV (MIP)*	**PROJECT** MQ1: *MQ-1 SKY WARRIOR - ARMY UAV (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone C	1	2010	1	2010
Low Rate Initial Production Contract Award	1	2010	1	2010
Limited User Testing	2	2010	2	2010
First Unit Equipped	2	2011	2	2011
Initial Operational Test and Evaluation (IOT&E)	4	2011	4	2011
Full Rate Produciton Contract Award	2	2012	2	2012
Initial Operating Capability	1	2012	1	2012
FOT&E I	2	2012	2	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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305232A: *RQ-11 Raven*							
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	-	1.599	1.938	-	1.938	1.929	2.884	2.943	2.990	Continuing	Continuing
RA7: *RQ-11 RAVEN (MIP)*	-	1.599	1.938	-	1.938	1.929	2.884	2.943	2.990	Continuing	Continuing

Note

Change Summary Explanation: Funding - FY 11: Program was transferred from PE 375204 to this stand alone PE.

A. Mission Description and Budget Item Justification

The Small Unmanned Aircraft System (SUAS), RQ-11B Raven provides the ground maneuver battalions and below with situational awareness and enhanced force protection. The Raven B is a man-portable, unmanned aircraft system capable of handling a wide variety of Intelligence, Surveillance & Reconnaissance (ISR) tasks. The Raven B aircraft has a wingspan of 4.5 feet and weighs 4.2 pounds. It is hand-launched and provides aerial observation, day or night, at line-of-sight ranges up to 10 kilometers. The aircraft has an endurance rate of 90 minutes and can deliver color or infrared imagery in real time to the ground control station and remote video terminal. Raven B obtained Milestone C approval on 6 Oct 05 and successfully completed IOT&E June 06. The program obtained Full Rate Production authority 5 Oct 06. A significant system upgrade completed in early FY10 incorporated a Digital Data Link (DDL) which improved operational capability by: incorporating encryption capability allowing for secure data links; increasing the number of channels allowing for more air vehicles to be flown in a smaller area; extending the operational range through communication relay capability; and integration of advanced digital payloads. The first DDL systems were fielded in December 2010.

FY12 engineering services efforts will continue to focus on auto-land accuracy, software blocking integration, chemical payload integration, common controller, and ADS-B integration and noise reduction.

Prior to FY11, the funding for this project was in PE 0305204A, Project D10. However, due to an error, $342 thousand for FY11 remains in PE 0305204A.

B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	-	1.599	1.943	-	1.943
Current President's Budget	-	1.599	1.938	-	1.938
Total Adjustments	-	-	-0.005	-	-0.005
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	-0.005	-	-0.005

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305232A: *RQ-11 Raven*	PROJECT RA7: *RQ-11 RAVEN (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
RA7: *RQ-11 RAVEN (MIP)*	-	1.599	1.938	-	1.938	1.929	2.884	2.943	2.990	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Small Unmanned Aircraft System (SUAS), RQ-11B Raven provides the ground maneuver battalions and below with situational awareness and enhanced force protection. The RQ-11B is a man-portable unmanned aircraft system capable of handling a wide variety of Intelligence, Surveillance & Reconnaissance (ISR) tasks. The aircraft has a wingspan of 4.5 feet and weights 4.2 pounds. It is hand-launched and provides aerial observation, day or night, at line of sight ranges up to 10 kilometers. The aircraft has an endurance rate of 90 minutes and can deliver color or infrared imagery in real time to the ground control station and remote video stations. The Program obtained Milestone C approval on 6 Oct 05 and successfully completed IOT&E Jun 06. The program obtained Full Rate Production approval on 5 Oct 06. A significant system upgrade completed in early FY2010 incorporated a Digital Data Link (DDL) which improved operational capability by: incorporating an encryption capability enabling secure data links increasing the number of channels allowing for more air vehicles to be flown in a smaller area; extending the operational range through communication relay capability; and integration of advanced digital payloads. The first DDL systems were fielded in December 2009.

Justification:

FY 2012 engineering services efforts will continue to focus on auto-land accuracy, software blocking integration, chemical payload integration, common hand controller, and Automatic Dependant Surveillance Broadcast (ADS-B) integration and noise reduction.

Prior to FY 2011, funding for this project was in PE 0305204A, Proj D10.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Product Improvement Studies and Development	-	1.408	1.403
Articles:		0	
Description: Product Improvement Studies and Development			
FY 2011 Plans: Product Improvement Studies and Development			
FY 2012 Plans: Product Improvement Studies and Development			
Title: Program Management Support	-	0.034	0.378
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305232A: *RQ-11 Raven*	PROJECT RA7: *RQ-11 RAVEN (MIP)*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: Program Management Support ***FY 2011 Plans:*** Program Management Support ***FY 2012 Plans:*** Program Management Support			
Title: Other Government Agencies ***Articles:*** ***Description:*** Other Government Agencies ***FY 2011 Plans:*** Other Government Agencies ***FY 2012 Plans:*** Other Government Agencies	-	0.157 0	0.157
Accomplishments/Planned Programs Subtotals	-	1.599	1.938

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 0305204A Project D10 (MIP) (RDT&: *PE 0305204A Project D10 (MIP) (RDT&E,A)*	1.958	0.342								0.000	2.300
• RQ-11 (RAVEN) - A00010: *RQ-11 (RAVEN) - A00010*	84.340	37.582	70.762		70.762		9.562	10.933	10.867	0.000	248.045

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305232A: *RQ-11 Raven*	PROJECT RA7: *RQ-11 RAVEN (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
Program Management Personnel	RO	PM UAS:PM UAS	-	0.034		0.378		-		0.378	Continuing	Continuing	Continuing
		Subtotal	-	0.034		0.378		-		0.378			

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 Improvements Studies and Development	Various	Aero Vironment:Aero Vironment	-	1.408		1.403		-		1.403	Continuing	Continuing	Continuing
		Subtotal	-	1.408		1.403		-		1.403			

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	MIPR	Various:Various	-	0.157		0.157		-		0.157	Continuing	Continuing	Continuing
		Subtotal	-	0.157		0.157		-		0.157			

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
Reliability Availability and Manintainability (RAM) Test	MIPR	Various:Various	-	-		-		-		-	0.000	0.000	Continuing
		Subtotal	-	-		-		-		-	0.000	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	-	1.599		1.938		-		1.938			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305232A: *RQ-11 Raven*	PROJECT RA7: *RQ-11 RAVEN (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

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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305233A: *RQ-7 Shadow UAV*							
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	-	7.805	31.940	-	31.940	30.828	23.370	22.507	22.687	Continuing	Continuing
RQ7: *RQ-7 SHADOW UAV*	-	7.805	31.940	-	31.940	30.828	23.370	22.507	22.687	Continuing	Continuing

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Tactical Unmanned Aerial Vehicle (TUAV) Shadow 200 provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection. The Shadow provides the Brigade Commander with critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level. The TUAV Shadow system air vehicle meets the required operating range of 50 kilometers and remains on station for up to five hours. The TUAV Shadow system consists of four air vehicles (each configured with an EO/ IR sensor payload), launcher and ground control and support equipment including: power generation, communications equipment, automated recovery equipment, one system remote video terminals, vehicle mounted shelters, and High Mobility Multipurpose Wheeled Vehicles with trailer(s). Each system is equipped with one Maintenance Section Multifunctional (MSM) Vehicle and is supported at the division level by a Mobile Maintenance Facility (MMF).

The TUAV has logged over 524,175 flight hours since Jun 01, most of which were flown in support of Operation Iraqi Freedom and Operation Enduring Freedom. Block upgrades are required for continued improvement and interoperability. Common Systems Integration is required to ensure interoperability with other manned and unmanned weapon systems, to include One System Remote Video Transceiver (OSRVT). Additional development and integration is also required to provide greater capabilities and improved operational flexibility to the Brigade Commander. These improvements to the airframe, avionics, payloads, ground control equipment, and support equipment are based on documented requirements and lessons learned from operational units. Only the SIGINT effort with the payloads improvement is new for FY12. Work previously shown under OIF Improvements/Block Upgrades/Capability Improvements in previous budgets is broken out for greater clarity.

FY12 Base funds will be used for Capability Improvements, specifically: mission computer and multi-band radio development/integration and engine improvements; integration of Synthetic Aperture Radar Ground Moving Target Indicator (SAR GMTI), signals intelligence (SIGINT), and high definition (HD) payloads. Additionally, funds will be for System Engineering/Reliability Solutions (to include improvements to meet emerging national airspace requirements) and test support.

Prior to FY11, funding for this project was in PE 0305204A, Project 114.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305233A: *RQ-7 Shadow UAV*	

B. Program Change Summary ($ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget	-	7.805	50.487	-	50.487
Current President's Budget	-	7.805	31.940	-	31.940
Total Adjustments	-	-	-18.547	-	-18.547
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	-18.547	-	-18.547

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305233A: *RQ-7 Shadow UAV*	PROJECT RQ7: *RQ-7 SHADOW UAV*	

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
RQ7: *RQ-7 SHADOW UAV*	-	7.805	31.940	-	31.940	30.828	23.370	22.507	22.687	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Tactical Unmanned Aerial Vehicle (TUAV) Shadow 200 provides the Army Brigade Commander with dedicated Reconnaissance, Surveillance and Target Acquisition (RSTA), Intelligence, Battle Damage Assessment (BDA) and Force Protection. The Shadow provides the Brigade Commander with critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level. The TUAV Shadow system air vehicle meets the required operating range of 50 kilometers and remains on station for up to five hours. The TUAV Shadow system consists of four air vehicles (each configured with an EO/IR sensor payload), launcher and ground control and support equipment including: power generation, communications equipment, automated recovery equipment, one system remote video terminals, vehicle mounted shelters, and High Mobility Multipurpose Wheeled Vehicles with trailer(s). Each system is equipped with one Maintenance Section Multifunctional (MSM) Vehicle and is supported at the division level by a Mobile Maintenance Facility (MMF).

The TUAV has logged over 575,000 flight hours since Jun 01, most of which were flown in support of Operation Iraqi Freedom and Operation Enduring Freedom. Block upgrades are required for continued improvement and interoperability. Common Systems Integration is required to ensure interoperability with other manned and unmanned weapon systems, to include One System Remote Video Transceiver (OSRVT). Additional development and integration is also required to provide greater capabilities and improved operational flexibility to the Brigade Commander. These improvements to the airframe, avionics, payloads, ground control equipment, and support equipment are based on documented requirements and lessons learned from operational units. Only the SIGINT effort with the payloads improvement is new for FY12. Work previously shown under OIF Improvements/Block Upgrades/Capability Improvements in previous budgets is broken out for greater clarity.

FY12 Base funds will be used for Capability Improvements, specifically: mission computer and multi-band radio development/integration and engine improvements; integration of Synthetic Aperture Radar Ground Moving Target Indicator (SAR GMTI), signals intelligence (SIGINT), and high definition (HD) payloads. Additionally, funds will be for System Engineering/Reliability Solutions (to include improvements to meet emerging national airspace requirements) and test support.

Prior to FY11, funding for this project was in PE 0305204A, Proj 114.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: OIF Improvements/Block Upgrades/Capability Improvements	-	3.355	-	-	-
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305233A: *RQ-7 Shadow UAV*	PROJECT RQ7: *RQ-7 SHADOW UAV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Funds OIF Improvements/Block Upgrades/Capability Improvements					
Title: System Engineering/Reliability Solutions ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Plans:*** Continued System Engineering/Reliability Solutions	-	2.025 0	-	-	-
Title: Air Vehicle Improvements ***Description:*** Funding is provided for the following effort ***FY 2012 Base Plans:*** Continued funding for Air Vehicle Improvements	-	-	14.071	-	14.071
Title: Payload Improvements ***Description:*** Funding is provided for the following effort ***FY 2012 Base Plans:*** Continues to fund Payload Improvements	-	-	7.420	-	7.420
Title: Ground Equipment Improvements ***Description:*** Funding is provided for the following effort ***FY 2012 Base Plans:*** Continues to fund Ground Equipment Improvements	-	-	2.500	-	2.500
Title: One System Remote Video Terminal (OSRVT) ***Description:*** Funding is provided for the following effort ***FY 2012 Base Plans:*** Continues to fund One System Remote Video Terminal (OSRVT)	-	-	3.914	-	3.914
Title: Test and Evaluation ***Articles:***	-	1.500 0	1.607	-	1.607

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305233A: *RQ-7 Shadow UAV*	PROJECT RQ7: *RQ-7 SHADOW UAV*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Description: Funding is provided for the following effort ***FY 2011 Plans:*** Funded Test and Evaluation ***FY 2012 Base Plans:*** Continues to fund Test and Evaluation					
Title: System Engineering/Program Management ***Description:*** Funding is provided for the following effort ***FY 2012 Base Plans:*** Continues the funding for System Engineering/Program Management	-	-	2.428	-	2.428
Title: Program Management Support ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Plans:*** Funds Program Management Support	-	0.475 0	-	-	-
Title: Other Government Agencies ***Articles:*** ***Description:*** Funding is provided for the following effort ***FY 2011 Plans:*** Funds Other Government Agencies	-	0.450 0	-	-	-
Accomplishments/Planned Programs Subtotals	-	7.805	31.940	-	31.940

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
• A00018: *Shadow MODS (RQ-7)*	649.939 2.743	602.815 2.628	126.239	94.600	220.839		189.659	300.884	232.198	Continuing Continuing	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305233A: *RQ-7 Shadow UAV*	PROJECT RQ7: *RQ-7 SHADOW UAV*

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
• Initial Spares - TUAV: *Initial Spares - TUAV*											
• 114: *TUAS*	62.188	1.672								0.000	63.860

D. Acquisition Strategy

A System Capability Demonstration (SCD) was conducted with four contractors. The results from the SCD in conjunction with proposal evaluations resulted in the competitive down select of a Best Value TUAS. A successful Milestone II ASARC was conducted 21 Dec 99, and a TUAV LRIP contract was awarded to AAI Corporation 27 Dec 99. In order to accelerate fielding of the TUAS, a second LRIP for four systems was awarded 30 Mar 01 following a successful OPTEMPO test. In order to maintain accelerated fielding and continue ramp up to full rate production, a third LRIP was awarded in Mar 02. A successful LRIP program led to a MS III decision 25 Sep 02. The full rate production contract was awarded 27 Dec 02. Continued development of the TUAS system will be accomplished through a series of modifications and retrofits such as air vehicle improvements, additional payload integration, and ground control equipment improvements. Development/integration of these improved capabilities will be through individual efforts on a sole source cost-plus fixed fee engineering services contract with the Shadow prime contractor.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305233A: *RQ-7 Shadow UAV*	PROJECT RQ7: *RQ-7 SHADOW UAV*	

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 Personnel	Various	PM UAS,:Redstone Arsenal, AL	-	0.475		1.021		-		1.021	Continuing	Continuing	Continuing
		Subtotal	-	0.475		1.021		-		1.021			

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: OIF Improvements / Block Upgrades / Capability	SS/CPFF	AAI Corporation, MD:AAI Corporation, MD	-	3.355		-		-		-	Continuing	Continuing	Continuing
Base: System Engineering / Reliability Solutions	SS/CPFF	AAI Corporation, MD:AAI Corporation, MD	-	2.025		-		-		-	Continuing	Continuing	Continuing
Base: Air Vehicle Improvements	SS/CPFF	AAI Corporation, MD:AAI Corporation, MD	-	-		14.071		-		14.071	0.000	14.071	0.000
Base: Ground Equipment Improvements	SS/CPFF	AAI Corporation, MD:AAI Corporation, MD	-	-		2.500		-		2.500	0.000	2.500	0.000
Base: Payload Improvements	SS/CPFF	Various:Various	-	-		7.420		-		7.420	0.000	7.420	0.000
Base: One System Remote Video Terminal (OSRVT)	Various	Various:Various	-	-		3.914		-		3.914	0.000	3.914	0.000
		Subtotal	-	5.380		27.905		-		27.905			

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
Contractor Engineering Support	Various	Various:Various	-	0.300		0.943		-		0.943	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305233A: *RQ-7 Shadow UAV*	PROJECT RQ7: *RQ-7 SHADOW UAV*

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 Engineering and Logistics Support	Various	AMRDEC & IMMC,:Redstone Arsenal, AL	-	0.150		0.464		-		0.464	Continuing	Continuing	Continuing
		Subtotal	-	0.450		1.407		-		1.407			

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	PM UAS,:Redstone Arsenal, AL	-	1.500		1.607		-		1.607	Continuing	Continuing	Continuing
		Subtotal	-	1.500		1.607		-		1.607			

	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	-	7.805		31.940		-		31.940			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305233A: *RQ-7 Shadow UAV*	PROJECT RQ7: *RQ-7 SHADOW UAV*

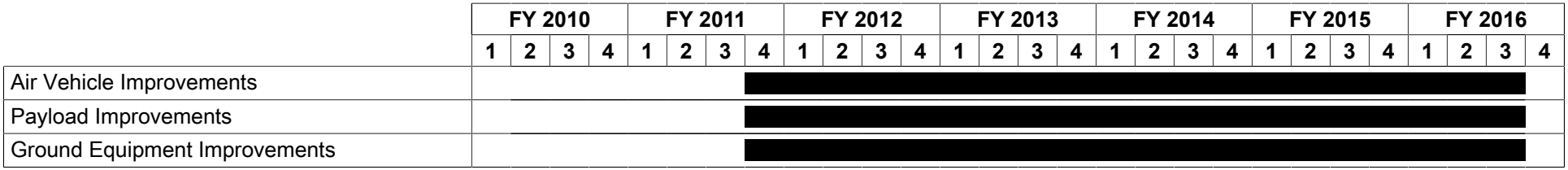

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305233A: *RQ-7 Shadow UAV*	**PROJECT** RQ7: *RQ-7 SHADOW UAV*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Air Vehicle Improvements	4	2011	3	2016
Payload Improvements	4	2011	3	2016
Ground Equipment Improvements	4	2011	3	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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0307207A: *Aerial Common Sensor (ACS)*							
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	115.432	-	-	-	-	-	-	-	-	0.000	115.432
024: *AERIAL COMMON SENSOR (MIP)*	115.432	-	-	-	-	-	-	-	-	0.000	115.432

Note

Change Summary Explanation: FY 2011 and FY 2012: OSD directed that this MIP program be moved to its own separate program element, 0605626A.

A. Mission Description and Budget Item Justification

The Aerial Common Sensor program has ben restructured and renamed the Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS). EMARSS is the Army's next generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. EMARSS provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS aircraft will be assigned to the U.S. Army Intelligence and Security Command?s (INSCOM) Aerial Exploitation Battalions (AEB). EMARSS is an improvement over the existing MARSS QRC in that it hosts an on board DCGS-A capability, improved satellite communications, and improved aircraft performance.

EMARSS will consist of a commercial derivative aircraft equipped with an Electro-optical/Infrared (EO/IR) Full Motion Video (FMV) sensor, a Communications Intelligence (COMINT) collection system, an aerial precision geolocation (APG) system, tactical line-of-site (LOS) and beyond line-of-site (BLOS) communications suites, two Distributed Common Ground System ? Army (DCGS-A) enabled operator workstations and a self-protection suite.

EMARSS will operate as a single platform in direct support of tactical missions. EMARSS, working with and incorporating elements of the DCGS-A, will provide efficient response to Combat Forces Intelligence, Surveillance and Reconnaissance (ISR) tasking with centralized Processing, Exploitation & Dissemination (PED) of ISR products while simultaneously transmitting critical FMV and other intelligence products to engaged tactical forces.

The National Security Agency's Military Intelligence Program (MIP) provides funding to support enhanced SIGINT capabilities.

There is no FY12 funding request for EMARSS in this funding line. That request is found in PE 0605626A, project AC5, Aerial Common Sensor SDD.

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army					DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*		R-1 ITEM NOMENCLATURE PE 0307207A: *Aerial Common Sensor (ACS)*			
B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	115.430	-	-	-	-
Current President's Budget	115.432	-	-	-	-
Total Adjustments	0.002	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	0.002	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0307207A: *Aerial Common Sensor (ACS)*	PROJECT 024: *AERIAL COMMON SENSOR (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
024: *AERIAL COMMON SENSOR (MIP)*	115.432	-	-	-	-	-	-	-	-	0.000	115.432
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Aerial Common Sensor program has ben restructured and renamed the Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS). EMARSS is the Army's next generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. EMARSS provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS aircraft will be assigned to the U.S. Army Intelligence and Security Command?s (INSCOM) Aerial Exploitation Battalions (AEB). EMARSS is an improvement over the existing MARSS QRC in that it hosts an on board DCGS-A capability, improved satellite communications, and improved aircraft performance.

EMARSS will consist of a commercial derivative aircraft equipped with an Electro-optical/Infrared (EO/IR) Full Motion Video (FMV) sensor, a Communications Intelligence (COMINT) collection system, an aerial precision geolocation (APG) system, tactical line-of-site (LOS) and beyond line-of-site (BLOS) communications suites, two Distributed Common Ground System ? Army (DCGS-A) enabled operator workstations and a self-protection suite.

EMARSS will operate as a single platform in direct support of tactical missions. EMARSS, working with and incorporating elements of the DCGS-A, will provide efficient response to Combat Forces Intelligence, Surveillance and Reconnaissance (ISR) tasking with centralized Processing, Exploitation & Dissemination (PED) of ISR products while simultaneously transmitting critical FMV and other intelligence products to engaged tactical forces.

The National Security Agency's Military Intelligence Program (MIP) provides funding to support enhanced SIGINT capabilities.

There is no FY12 funding request for EMARSS in this funding line. That request is found in PE 0605626A, project AC5, Aerial Common Sensor SDD.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: EMARSS DEVELOPMENT	100.695	-	-
Articles:	0		
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Start EMD contract, purchases 4 EMD aircraft, purchase GFE and technical support, DCGS-A on board processing.			
Title: SUPPORT SERVICES	14.737	-	-
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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0307207A: *Aerial Common Sensor (ACS)*	PROJECT 024: *AERIAL COMMON SENSOR (MIP)*

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:*** Supports Material Development Decision (MDD), EMD Source Selection activities, test support, Program Management Office (PMO)			
Accomplishments/Planned Programs Subtotals	115.432	-	-

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
• EMARSS: *EMARSS*		211.500	31.544		31.544		30.349	28.934	28.853	Continuing	Continuing
• ACS NSA MIP: *ACS NSA MIP*	2.022	1.350	10.634		10.634		7.395	7.395		Continuing	Continuing
• GRCS NSA MIP: *GRCS NSA MIP*	2.780	0.685	5.246		5.246		3.601	3.601		Continuing	Continuing
• Aircraft Mods: *Aircraft Mods*	0.074									0.000	0.074

D. Acquisition Strategy

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is a program of record based on an Army G-3/5/7 Directed Requirement (DR) signed 11 December 2009. The decision to pursue EMARSS is a direct result of relooking the Army's approach to the Airborne Intelligence Surveillance and Reconnaissance (ISR) construct and applying the lessons learned from current overseas operations. The Army Material Development Decision (MDD) review was completed in 2Q FY10. The program entered the acquisition process in the Engineering and Manufacturing Development (EMD) phase with 4Q10 contract award. This award was competitively awarded to a single contractor. An option for LRIP is anticipated to be part of this effort. MS C is scheduled for 4QFY12 and FRP in 3QFY13.

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0307207A: *Aerial Common Sensor (ACS)*	PROJECT 024: *AERIAL COMMON SENSOR (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
PMO Staff/travel/O/H expenses	Various	PM, AC Sensors::Aberdeen, MD	2.399	-		-		-		-	Continuing	Continuing	Continuing
Program SETA Support	Various	CACI,BAH, USFalcon, LM::NJ/ DC	4.500	-		-		-		-	Continuing	Continuing	Continuing
SETA Mgmt Support	Various	Mitre::Various	1.400	-		-		-		-	Continuing	Continuing	Continuing
Matrix Support	Various	Multiple::Ft. Monmouth, NJ	2.400	-		-		-		-	Continuing	Continuing	Continuing
Gov't Matrix Support	Various	PMFW, AMRDEC::Redstone, AL	2.600	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	13.299	-		-		-		-			

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
EMARSS EMD	Various	TBD:TBD	88.101	-		-		-		-	Continuing	Continuing	Continuing
Vortex Data Links/PALS/ DBOS	Various	L3COMM,:Warner Robins AFB	5.890	-		-		-		-	Continuing	Continuing	Continuing
Other GFE/COMSEC Equipment	Various	TBD:TBD	0.870	-		-		-		-	Continuing	Continuing	Continuing
Airborne Precision Geo-Location (APG) System	Various	NSA:Washington	1.270	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	96.131	-		-		-		-			

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
DCGS-A & Orion S/W processing on Board	Various	Various:Various	5.100	-		-		-		-	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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0307207A: *Aerial Common Sensor (ACS)*	PROJECT 024: *AERIAL COMMON SENSOR (MIP)*

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
		Subtotal	5.100	-		-		-		-			

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
Test Support	Various	Gov't/various:Various	0.900	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	0.900	-		-		-		-			

	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	115.430	-		-		-		-			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307207A: *Aerial Common Sensor (ACS)*	**PROJECT** 024: *AERIAL COMMON SENSOR (MIP)*

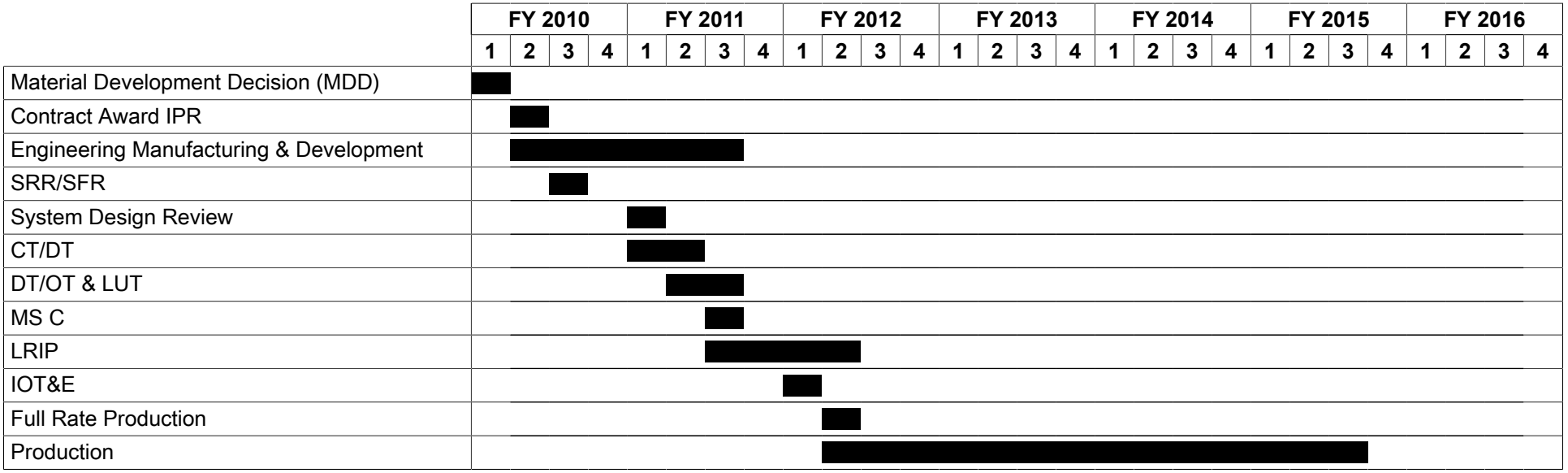

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307207A: *Aerial Common Sensor (ACS)*	**PROJECT** 024: *AERIAL COMMON SENSOR (MIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Material Development Decision (MDD)	1	2010	1	2010
Contract Award IPR	2	2010	2	2010
Engineering Manufacturing & Development	2	2010	3	2011
SRR/SFR	3	2010	3	2010
System Design Review	1	2011	1	2011
CT/DT	1	2011	2	2011
DT/OT & LUT	2	2011	3	2011
MS C	3	2011	3	2011
LRIP	3	2011	2	2012
IOT&E	1	2012	1	2012
Full Rate Production	2	2012	2	2012
Production	2	2012	3	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 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*							
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	106.259	61.098	59.297	-	59.297	70.390	75.135	90.745	74.527	Continuing	Continuing
E25: *MFG SCIENCE & TECH*	65.926	61.098	59.297	-	59.297	70.390	75.135	90.745	74.527	Continuing	Continuing
EA2: *MANTECH INITIATIVES (CA)*	40.333	-	-	-	-	-	-	-	-	0.000	40.333

Note

FY12 funding realigned to higher priority efforts.

A. Mission Description and Budget Item Justification

This program element (PE) demonstrates manufacturing processes that enable producibility and affordability of emerging and enabling technologies. Initiatives within the PE result in cost savings and reduced risk of transitioning military-unique manufacturing processes into production. This PE also fosters the transfer of new/improved manufacturing technologies to the industrial base, including manufacturing efforts that have potential for high payoff across the spectrum of Army systems and/or significant impact on national manufacturing issues (project E25). Major investment areas include Aviation Systems, Armor and Survivability, Sensors, Electronics and Power Systems, Precision Munitions and Armaments, and Flexible Displays. Project EA2 funds congressional special interest items.

Work in this PE is related to, and fully coordinated with, PE 0603710A (Night Vision Advanced Technology), PE 0602303A (Missile Technology), PE 0602105A (Materials Technology), PE 0602618A (Ballistics Technology), PE 0602601A (Combat Vehicle and Automotive Technology), and PE 0603005A (Combat Vehicle and Automotive Advanced Technology) and PE 0602705A (Electronics and Electronic Devices).

The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work in this PE is performed by the Army Research, Development, and Engineering Command (RDECOM) and efforts are executed by the Army Research Laboratory (ARL) and appropriate Army Research, Development, and Engineering Centers (RDECs).

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army					DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*		R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*			
B. Program Change Summary ($ in Millions)	**FY 2010**	**FY 2011**	**FY 2012 Base**	**FY 2012 OCO**	**FY 2012 Total**
Previous President's Budget	102.867	61.098	74.193	-	74.193
Current President's Budget	106.259	61.098	59.297	-	59.297
Total Adjustments	3.392	-	-14.896	-	-14.896
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	5.575	-			
• SBIR/STTR Transfer	-2.183	-			
• Adjustments to Budget Years	-	-	-14.896	-	-14.896

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army			DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*	PROJECT E25: *MFG SCIENCE & TECH*	

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
E25: *MFG SCIENCE & TECH*	65.926	61.098	59.297	-	59.297	70.390	75.135	90.745	74.527	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project develops and demonstrates advanced manufacturing processes, equipment, and systems that enhance the quality and/or quantity of products, while achieving reductions in cost and/or transfer of improved manufacturing technologies to the industrial base. Efforts within this project have potential for high payoff across the spectrum of Army weapon systems, and significant positive impact on national manufacturing issues and the US industrial base. Current investment areas include: Aviation, Armor and Survivability, Sensors, Electronics and Power Systems, Precision Munitions and Armaments, and Display Technology.

The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work in this project is performed by the Army Research, Development, and Engineering Command (RDECOM) and efforts are executed by the Army Research Laboratory (ARL) and appropriate Army Research, Development, and Engineering Centers (RDECs).

The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work in this project is performed by the Army Research, Development, and Engineering Command (RDECOM) and efforts are executed by the Army Research Laboratory (ARL) and appropriate Army Research, Development, and Engineering Centers (RDECs).

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Aviation Systems	11.898	5.000	11.579
Articles:	0	0	
Description: Aviation Systems domain consists of manned and unmanned platforms, power systems, missile systems, maintenance and support systems and modeling and simulation systems.			
FY 2010 Accomplishments: Demonstrated lamination production compatibility for embedding sensors with airframe fabrication on the aft fuselage, composite vertical stabilizer, and composite tail boom for the Apache Block II. Demonstrated integrated materials, design, and manufacturing			

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*	PROJECT E25: *MFG SCIENCE & TECH*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
process controls for producing and integrating low cost cabin floor structures onto the UH-60 Blackhawk airframes. Manufactured blade assembly production line for the anti-corrosion coating processes. Evaluated new ceramic technologies for fabrication of shroud components for T-700 helicopter engines. Developed new manufacturing processes which will achieve greater fuel efficiency for unmanned aerial vehicle (UAV) heavy fuel engines. ***FY 2011 Plans:*** Automation of Blade Erosion Coating: Increase manufacturing yield and efficiency of anti-corrosion spray coating processes that increase blade life and quality over current manual coating processes. Advanced Ceramic Manufacturing and Machining: Evaluate high yield manufacturing processes enabling application of new Ceramic Matrix Composite technologies that significantly improve thrust, fuel consumption, and reliability compared to current T-700 helicopter engine. Validate low cost manufacturing solutions for structural components and transition to program of record. ***FY 2012 Plans:*** Will apply erosion coating materials onto UH-60 and AH-64 rotor-blades which will decrease the number of blades repaired from 48 ? 24 a year and reduce coating costs from $18K - $14K per rotor-blade. Will develop novel tooling approaches and manufacturing processes to increase UAV heavy fuel engine performance, fuel efficiency and reliability, which reduces overall UAV life cycle costs. Will integrate improved heavy fuel engine manufacturing processes into UAV platforms to demonstrate effectiveness. Will develop cost effective processes for manufacturing nano-composite coatings which increases performance, durability and reliability of UH-60 and AH-64 components. Will automate nano-composite application processes and equipment to reduce coating costs. Will manufacture high performance flexible airborne antennas substrates using both chemical and riveting techniques. Will improve auto clave, bonding lines and joints to increase yield rates which reduce antenna manufacturing costs. Will demonstrate improved cost effective Environmental Barrier Coating (EBC) deposition methods and combine materials, process improvements to reduce fabrication labor and weight for T-700 helicopter engine shrouds.			
Title: Base Structural Armor	14.695	13.293	-
Articles:	0	0	
Description: Funding is provided for the following efforts ***FY 2010 Accomplishments:*** Demonstrated manufacture of ballistic armor using hot pressed silicon carbide tiles, advanced ceramic composite lamination, and process controls to lower the cost, weight and material flaws for low rate production of combat vehicle modular armor. ***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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*	PROJECT E25: *MFG SCIENCE & TECH*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Show production yield for ballistic and blast armors suitable for combat vehicles and add on protective modules with scalable protection requirements. Show suitable base and add-on armor production facilities to begin transition of production protocols to Ground Combat Vehicle and other platform programs of record with these ballistic requirements.			
Title: Ground Systems	4.666	13.293	6.368
Articles:	0	0	
Description: The Ground Systems domain consists of Survivability (armor), Power and Mobility, Intelligent Ground Systems (robotics and unmanned systems) ***FY 2010 Accomplishments:*** Developed the automated specifications and process controls to demonstrate encapsulation of ceramic tiles for armored structures. Manufactured ballistic armor using hot pressed silicon carbide tiles, advanced ceramic composite lamination, and process controls to lower the cost, weight and material flaws for low rate production of combat vehicle modular armor. ***FY 2011 Plans:*** Demonstrate and qualify ballistic and blast armors, add on protective modules and limited production of build-to-print armor with automated specification controls. Demonstrate low yield automated assembly of ceramic composites suitable for the fabrication of Ballistic, Hull & Turret, and high yield production of affordable Silcon Carbide (SiC) and Titanium (Ti). Transparent Spinel Armor: Show high yield fabrication capability for ceramic composites with reduced weight and improved ballistic protection. Demonstrate manufacture process of spinel armor plates in sizes up to 600 square inch which will reduce cost and weight for tactical vehicles. ***FY 2012 Plans:*** Will develop aluminum oxide manufacturing processes for sintered Spinel powder applications. Will improve transparent armor production using a sintered technique which lowers the cost from $3k to $1.2k a square foot. Will developed improved manufacturing processes and process controls to lower the cost, weight and material flaws for low rate production of combat vehicle modular armor.			
Title: Sensors	2.023	5.000	-
Articles:	0	0	
Description: Funding is provided for the following efforts. ***FY 2010 Accomplishments:*** Infrared Focal Plane Arrays: Demonstrated high yield processes for infrared systems. ***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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*	PROJECT E25: *MFG SCIENCE & TECH*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Color 1280x1024 Micro-Displays: Demonstrate 4 inch wafer line with increased production yield. Use new pixel manufacturing line to produce 6 inch wafers with increased display contrast and color performance. Produce initial lots of wafers to conduct tradeoff and selected initial process improvements. Demonstrate production line of variable lot size, with increase in wafer yield and reduced surface defects.			
Title: Third Gen Infrared (IR) Dewar / Cooler Aperture ***Articles:*** ***Description:*** Funding is provided for the following efforts. ***FY 2010 Accomplishments:*** Reduced weight and manufacturing costs of Third Generation Infrared Dewar/Cooler Aperture which also increased reliability and range for the optics used on guided weapons and surveillance sights. ***FY 2011 Plans:*** Third Gen Infrared (IR) Dewar / Cooler Aperture: Begin transition of optimized production process and configurations to combat and combat support program of record.	2.706 0	3.000 0	-
Title: Sensors, Electronics and Communications Systems ***Articles:*** ***Description:*** The Sensors, Electronics and Communications Systems domain consists of Intelligence, Surveillance, Reconnaissance and Targeting Systems, Mission Command Systems, Electronic Warfare Systems and Improvised Explosive Device (IED) Detect/Defeat Systems. ***FY 2010 Accomplishments:*** Demonstrated high yield processes for focal plane array production (FPA). Collected and baselined substrate materials for fabrication of CdZnTe substrates for high definition FPA material. Baselined the process for the calibration of common time modules between GPS systems. Used new micro display pixel manufacturing line to produce 6 inch wafers with increased display contrast, resolution and color performance for Color Micro Displays. Produced initial lots of wafers to conduct tradeoff and selected initial process improvements for Infrared Focal Plane Arrays (FPA). Demonstrated production line of variable lot size, with increase in wafer yield and reduced surface defects for FPA's. ***FY 2011 Plans:*** Increase focal plan array substrate diameter and growth yield, improve growth yield; increase material growth and pixel fabrication processes to enable affordable large format, multi-color focal plane arrays for high definition infrared sensors that improve situational awareness and target detection. Demonstrate low volume production of array and wafer size of 80 square centimeters	6.909 0	5.119 0	18.400

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*	PROJECT E25: *MFG SCIENCE & TECH*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Demonstrate vacuum environment manufacturing processes for components package including small rubidium atomic power sources, transducers, electronic circuits, and ballistic housings that support for the chip scale atomic clock deployment concept. ***FY 2012 Plans:*** Will develop a production capacity for low cost, very large, affordable infrared (IR) focal plane arrays (FPA) using III-V epitaxial materials. Will improve HgCdTe pilot lines by increasing the diameters of substrates and reduce material waste, decreasing costs for FPA production. Will develop single-layer crystal yield and demonstrate improved polishing processes for more uniformed FPA substrates. Will reduce propagate density and decrease surface roughness of FPA substrate and transition to PEO. Will manufacture the final components package, demonstrate limited production of chip scale atomic clock power sources and begin transition to Air Force GPS Wing and PEO C3T. Will develop full color organic light emitting diodes (OLEDS) from a fully integrated flexible display pilot production line for demonstrations to system integrators. Will manufacture processing station for night vision sensor optimization to reduce costs and increase reliability from 1200 to 10000 hours per sensor.			
Title: Very High Power (VHP) Batteries: ***Articles:*** ***Description:*** Funding is provided for the following efforts. ***FY 2010 Accomplishments:*** Completed battery certifications and transitioned production capabilities to support of combat vehicles and/or weapon systems. ***FY 2011 Plans:*** Demonstrate and transition efficient production line with reduced flaws and automated specifications and process controls.	2.807 0	2.500 0	-
Title: Low Cost Zinc Sulfide Missile Dome ***Articles:*** ***Description:*** Funding is provided for the following efforts. ***FY 2010 Accomplishments:*** Developed manufacturing process for improved zinc sulfide (ZnS) chemical vapor deposition processes, and improved ZnS dome blank growth processes for long range missile domes. ***FY 2011 Plans:*** Optimize post-deposition treatments and scale-up reactor production for transition to PM JAGM.	3.006 0	3.000 0	-
Title: Precision Munitions and Armament Systems ***Articles:***	5.638 0	2.893 0	9.678

Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: February 2011
APPROPRIATION/BUDGET ACTIVITY 2040: *Research, Development, Test & Evaluation, Army* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*	PROJECT E25: *MFG SCIENCE & TECH*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: The Precision Munitions and Armament Systems domain consists of Advanced Weapon Systems, Fire Control, Logistics, Emerging Technologies and Advanced Energetics and Warheads. ***FY 2010 Accomplishments:*** Demonstrated large scale production run of PAX-3 environmentally compliant explosive. Developed automated manufacturing processes for spider grenade initiation module scale up. Conducted fabrication of warhead case and assembly of forging and molding processes. Optimized new generation insensitive munitions (IM) processes for 155mm and 60mm mortars. ***FY 2011 Plans:*** Develop automated process for the assembly of the Grenade Initiation Module (GIM) that eliminate the manual processes and validates reliability of the automatic process. Demonstrate molybdenum fast jet manufacturing improvements and refine charge process. Show reduced cost production processes for solvent less propellant. Improve processing technology using modeling and simulation to enable the production of new generation insensitive munitions formulation. Install equipment and demonstrate lowered production cost (from $5.00/lb to $4.25/lb) and improve yield of key ingredients used in explosive formulations for 155mm artillery, 60 mm mortar and Spider munitions. ***FY 2012 Plans:*** Will develop a manufacturing process for molding the frag-sleeve into a warhead body for decreased manufacturing time and cost. Will develop field assisted spark technology and embedded tungsten fragment molding processes which will reduce production man-hours and lower cost. Will develop processes for residence time, temperature, agitation rate and order of feeds to optimize IMX 104 manufacturing process and transition to PM-CAS. Will manufacture a crown breach design using a hexavalent chromium free cladding process for large and medium caliber gun barrels. Will develop a tantalum tungsten alloy protective bore coating to enable higher performance ammunition. Will demonstrate M-Charge liner improvements, billet fabrication and warhead case fabrication which reduces costs from $6K to $5K per warhead and increases yield to from 75% to 98%.			
Title: Laser Ignition	2.904	3.000	-
Articles:	0	0	
Description: Funding is provided for the following efforts. ***FY 2010 Accomplishments:*** Demonstrated prototype laser ignition diodes using a new manufacturing process. Demonstrated Phase I laser diodes production lines and crystal assembly production controls. ***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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*	PROJECT E25: *MFG SCIENCE & TECH*

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Complete transition of production specifications, methodology and brazing process controls. Demonstrate manufacturing protocols for compact crystal assembly and electronics to facilitate full scale production of modular assembly accessed at MRL 8.			
Title: Flexible Display Technology ***Articles:*** ***Description:*** Funding is provided for the following efforts. ***FY 2010 Accomplishments:*** Increased yield, and demonstrated improved processing for higher resolution micro displays. ***FY 2011 Plans:*** Demonstrate sensor manufacturing processes and demonstrate flexible electronics integrated with flexible displays for reduced sensor power and improved computational performance. ***FY 2012 Plans:*** Will develop full color OLEDS from fully integrated GEN II pilot line for demonstrators to system integrators.	4.927 0	5.000 0	5.000
Title: Soldier Systems ***Articles:*** ***Description:*** The Soldier Systems domain consists of Combat Feeding, Aerial Delivery, Expeditionary Basing, Soldier Sensors, Clothing and Protective Equipment and Expeditionary Base Camp initiatives. ***FY 2010 Accomplishments:*** Developed mixing, calendaring and cutting/sealing processes for MRE chemical heating packs to improve packaging and throughput to reduce cost and pollution. Demonstrated fabric substrates bonding, coatings and sealing processes for AEROGEL insulations of shelters. Demonstrated high yield fabrication capability for ceramic composites with reduced weight and improved ballistic protection for body armor. ***FY 2012 Plans:*** Will develop manufacturing processes for nano-pigment and additives and will improve dispersion of the resins to increase performance and reliability of chemical/biological (CB) resistant shelters. Will fabricate and demonstrate multiple 600 ft tent structures that meet joint expeditionary collective protection requirements. Will develop new generation of scalable and affordable manufacturing processes for lightweight body armor. Will demonstrate stacked tooling which reduce costs for bulk manufacturing of organic composite materials and co-curing processes for the X-SAPI system.	1.959 0	-	3.378
Title: Advanced Manufacturing Initiatives	-	-	3.073

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B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Description: The Advanced Manufacturing Initiatives domain includes the following areas: Model Based Manufacturing, Network Centric manufacturing data environments, Collaborative Manufacturing Modeling and Simulation, and advanced manufacturing technologies. ***FY 2012 Plans:*** Will develop fully annotated 3D digital technical data packages (TDP) for vehicle passive and protective armor systems that can be used in design and manufacturing production lines. Will port the digital capabilities to depots and labs to facilitate integration, refit and rebuild operations. Will develop advanced manufacturing environment.			
Title: Small Business Innovative Research/Small Business Technology Transfer Programs	1.788	-	1.821
Articles:	0		
Description: Small Business Innovative Research/Small Business Technology Transfer Programs ***FY 2010 Accomplishments:*** Small Business Innovative Research/Small Business Technology Transfer Programs ***FY 2012 Plans:*** Small Business Innovative Research/Small Business Technology Transfer Programs			
Accomplishments/Planned Programs Subtotals	65.926	61.098	59.297

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 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708045A: *End Item Industrial Preparedness Activities*	PROJECT EA2: *MANTECH 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
EA2: *MANTECH INITIATIVES (CA)*	40.333	-	-	-	-	-	-	-	-	0.000	40.333
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Congressional Interest Item funding for Mantech Initiatives.

B. Accomplishments/Planned Programs ($ in Millions, Article Quantities in Each)	FY 2010	FY 2011	FY 2012
Title: Congressional Interest Item funding for Mantech Initiatives.	40.333	-	-
Articles:	0		
Description: Funding is provided for the following effort			
FY 2010 Accomplishments: Congressional Interest Item funding for Mantech Initiatives.			
Accomplishments/Planned Programs Subtotals	40.333	-	-

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.