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**Department of Defense  
Fiscal Year (FY) 2012 Budget Estimates**

February 2011



**Army**

*Justification Book Volume 5B*

***Research, Development, Test & Evaluation, Army***

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Army • President's Budget FY 2012 • RDT&E Program

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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:**

<u>PE/PROJECT</u>	<u>PE TITLE</u>	<u>PROJECT TITLE</u>
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:**

<b>Old</b>		<b>New</b>
<b><u>PE/Project</u></b>	<b><u>New Project Title</u></b>	<b><u>PE/Project</u></b>
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:**

<b>Old</b>		<b>New</b>
<b><u>PE/Project</u></b>	<b><u>New Project Title</u></b>	<b><u>PE/PROJECT</u></b>
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)

<b><u>TITLE</u></b>	<b><u>PE/PROJECT</u></b>
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.**

<u>TITLE</u>	<u>PE/PROJECT</u>
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.**

<u>PE/PROJECT</u>	<u>TITLE</u>	<u>Brief Explanation</u>
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.

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Exhibit R-1

Summary

10-Feb-2011

Summary Recap of Budget Activities		Thousands of Dollars				
		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
<b>Total</b>	<b>RDT&amp;E, Army</b>	<b>11,706,929</b>	<b>10,479,851</b>	<b>9,679,444</b>	<b>8,513</b>	<b>9,687,957</b>

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Exhibit R-1

Appropriation: 2040 A RDT&E, Army

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Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2010	FY2011	FY2012	FY2012 OCO	FY2012 Total
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



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

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

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

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

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Exhibit R-1

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
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	WWWCCS/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

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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

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

.....

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105	05	0604760A	Distributive Interactive Simulations (DIS) - Eng Dev.....	Volume 5B - 18
106	05	0604778A	Positioning Systems Development (SPACE).....	Volume 5B - 35
107	05	0604780A	Combined Arms Tactical Trainer (CATT) Core.....	Volume 5B - 42
108	05	0604802A	Weapons and Munitions - Eng Dev.....	Volume 5B - 61
109	05	0604804A	Logistics and Engineer Equipment - Eng Dev.....	Volume 5B - 78
110	05	0604805A	Command, Control, Communications Systems - Eng Dev.....	Volume 5B - 164
111	05	0604807A	Medical Materiel/Medical Biological Defense Equipment - Eng Dev.....	Volume 5B - 194
112	05	0604808A	Landmine Warfare/Barrier - Eng Dev.....	Volume 5B - 221
113	05	0604814A	Artillery Munitions - EMD.....	Volume 5B - 248
114	05	0604817A	Combat Identification.....	Volume 5B - 260
115	05	0604818A	Army Tactical Command & Control Hardware & Software.....	Volume 5B - 270
116	05	0604820A	RADAR DEVELOPMENT.....	Volume 5B - 312
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***Budget Activity 05: Development & Demonstration (SDD)  
Appropriation 2040: Research, Development, Test & Evaluation, Army***

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<b>Line Item</b>	<b>Budget Activity</b>	<b>Program Element Number</b>	<b>Program Element Title</b>	<b>Page</b>
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120	05	0604854A	Artillery Systems - EMD.....	Volume 5B - 361
121	05	0604869A	Patriot/MEADS Combined Aggregate Program (CAP).....	Volume 5B - 371
122	05	0604870A	Nuclear Arms Control Monitoring Sensor Network.....	Volume 5B - 383
123	05	0605013A	Information Technology Development.....	Volume 5B - 392
124	05	0605018A	Army Integ Military Human Resources Sys (A-IMRS).....	Volume 5B - 436
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128	05	0605457A	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD).....	Volume 5B - 474
129	05	0605625A	Manned Ground Vehicle.....	Volume 5B - 485
130	05	0605626A	Aerial Common Sensor - SDD.....	Volume 5B - 497
131	05	0303032A	TROJAN - RH12 - MIP.....	Volume 5B - 506
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Army Tactical Command & Control Hardware & Software	0604818A	115	05.....	Volume 5B - 270
Artillery Munitions - EMD	0604814A	113	05.....	Volume 5B - 248
Artillery Systems - EMD	0604854A	120	05.....	Volume 5B - 361
Automatic Test Equipment Development	0604746A	104	05.....	Volume 5B - 1
Combat Identification	0604817A	114	05.....	Volume 5B - 260
Combined Arms Tactical Trainer (CATT) Core	0604780A	107	05.....	Volume 5B - 42
Command, Control, Communications Systems - Eng Dev	0604805A	110	05.....	Volume 5B - 164
Distributive Interactive Simulations (DIS) - Eng Dev	0604760A	105	05.....	Volume 5B - 18
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Information Technology Development	0605013A	123	05.....	Volume 5B - 392
Joint Air-to-Ground Missile (JAGM)	0605450A	125	05.....	Volume 5B - 443
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Manned Ground Vehicle	0605625A	129	05.....	Volume 5B - 485
Medical Materiel/Medical Biological Defense Equipment - Eng Dev	0604807A	111	05.....	Volume 5B - 194
Nuclear Arms Control Monitoring Sensor Network	0604870A	122	05.....	Volume 5B - 383
PAC-3/MSE MISSILE	0605456A	127	05.....	Volume 5B - 463
Patriot/MEADS Combined Aggregate Program (CAP)	0604869A	121	05.....	Volume 5B - 371
Positioning Systems Development (SPACE)	0604778A	106	05.....	Volume 5B - 35
RADAR DEVELOPMENT	0604820A	116	05.....	Volume 5B - 312
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Soldier Systems - Warrior Dem/Val	0604827A	119	05.....	Volume 5B - 345
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(Listing by Budget Activity, then Program Element Number)

**BA# 05: Development & Demonstration (SDD)**

**Cost (\$ in Millions)**

Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
104	05	0604746A	Automatic Test Equipment Development	11.737	14.041	14.375	-	14.375
105	05	0604760A	Distributive Interactive Simulations (DIS) - Eng Dev	15.184	15.547	15.803	-	15.803
106	05	0604778A	Positioning Systems Development (SPACE)	7.275	-	-	-	-
107	05	0604780A	Combined Arms Tactical Trainer (CATT) Core	25.241	27.670	22.226	-	22.226
108	05	0604802A	Weapons and Munitions - Eng Dev	99.626	24.345	13.828	-	13.828
109	05	0604804A	Logistics and Engineer Equipment - Eng Dev	35.046	41.039	251.104	-	251.104
110	05	0604805A	Command, Control, Communications Systems - Eng Dev	57.040	90.736	137.811	-	137.811
111	05	0604807A	Medical Materiel/Medical Biological Defense Equipment - Eng Dev	37.572	34.474	27.160	-	27.160
112	05	0604808A	Landmine Warfare/Barrier - Eng Dev	89.064	95.577	87.426	-	87.426
113	05	0604814A	Artillery Munitions - EMD	40.856	26.371	42.627	-	42.627
114	05	0604817A	Combat Identification	7.740	29.884	-	-	-
115	05	0604818A	Army Tactical Command & Control Hardware & Software	72.820	60.970	123.935	-	123.935
116	05	0604820A	RADAR DEVELOPMENT	-	-	2.890	-	2.890
117	05	0604822A	General Fund Enterprise Business System (GFEBs)	23.712	13.576	0.794	-	0.794
118	05	0604823A	FIREFINDER	19.534	24.736	10.358	-	10.358
119	05	0604827A	Soldier Systems - Warrior Dem/Val	20.602	20.886	48.309	-	48.309
120	05	0604854A	Artillery Systems - EMD	152.935	53.624	120.146	-	120.146

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 (Listing by Budget Activity, then Program Element Number)

**BA# 05: Development & Demonstration (SDD)**

**Cost (\$ in Millions)**

Line#	BA#	PE#	PE Title	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
121	05	0604869A	Patriot/MEADS Combined Aggregate Program (CAP)	570.831	467.139	406.605	-	406.605
122	05	0604870A	Nuclear Arms Control Monitoring Sensor Network	6.860	7.276	7.398	-	7.398
123	05	0605013A	Information Technology Development	110.465	23.957	37.098	-	37.098
124	05	0605018A	Army Integ Military Human Resources Sys (A-IMRS)	-	100.500	68.693	-	68.693
125	05	0605450A	Joint Air-to-Ground Missile (JAGM)	118.459	130.340	127.095	-	127.095
126	05	0605455A	SLAMRAAM	-	23.700	19.931	-	19.931
127	05	0605456A	PAC-3/MSE MISSILE	-	62.500	88.993	-	88.993
128	05	0605457A	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)	-	251.124	270.607	-	270.607
129	05	0605625A	Manned Ground Vehicle	76.861	934.366	884.387	-	884.387
130	05	0605626A	Aerial Common Sensor - SDD	-	211.500	31.465	-	31.465
131	05	0303032A	TROJAN - RH12 - MIP	-	3.697	3.920	-	3.920
132	05	0304270A	Electronic Warfare Development	-	21.571	13.819	-	13.819
<b>Total: Development &amp; Demonstration (SDD)</b>				<b>1,599.460</b>	<b>2,811.146</b>	<b>2,878.803</b>	<b>-</b>	<b>2,878.803</b>

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>
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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	11.737	14.041	14.375	-	14.375	10.705	11.938	12.060	12.252	Continuing	Continuing
L59: <i>DIAGNOST/EXPERT SYS DE</i>	8.315	10.609	10.879	-	10.879	8.155	8.311	8.420	8.568	Continuing	Continuing
L65: <i>Test Equipment Development</i>	3.422	3.432	3.496	-	3.496	2.550	3.627	3.640	3.684	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

This program element (PE) provides for development and testing of general-purpose test equipment and of state-of-the-art diagnostics and prognostics technology, software and systems to support the increasingly complex electronic components of the Army's new and upgraded weapon systems. It focuses on implementation of commercial test and diagnostic technologies across multiple weapon platforms to minimize the cost of troubleshooting and maintenance of Army equipment in the field.

Modular, reconfigurable automatic and semi-automatic systems are being developed under this program to satisfy weapon system test and diagnostics requirements. The Next Generation Automatic Test System (NGATS) currently under development will provide state-of-the-art test and diagnostic capabilities to support current and future weapon systems. It is the platform for transitioning Agile Rapid Global Combat Support System (ARGCS) technologies into the Army weapon system support structure, and it will replace several aging automatic test systems (ATS) which are becoming prohibitively expensive to operate and maintain.

This PE also provides for continued development and improvement of general-purpose test equipment and calibration standards with emphasis on the incorporation of digital electronics and tailoring of configurations to improve deployability, mobility and survivability of the support equipment. Artificial intelligence and anticipatory maintenance applications are being developed to support the integration of self-diagnostic capabilities in Army weapons and support systems. The goal of these efforts is to reduce logistics burdens and improve readiness by minimizing the need for external testers and improving the troubleshooting abilities of soldiers in the field.

FY12 Base funding for this program continues development in accordance with Department of Defense and Army policies of the Army standard Next Generation Automatic Test System which will improve deployability and mobility of test and diagnostic equipment and replace aging and obsolete automated equipment currently supporting a number of the Army's vital warfighting systems. It will also develop or significantly modify test equipment to satisfy modular force and homeland security support requirements that cannot be accommodated with test equipment currently available in the commercial marketplace.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	15.240	14.041	14.425	-	14.425
Current President's Budget	11.737	14.041	14.375	-	14.375
Total Adjustments	-3.503	-	-0.050	-	-0.050
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-3.006	-			
• SBIR/STTR Transfer	-0.497	-			
• Adjustments to Budget Years	-	-	-0.050	-	-0.050

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L59: <i>DIAGNOST/EXPERT SYS DE</i>
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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
L59: <i>DIAGNOST/EXPERT SYS DE</i>	8.315	10.609	10.879	-	10.879	8.155	8.311	8.420	8.568	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project funds development of and system enhancements for the Next Generation Automatic Test System (NGATS). The NGATS is a general-purpose automatic test system (ATS) that will provide test and diagnostic capabilities required to support current and future weapons and combat support systems and will facilitate retirement of aging and obsolete test equipment that is imposing increasing logistics and operations and support cost burdens. It is the platform for transitioning Agile Rapid Global Combat Support System (ARGCS) technologies into the Army weapon system support structure. The ARGCS initiative was sponsored by the Department of Defense, and all Services are expected to transition demonstrated technologies into their ATS programs. This project also provides for continuing efforts to upgrade and improve general-purpose automatic test equipment to satisfy test and diagnostic requirements of the Army's new and upgraded weapon systems; development and adaptation of automatic test equipment required to overcome existing deficiencies and voids in organic test and diagnostic capabilities; development and testing of common procedures utilizing existing test program sets and software applications; and market surveys of commercially available test equipment, methods and procedures to determine applicability to Army requirements. The test and diagnostic systems and procedures developed under this project are essential for ensuring the operational readiness, accuracy and effectiveness of the Army's warfighting systems.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> NGATS Increment 1</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Complete and test NGATS Increment 1 design improvements resulting from operational test</p> <p><b>FY 2010 Accomplishments:</b> Completion of NGATS Increment 1 design improvements and testing</p>	1.874 0	- -	- -
<p><b>Title:</b> Abrams/Bradley Test Program Set (TPS) Rehost</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Rehost, test and evaluate initial complement of Abrams/Bradley TPSs for NGATS first unit equipped</p> <p><b>FY 2010 Accomplishments:</b> Rehost, test and evaluation of TPSs</p> <p><b>FY 2011 Plans:</b> Continue rehost, test and evaluation of TPSs</p>	3.841 0	4.309 0	- -
<p><b>Title:</b> NGATS Logistics Support Products</p>	2.000	0.750	0.500

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L59: <i>DIAGNOST/EXPERT SYS DE</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Articles:</b>		0	0	
<b>Description:</b> Develop NGATS initial logistics support products (including provisioning, technical manuals and calibration)				
<b>FY 2010 Accomplishments:</b> Development of initial logistics support products				
<b>FY 2011 Plans:</b> Continue development of initial logistics support products				
<b>FY 2012 Plans:</b> Complete development of initial logistics support products				
<b>Title:</b> Developmental and Operational Follow-on Testing		0.200	1.500	0.500
<b>Articles:</b>		0	0	
<b>Description:</b> Complete Increment 1 developmental and operational follow-on testing activities				
<b>FY 2010 Accomplishments:</b> Developmental and operational testing				
<b>FY 2011 Plans:</b> Continue developmental and operational testing				
<b>FY 2012 Plans:</b> Complete developmental and operational testing				
<b>Title:</b> NGATS Increment 2		0.200	0.750	2.000
<b>Articles:</b>		0	0	
<b>Description:</b> Develop and test hardware and software for NGATS Increment 2 system				
<b>FY 2010 Accomplishments:</b> Continue development and testing of Increment 2 hardware and software				
<b>FY 2011 Plans:</b> Continue development and testing of Increment 2 hardware and software				
<b>FY 2012 Plans:</b>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L59: <i>DIAGNOST/EXPERT SYS DE</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Continue development and testing of Increment 2 hardware and software; initiate development and testing of hardware and software for support of Increment 2 systems (Avenger, Multiple Launch Rocket System, Tube-launched Optically-tracked Wire-guided (TOW) Missile System, Paladin, and Common Remotely Operated Weapons Station (CROWS) II)				
<p><b>Title:</b> NGATS Electro-Optics Subsystem</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Develop and test hardware and software for NGATS electro-optics (EO) subsystem (to include the capability to support new ground and aerial sensors for unmanned air and ground vehicles)</p> <p><b>FY 2010 Accomplishments:</b> Continue development and testing of hardware and software for NGATS EO subsystem</p> <p><b>FY 2011 Plans:</b> Continue development and testing of hardware and software for NGATS EO subsystem</p> <p><b>FY 2012 Plans:</b> Continue development and testing of hardware and software for NGATS EO subsystem; initiate development and testing of hardware and software for support of Increment 3 systems (Apache, Kiowa Warrior, CROWS II, and Stryker Remote Weapons Station)</p>		0.200 0	1.500 0	2.962
<p><b>Title:</b> General-Purpose Shop Replaceable Unit Diagnostic Capability</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Develop expanded general-purpose shop replaceable unit diagnostic capability</p> <p><b>FY 2011 Plans:</b> Initiate development of expanded general-purpose shop replaceable unit diagnostic capability</p> <p><b>FY 2012 Plans:</b> Continue development of expanded general-purpose shop replaceable unit diagnostic capability</p>		-	0.500 0	0.500
<p><b>Title:</b> Abrams/Bradley Test Program Set (TPS) Redesign</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Redesign, test and evaluate Abrams/Bradley TPSs</p> <p><b>FY 2011 Plans:</b></p>		-	1.000 0	1.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L59: <i>DIAGNOST/EXPERT SYS DE</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Initiate redesign, test and evaluation of TPSs <b>FY 2012 Plans:</b> Continue redesign, test and evaluation of TPSs				
<b>Title:</b> Additional Software Capabilities  <b>Description:</b> Develop software capabilities to incorporate common logistics operating environment (CLOE)/netcentric and embedded diagnostics data collection and analysis for closed loop diagnostic maintenance in support of condition-based maintenance  <b>FY 2011 Plans:</b> Initiate development of expanded software capabilities <b>FY 2012 Plans:</b> Continue development of expanded software capabilities		-	0.300 0	0.800
<b>Title:</b> Smart TPSs <b>Description:</b> Develop enhanced smart TPS hardware and software  <b>FY 2012 Plans:</b> Initiate development of enhanced smart TPSs		-	-	0.600
<b>Title:</b> Power and Weight Enhancements <b>Description:</b> Develop power and weight enhancements for NGATS  <b>FY 2012 Plans:</b> Initiate development of power and weight enhancements		-	-	0.517
<b>Title:</b> Abrams/Bradley EO TPS Development <b>Description:</b> Develop Abrams/Bradley TPSs for use with NGATS EO asset  <b>FY 2012 Plans:</b> Initiate development of TPSs		-	-	1.500
<b>Accomplishments/Planned Programs Subtotals</b>		8.315	10.609	10.879

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L59: <i>DIAGNOST/EXPERT SYS DE</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• : OPA3, SSN MB4000, <i>Integrated Family of Test Equipment (IFTE)</i>	100.032	105.094	49.437		49.437		86.744	53.395	52.126	Continuing	Continuing

**D. Acquisition Strategy**

This developmental project consists of cooperative in-house and competitive and sole-source contractual actions. When the necessary expertise and capability are available within the Department of Defense, services required for the individual development projects are ordered from the government source; otherwise, commercial contracts are used. Equipment required for developmental projects is obtained by contract from the commercial supplier. Developmental efforts for the Next Generation Automatic Test System (NGATS) are being completed under a sole-source contract awarded to the prime contractor for the Integrated Family of Test Equipment off-platform testers. NGATS will follow an evolutionary acquisition strategy using spiral development. The NGATS Increment 1 will replace the Direct Support Electrical Systems Test Set (DSESTS). Increment 2 and the electro-optics subsystem will replace the Base Shop Test Facility (BSTF) (V)3 and BSTF (V)5 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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L59: <i>DIAGNOST/EXPERT SYS DE</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype Development	Various	Northrop Grumman, Rolling Meadows, IL	13.472	-		2.017		-		2.017	Continuing	Continuing	Continuing
Hardware/Support Items Development	Various	Various, Various	50.605	2.250		2.262		-		2.262	Continuing	Continuing	Continuing
Software Development/Verification/Validation	Various	Various, Various	13.686	6.110		5.100		-		5.100	Continuing	Continuing	Continuing
<b>Subtotal</b>			77.763	8.360		9.379		-		9.379			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management/Technical Support	Various	Various, Various	44.591	0.600		0.600		-		0.600	Continuing	Continuing	Continuing
Other Direct	Various	Various, Various	1.890	0.400		0.400		-		0.400	Continuing	Continuing	Continuing
<b>Subtotal</b>			46.481	1.000		1.000		-		1.000			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Operational Testing	Various	Various, Various	2.814	1.000		0.400		-		0.400	Continuing	Continuing	Continuing
Developmental Testing	Various	Various, Various	0.597	0.249		0.100		-		0.100	Continuing	Continuing	Continuing
<b>Subtotal</b>			3.411	1.249		0.500		-		0.500			

**Remarks**  
Test Program Set (TPS) test and evaluation is included in the product development cost.

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Army							<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>			<b>PROJECT</b> L59: <i>DIAGNOST/EXPERT SYS DE</i>				
		<b>Total Prior Years Cost</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>		127.655	10.609	10.879	-	10.879			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L59: <i>DIAGNOST/EXPERT SYS DE</i>

	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
Full Rate Production Decision Review								■																				
Full Materiel Release											■																	
First Unit Equipped												■																
NGATS Testing (Increment 1)				■																								
NGATS Testing (Increment 2)				■				■				■				■				■				■				■
NGATS SDD (EO Subsystem)				■				■				■				■				■				■				■
NGATS Testing (EO Subsystem)												■				■				■				■				■
NGATS P3I - Netcentric												■				■				■				■				■
New Systems Test Capability																■				■				■				■

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L59: <i>DIAGNOST/EXPERT SYS DE</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Full Rate Production Decision Review	4	2011	4	2011
Full Materiel Release	1	2012	1	2012
First Unit Equipped	2	2012	2	2012
NGATS Testing (Increment 1)	4	2010	2	2011
NGATS Testing (Increment 2)	3	2010	4	2014
NGATS SDD (EO Subsystem)	3	2010	3	2012
NGATS Testing (EO Subsystem)	3	2012	3	2014
NGATS P3I - Netcentric	3	2012	3	2015
New Systems Test Capability	3	2013	3	2015



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L65: <i>Test Equipment Development</i>
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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
L65: <i>Test Equipment Development</i>	3.422	3.432	3.496	-	3.496	2.550	3.627	3.640	3.684	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project supports development and demonstration of state-of-the-art calibration standards and techniques, and upgrades/improvements to existing Army calibration systems. It provides for feasibility studies, market research, inventory analyses, bid sample testing, and prototyping to support calibration systems and general-purpose test and diagnostic equipment acquisitions. Primary efforts under this project include testing of an up-armor ready AN/GSM-421(V2) tactical calibration capability, development of calibration software, development of a calibration capability for chemical and biological agent detection systems and night vision testers, improvement of test and measurement equipment performance envelopes via preplanned product improvements (P3I), and development/evaluation of advanced technology and higher reliability calibration systems and general-purpose test, measurement and diagnostic equipment (TMDE). Preplanned product improvements are underway to current test and measurement systems to overcome deficiencies and voids in existing organic capabilities and to ensure the operational readiness, accuracy, effectiveness and safety of Army weapons and combat support systems. These improvements will employ reconfigurable open electronics architecture and computer-based instrumentation wherever feasible and will be focused on reducing test equipment footprints to improve deployability and mobility in areas of operation.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> AN/GSM-421(V2)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Develop and test a tactical, up-armor capable Army calibration system that provides a split-based calibration capability.</p> <p><b>FY 2010 Accomplishments:</b> Product development, developmental testing and environmental testing.</p> <p><b>FY 2011 Plans:</b> Complete developmental testing and environmental testing. Initiate and complete user testing.</p>	0.783 0	0.595 0	-
<p><b>Title:</b> Physical instruments</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Research, develop and test for physical parameter calibration instrumentation to support areas such as chemical/biological agent detection systems, night vision testers, hydraulic and pneumatic pressure systems, temperature, etc.</p> <p><b>FY 2010 Accomplishments:</b></p>	0.620 0	0.990 0	0.900

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L65: <i>Test Equipment Development</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>Test and evaluate infrared and liquid flow calibration systems. Procure instrumentation for test equipment and calibration research and development test facility.</p> <p><b>FY 2011 Plans:</b> Research and develop calibration standards for optical, radiation and liquid/gas flow calibration test requirements.</p> <p><b>FY 2012 Plans:</b> Develop and test calibration standards for optical, radiation and liquid/gas flow calibration test requirements.</p>				
<p><b>Title:</b> Calibration Sets (CALSETS) Software Environment and Calibration</p> <p><b>Description:</b> Develop and test an Army automated calibration environment and develop calibration procedures. Test efforts in support of DoD Information Assurance Certification and Accreditation Process (DIACAP).</p> <p><b>FY 2010 Accomplishments:</b> Continue development and evaluation of test and calibration procedures. Develop and test effort for DIACAP.</p> <p><b>FY 2011 Plans:</b> Continue development and evaluation of test and calibration procedures. Research and develop calibration software environment issues. Perform testing for DIACAP issues.</p> <p><b>FY 2012 Plans:</b> Continue development and evaluation of test and calibration procedures. Conduct development and testing for a calibration software environment. Perform testing efforts for DIACAP issues.</p>		0.773 0	0.627 0	1.305
<p><b>Title:</b> Electrical Instruments</p> <p><b>Description:</b> Research, develop and test electrical parameter calibration instrumentation to support areas such as deployable recertification set, intrinsic electrical standards, electrical transport standards, etc.</p> <p><b>FY 2010 Accomplishments:</b> Perform market research and evaluation of commercial equipment and develop performance specifications for acquisition. Research and develop deployable recertification set capability and transport standards. Procure instrumentation for test equipment and calibration R&amp;D test facility.</p> <p><b>FY 2011 Plans:</b></p>		1.066 0	0.900 0	0.971

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L65: <i>Test Equipment Development</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
Perform market research and evaluation of commercial equipment and develop performance specifications for acquisition. Continue development of deployable recertification set capability. Develop/test transport standards. <b>FY 2012 Plans:</b> Perform market research and evaluate commercial equipment and develop performance specifications for acquisition. Continue development of deployable recertification set capability. Continue testing of transport standards. Develop/test intrinsic electrical standards.			
<b>Title:</b> Test Equipment Modernization  <b>Description:</b> Perform market research and evaluation of commercial equipment and develop performance specifications for acquisition.  <b>FY 2010 Accomplishments:</b> Perform market research and evaluation of commercial equipment and develop performance specifications for acquisition.  <b>FY 2011 Plans:</b> Perform market research and evaluation of commercial equipment and develop performance specifications for acquisition.  <b>FY 2012 Plans:</b> Perform market research and evaluation of commercial equipment and develop performance specifications for acquisition.	0.180 0	0.320 0	0.320
<b>Articles:</b>			
<b>Accomplishments/Planned Programs Subtotals</b>	3.422	3.432	3.496

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• N10000: <i>Calibration Sets Equipment</i>	16.792	38.778	13.618		13.618					0.000	74.998
• N11000: <i>Test Equipment Modernization</i>	15.478	19.166	30.451		30.451		5.723	24.466	25.927	Continuing	Continuing

**D. Acquisition Strategy**  
Projects are focused on use of commercial and nondevelopmental item technologies. When programmatic and engineering expertise and capability are available within the Department of Defense, services required for the individual development projects are acquired from the government source; otherwise, commercial services

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0604746A: <i>Automatic Test Equipment Development</i>	L65: <i>Test Equipment Development</i>

contracts are used to provide these capabilities. Equipment required for development projects is obtained from the commercial supplier. Candidate commercial equipment and nondevelopmental items are identified and evaluated through market research and government testing and evaluation.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L65: <i>Test Equipment Development</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
In-house Engineering	SS/LH	Civ Labor:various	1.714	0.330		0.600		-		0.600	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.714	0.330		0.600		-		0.600			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/GSM-421(V2)	C/FFP	Various:TBD	1.613	0.250		-		-		-	Continuing	Continuing	0.000
CALSETS Software Environment and Calibration	C/FFP	Various:TBD	2.100	0.820		1.015		-		1.015	Continuing	Continuing	Continuing
Physical Instruments	C/FFP	Various:TBD	5.000	0.372		0.430		-		0.430	Continuing	Continuing	Continuing
Electrical Instruments	C/FFP	Various:TBD	6.200	0.700		0.851		-		0.851	Continuing	Continuing	0.000
Test Equipment Modernization	Various	Various:Various	-	0.110		0.120		-		0.120	Continuing	Continuing	0.000
<b>Subtotal</b>			14.913	2.252		2.416		-		2.416			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Engineering	Various	Various:various	1.587	0.250		-		-		-	Continuing	Continuing	0.000
<b>Subtotal</b>			1.587	0.250		-		-		-			0.000

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AN/GSM-421(V2)	Various	Various:Various	0.150	0.200		-		-		-	Continuing	Continuing	0.000
Physical Instruments	Various	Various:Various	0.900	0.100		0.100		-		0.100	Continuing	Continuing	0.000
	Various	Various:Various	-	0.100		0.150		-		0.150	Continuing	Continuing	0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604746A: <i>Automatic Test Equipment Development</i>	<b>PROJECT</b> L65: <i>Test Equipment Development</i>
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<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
CALSETS Software Environment and Calibration													
Electrical Instruments	Various	Various:Various	1.013	0.100		0.130		-		0.130	Continuing	Continuing	0.000
Test Equipment Modernization	C/FFP	Various:TBD	-	0.100		0.100		-		0.100	Continuing	Continuing	0.000
<b>Subtotal</b>			2.063	0.600		0.480		-		0.480			0.000
<b>Project Cost Totals</b>			20.277	3.432		3.496		-		3.496			

**Remarks**

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	15.184	15.547	15.803	-	15.803	15.957	15.944	16.717	16.913	Continuing	Continuing
C74: <i>DEVEL SIMULATION TECH</i>	3.633	3.548	3.630	-	3.630	3.609	3.048	3.957	4.004	Continuing	Continuing
C77: <i>Army Geospatial Data Master Plan</i>	0.329	0.477	0.484	-	0.484	0.491	0.503	0.500	0.507	Continuing	Continuing
C78: <i>One Semi-Automated Forces (OneSAF)</i>	11.222	11.522	11.689	-	11.689	11.857	12.393	12.260	12.402	Continuing	Continuing

**Note**

Change Summary Explanation: None Required.

**A. Mission Description and Budget Item Justification**

The program element "Distributive Interactive Simulations - Engineering Development" applies to the Army's Advanced Simulation Program, which enables operational readiness and the development of concepts and systems for the Future Force through the application of new simulation technology and techniques. The development and application of simulation technology will provide the means to link electronically a range of various simulation tools in a manner that is transparent to the user. The amalgam of simulations and tools is linked together to enable execution of an event; to verify the scenarios, tactics/techniques and procedures; to train testers on new hardware/software; and to conduct trial test runs before costly live field tests. The tools developed are available for reuse by developers and users of simulations throughout the Army.

Project C74 provides the resources necessary to perform the formally chartered mission of the Army's Simulation-to-C4I\* Interoperability Overarching Integrated Product Team (SIMCI OIPT). (\*C4I = Command, Control, Communications, Computers and Intelligence.) Project C77, Army Geospatial Data Master Plan, focuses on activities that start with data acquisition from multiple sources and culminate in (1) accurate, robust and timely geospatial data and data management and (2) integration and conversion tools that support multiple battle command, training and mission-rehearsal applications. Project C78 develops the One Semi-Automated Forces (OneSAF) program, which will combine and improve the functionality and behaviors of several current semi-automated forces to provide a single SAF for Army use in simulations.

The FY12 line of Project C74 continues management of the SIMCI OIPT's Army-wide collaborative, interoperability enhancement activities, including architecture alignment, data model alignment, common standards, components, and products. The FY12 line of Project C77 develops geospatial data standards and integrates geospatial data into Army Battle Command (BC) systems. The FY12 line of Project C78 continues development of the software for OneSAF Pre-Planned Product Improvements (P3Is).

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i>	PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>
BA 5: <i>Development &amp; Demonstration (SDD)</i>	

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	15.645	15.547	15.858	-	15.858
Current President's Budget	15.184	15.547	15.803	-	15.803
Total Adjustments	-0.461	-	-0.055	-	-0.055
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.461	-			
• Adjustments to Budget Years	-	-	-0.055	-	-0.055



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C74: <i>DEVEL SIMULATION TECH</i>
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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
<i>C74: DEVEL SIMULATION TECH</i>	3.633	3.548	3.630	-	3.630	3.609	3.048	3.957	4.004	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Project C74 funds the HQDA-chartered mission of the Simulation-to-C4I\* Interoperability (SIMCI) Overarching Integrated Product Team (OIPT).(\*C4I = Command, Control, Computers, Communications and Intelligence.) The SIMCI OIPT mission is to provide recommendations to Army senior leadership regarding Army policy, organization and processes for improvement of interoperability between Battle Command (BC) systems and the Modeling and Simulation (M&S) systems the Army uses to stimulate those BC systems for training Soldiers and their Leaders. In addition, SIMCI invests in targeted solutions to the most critical problems. The applicable BC system capabilities encompass not only command and control functions, but also decision and planning support capabilities that cover all functions including deployment, mission rehearsal, sustainment, intelligence, surveillance, reconnaissance, etc. from fixed locations and with Battle Command on the Move (BCOTM). The SIMCI OIPT, led by PEO-STRI and PEO-C3T, uses focused collaborative processes among its 30+ Army organizations (including HQDA staff, capability developers and materiel developers) to identify key/critical interoperability shortfalls and the required materiel solutions.

The primary functions of the SIMCI OIPT are: (1) Technical Investment--sponsor/support initiatives that seek common solutions to critical interoperability issues surrounding BC and M&S systems; e.g. targeted, technical investments for development projects and establishing common tools such as geospatial (terrain) products; implementation of BC and M&S interoperability architectures, standards, and interface products. This technical investment includes high- payoff cooperative research and coordination among existing and emerging BC and M&S programs; (2) Advisor to Army Leadership--improve BC and M&S interoperability programs, policies, directives, resourcing, and procedures; (3) Outreach--conduct & participate in interoperability outreach activities such as technical work groups, meetings, conferences, and publications in order to facilitate the integration of Army interoperability initiatives within the Army and with Service and Coalition programs.

SIMCI investments consist primarily of cost-sharing initiatives, leveraging initial system solutions of acquisition programs to enhance the interoperability of multiple systems in the Joint Operational Environment. Key programs that will benefit from the cross-domain vision and practices of SIMCI include Army Battle Command Systems (ABCS), System of Systems Engineering (SOSE), Force XXI Battle Command Brigade and Below (FBCB2), Joint Capabilities Release (JCR), Joint Land Component Constructive Training Capability (JLCCTC), Live/Virtual/Constructive Integrating Architecture (LVC-IA), Software Blocking (SWB), Data Product Development Environment (DPDE), Joint Forces Command's Joint National Training Capability (JNTC), and Global Command and Control System- Family of Systems (GCCS-FOS). Currently, the near term component of these efforts are focused on Capability Set fielding in support of Deployed and Deploying Forces.

SIMCI investments accelerate implementation (at reduced cost), within BC and M&S systems, of common data models and information exchanges that are used by other Services and coalition nations, thus enhancing the inherent ability of Army systems to interoperate seamlessly in a Joint, Interagency, Intergovernmental, and Multinational (JIIM) environment. The SIMCI-sponsored Army C4I and Simulation Mission Initialization products and capability will be expanded to address key training and operational data initialization gaps in support of deployed and deploying Units. This will enable timely, flexible, and common data updates to BC and M&S systems, thus reducing the operational unit's mission preparation time ambiguity and improving the quality of the Unit's training and readiness. SIMCI's direct involvement with PEO Integration will increase the visibility of that program's needs and capabilities, providing the various OIPTs with opportunities to leverage their

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C74: <i>DEVEL SIMULATION TECH</i>		
<p>systems' fundamental capabilities to meet the needs of PEO Integration, and vice versa. SIMCI investments will cement those relationships through co-development and implementation of common-use products.</p> <p>FY12 funding continues management of the SIMCI OIPT'S Army-wide collaborative, interoperability enhancement activities, including architecture alignment, data model alignment, common standards, components, and products. It is focused first on reducing costs and improving capabilities in the areas of automating Operational Plans, Orders, and Reports in support of Army, Joint, and Coalition operations. Objectives are: identify and articulate to HQDA senior leadership specific standards that require Army-wide implementation; co-develop data standards, architecture standards, implementation specifications and Joint/Coalition products; co-develop BC/M&amp;S products to support PEO Integration; continue transition of SIMCI knowledge and proof-of-principle products to Army and Joint acquisition programs.</p>				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Program Management for the SIMCI Overarching Integrated Product Team (OIPT) Projects.		3.633	3.548	3.630
<b>Articles:</b>		0	0	
<p><b>Description:</b> Program Management of the SIMCI OIPT's Army-wide collaborative, interoperability enhancement activities, including architecture alignment, data model alignment, common standards, components, and products.</p> <p><b>FY 2010 Accomplishments:</b> FY10 funding continues management of the SIMCI OIPT'S Army-wide collaborative, interoperability enhancement activities. It is focused first on reducing costs and improving capabilities in the areas of geospatial functionality and interoperability for BC systems and simulations. Objectives are: identify and articulate to HQDA senior leadership specific standards, directives, and regulations that require Army-wide implementation; co-develop data standards, architecture standards, implementation specifications, and products for BC/M&amp;S applications; and continue transition of SIMCI knowledge and proof-of-principle products to Army and Joint acquisition programs.</p> <p><b>FY 2011 Plans:</b> FY11 funding continues management of the SIMCI OIPT'S Army-wide collaborative, interoperability enhancement activities. It is focused first on reducing costs and improving capabilities in the areas of Army/Joint BC training and testing functionality and interoperability for BC systems and simulations. Objectives are: identify and articulate to HQDA senior leadership specific standards that require Army-wide implementation; co-develop data standards, architecture standards, implementation specifications, and joint initialization / scenario-generation products; co-develop common data integration/translation capability for BC/M&amp;S applications; co-develop BC/M&amp;S products to support PEO Integration; continue transition of SIMCI knowledge and proof-of-principle products to Army and Joint acquisition programs.</p> <p><b>FY 2012 Plans:</b> FY12 funding continues management of the SIMCI OIPT'S Army-wide collaborative, interoperability enhancement activities, including architecture alignment, data model alignment, common standards, components, and products. It is focused first on reducing costs and improving capabilities in the areas of automating Operational Plans, Orders, and Reports in support of Army,</p>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C74: <i>DEVEL SIMULATION TECH</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Joint, and Coalition operations. Objectives are: identify and articulate to HQDA senior leadership specific standards that require Army-wide implementation; co-develop data standards, architecture standards, implementation specifications and Joint/Coalition products; co-develop BC/M&S products to support PEO Integration; continue transition of SIMCI knowledge and proof-of-principle products to Army and Joint acquisition programs.			
<b>Accomplishments/Planned Programs Subtotals</b>	3.633	3.548	3.630

**C. Other Program Funding Summary (\$ in Millions)**  
N/A

**D. Acquisition Strategy**  
SIMCI OIPT resources are allocated to multiple organizations in both the BC and M&S Communities. The funds are contracted to execute approved functions and to projects that advance the efforts of SIMCI and components-based architecture alignment. Products developed transition to the lead program which then maintains the product for the cost savings of itself and other programs in both Communities.

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C74: <i>DEVEL SIMULATION TECH</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	PEO STRI:Orlando, FL	8.811	0.211		0.216		-		0.216	Continuing	Continuing	Continuing
<b>Subtotal</b>			8.811	0.211		0.216		-		0.216			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Transition of simulation initialization capability	Various	JFCOM J7:Suffolk, VA	1.354	0.542		0.385		-		0.385	Continuing	Continuing	Continuing
JC3IEDM/Data Model Migration and Implementation	SS/CPFF	Alion Science & Technology:Tysons Corner, VA	0.497	0.285		0.370		-		0.370	Continuing	Continuing	Continuing
Data Model applications and reference implementations	Various	Viecore FSD, George Mason Univ:Ft. Monmouth, NJ	0.782	0.610		0.500		-		0.500	Continuing	Continuing	Continuing
Initialization Study Implementation	Various	IDA:Alexandria, VA	0.210	0.610		0.313		-		0.313	Continuing	Continuing	Continuing
Implementation of Initialization Products	Various	Alion Science & Technology:Tysons Corner, VA	0.985	0.398		0.475		-		0.475	Continuing	Continuing	Continuing
Mission Comand systems data mediation/web services	Various	NVESD, CERDEC, AGC:Various	1.461	0.417		0.197		-		0.197	Continuing	Continuing	Continuing
Expanding MTOE System Architecture (SA) Data	SS/FP	General Dynamics:Orlando, FL	0.961	0.297		0.505		-		0.505	Continuing	Continuing	Continuing
C2 Adapter Web Services and Tools	Various	PEO STRI & ACG:Orlando, FL	1.398	-		0.505		-		0.505	Continuing	Continuing	Continuing
<b>Subtotal</b>			7.648	3.159		3.250		-		3.250			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2012 Army</b>										<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>				<b>PROJECT</b> C74: <i>DEVEL SIMULATION TECH</i>					
<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
SIMCI Program/OIPT Support	Various	Alion Science & Technology:Orlando, FL	0.308	0.121		0.105		-		0.105	Continuing	Continuing	Continuing
Army Initialization Program and Technical Work Groups	Various	Alion Science & Tecnology:Orlando, FL	0.371	0.057		0.059		-		0.059	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.679	0.178		0.164		-		0.164			
<b>Project Cost Totals</b>			17.138	3.548		3.630		-		3.630			
<b>Remarks</b>													

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army								<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>				<b>PROJECT</b> C77: <i>Army Geospatial Data Master Plan</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
<i>C77: Army Geospatial Data Master Plan</i>	0.329	0.477	0.484	-	0.484	0.491	0.503	0.500	0.507	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Project C77 addresses the development and maintenance of the Army Geospatial Data Integrated Master Plan (AGDIMP), approved by the Chief of Staff, Army in April 2005. The AGDIMP provides the framework for generating, analyzing and distributing geospatial data for battle management operations, training, and mission rehearsal. The AGDIMP also provides the procedures for identifying and refining Army geospatial resource requirements. Geospatial data provide soldiers with the framework and background for displaying the location of friendly and enemy forces and the location of other critical features on the battlefield. Geospatial data -- used in Army command and control systems, course of action analysis, mission rehearsal tools, simulators and simulations -- provide insights on how the physical environment will impact combat operations. This minimizes exposure of soldiers to hostile environments. The AGDIMP describes the operations for a complete, integrated network-centric enterprise for managing and updating geospatial data required for the Army's Future Force. Although this plan encompasses most of the issues of an enterprise solution for geospatial needs and concerns, it does not contain the full level of detail or complexity required to be considered complete. The AGDIMP includes all activities starting with data acquisition from multiple sources (including raw sensor feeds from national sensors to soldier/platform level) and concluding with accurate, robust, and timely geospatial (terrain-related) data management, integration, and conversion tools that support multiple battle command, training, and mission-rehearsal applications. The AGDIMP does not include the algorithms and functions used by the applications themselves to produce finished battle command or intelligence products. The AGDIMP will become part of a much larger effort to integrate geospatial activities across all Services while documenting the complex framework for a "net ready" geospatial information and service architecture, an environment in which the Army's current and future forces must operate to achieve information dominance within the total battle space. This larger effort is currently being developed in conjunction with the Joint Forces Command and the other Services, including Special Operations Command.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Army Geospatial Data Model	0.193	0.250	0.239
<b>Articles:</b>	0	0	
<b>Description:</b> The Army Geospatial Data Model (AGDM) incorporates common data elements that conform to standards mandated by the Department of Defense Information Technology Standards Registry (DISR) for the National System for Geospatial Intelligence (NSG). Incorporating common geospatial data standards into the AGDM makes programs of record consistent with new DISR-mandated geospatial intelligence standards for the NSG.			
<b>FY 2010 Accomplishments:</b> FY10 funds contribute to the development of the Army geospatial data model.			
<b>FY 2011 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C77: <i>Army Geospatial Data Master Plan</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
FY11 funds contribute to the development of the Army geospatial data model. <b>FY 2012 Plans:</b> FY12 funds will contribute to the development of the Army geospatial data model.				
<b>Title:</b> Geospatial Data Standards  <b>Description:</b> Army geospatial data -- used in Army command and control systems, course of action analysis, mission rehearsal tools, simulators and simulations -- provide insight on how the physical environment will impact combat operations. The Army Geospatial Data Model (AGDM) involves synchronization of data dictionaries at Army and DoD levels so that geospatial data can be seamlessly transferred and viewed between Battle Command (BC) systems and at the national level to enable a Common Operating Picture (COP).  <b>FY 2010 Accomplishments:</b> Fy10 funds develop geospatial data standards and integrate geospatial data into the Battle Command (BC) systems. <b>FY 2011 Plans:</b> FY11 funds develop geospatial data standards and integrate geospatial data into the Battle Command (BC) systems. <b>FY 2012 Plans:</b> FY12 funds will will develop geospatial data standards and integrate geospatial data into the Battle Command (BC) systems.		<b>Articles:</b> 0.136 0	0.227 0	0.245
<b>Accomplishments/Planned Programs Subtotals</b>		0.329	0.477	0.484
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A				
<b>D. Acquisition Strategy</b> Resources are allocated to multiple organizations for approval and execution of projects in support of the AGDIMP.				
<b>E. Performance Metrics</b> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.				

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C77: <i>Army Geospatial Data Master Plan</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Army Geospatial Model and Data Standards	Various	TBD:TBD	2.324	0.477		0.484		-		0.484	Continuing	Continuing	Continuing
<b>Subtotal</b>			2.324	0.477		0.484		-		0.484			
<b>Project Cost Totals</b>			2.324	0.477		0.484		-		0.484			

**Remarks**



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C78: <i>One Semi-Automated Forces (OneSAF)</i>
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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
C78: <i>One Semi-Automated Forces (OneSAF)</i>	11.222	11.522	11.689	-	11.689	11.857	12.393	12.260	12.402	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Project C78 develops and delivers a software system that represents activities of units and forces in simulation. This representation is used to support the concept evaluation, experimentation, materiel acquisition and training communities. The focus of this project is systems engineering and design for development and evolution of the architecture and software tools for a universal system of Army computer-generated forces -- One Semi-Automated Forces (OneSAF). OneSAF is a next-generation higher fidelity brigade-and-below SAF that represents a full range of operations, systems and control processes in support of stand-alone and embedded training and Research, Development and Acquisition (RDA) simulation applications. OneSAF will be fully interoperable with the Army's emerging virtual, live, and division-and-above constructive simulations and will provide next-generation simulation products. OneSAF will replace a variety of simulations currently used within the Army to support analytic and training simulation activities.

FY12 will continue the development of software as required to provide OneSAF Pre-Planned Product Improvements (P3Is) as prioritized and approved by the Training and Doctrine Command (TRADOC) Project Office.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Engineering and Manufacturing Development (EMD) phase contract activities for the One Semi-Automated Forces program.	8.509	8.872	9.771
<b>Articles:</b>	0	0	
<b>Description:</b> Continue EMD phase contract activities for the OneSAF program.			
<b>FY 2010 Accomplishments:</b> Continues EMD phase contract activities for the OneSAF program. Continue the production of software as required to provide OneSAF Pre-Planned Product Improvements (P3Is) as prioritized and approved by the Training and Doctrine Command (TRADOC) Project Office. Continue software development of functionality to provide architectural services, components, synthetic environment and infrastructure capable of supporting initial model development. Perform Software production, test and release of Version 4.0. Provide support to the user community.			
<b>FY 2011 Plans:</b> Continue the production of software as required to provide OneSAF Pre-Planned Product Improvements (P3Is) as prioritized and approved by the Training and Doctrine Command (TRADOC) Project Office. Continue software development of functionality			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>		<b>PROJECT</b> C78: <i>One Semi-Automated Forces (OneSAF)</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
to provide architectural services, components, synthetic environment and infrastructure capable of supporting initial model development. Perform Software production, test and release of Version 5.0. Provide support to the user community. <b>FY 2012 Plans:</b> Continue the production of software to provide OneSAF Pre-Planned Product Improvements (P3Is) as prioritized and approved by the Training and Doctrine Command (TRADOC) Project Office. Continue software development of functionality to provide architectural services, components, synthetic environment and infrastructure capable of supporting initial model development. Perform Software production, test and release of Version 6.0.						
<b>Title:</b> Government System Test and Evaluation for the One Semi-Automated Forces program. <b>Description:</b> Government System Test and Evaluation for the OneSAF program. <b>FY 2010 Accomplishments:</b> Perform software production, test and release of Version 4.0. Provide support to the user community. <b>FY 2011 Plans:</b> Perform software production, test and release of Version 5.0. Provide support to the user community. <b>FY 2012 Plans:</b> Perform software production, test and release of Version 6.0. Provide support to the user community.				<b>Articles:</b> 1.467 0	1.000 0	1.000
<b>Title:</b> Government Program Management for the OneSemi-Automated Forces (OneSAF) program. <b>Description:</b> Government Program Management for the OneSAF program. <b>FY 2010 Accomplishments:</b> The Government Program Management Office for OneSAF supports the design and development of version 4.0. Funding supports manpower, facilities and training. <b>FY 2011 Plans:</b> The Government Program Management Office for OneSAF supports the design, development and integration of OneSAF version 5.0. Funding supports manpower, facilities, training and operations and maintenance. <b>FY 2012 Plans:</b>				<b>Articles:</b> 1.246 0	1.650 0	0.918

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C78: <i>One Semi-Automated Forces (OneSAF)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
The Government Program Management Office for OneSAF supports the design, development and integration of OneSAF version 6.0. Funding support manpower, facilities, training, operations and maintenance and other infrastructure.			
<b>Accomplishments/Planned Programs Subtotals</b>	11.222	11.522	11.689

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• FY 2010: <i>OMA, 121014000</i>	3.832	4.205	4.502		4.502		5.632	5.598	5.693	Continuing	Continuing

**D. Acquisition Strategy**

Development of Pre-Planned Product Improvement (P3I) requirements as prioritized and approved by the TRADOC Project Office via multiple task orders on competitively selected contracts.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C78: <i>One Semi-Automated Forces (OneSAF)</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program management	Various	PEO STRI, Orlando, FL:Various	11.960	1.650		0.918		-		0.918	Continuing	Continuing	Continuing
<b>Subtotal</b>			11.960	1.650		0.918		-		0.918			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Architecture Dev & System Integration	C/CPFF	Science Applications International Corp, Orlando, FL:Orlando, FL	48.794	2.102		-		-		-	Continuing	Continuing	Continuing
Model and Tools Development	C/CPFF	Science Applications International Corp:Orlando, FL	24.663	3.600		-		-		-	Continuing	Continuing	Continuing
Environmental Runtime Component	C/CPFF	Science Applications:Orlando, FL	7.390	0.800		-		-		-	Continuing	Continuing	Continuing
OneSAF Component Development	C/CPFF	Various:Various	9.448	0.610		-		-		-	Continuing	Continuing	Continuing
Integrated Environment Dev	C/CPFF	Advanced Systems Technology, Inc:Orlando FL	10.102	1.100		1.100		-		1.100	Continuing	Continuing	Continuing
Integration, Interoperability, and Support (I2S)	C/CPFF	TBS:TBS	-	-		1.288		-		1.288	Continuing	Continuing	Continuing
Software Development	C/CPFF	TBS:TBS	-	-		6.723		-		6.723	Continuing	Continuing	Continuing
<b>Subtotal</b>			100.397	8.212		9.111		-		9.111			

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C78: <i>One Semi-Automated Forces (OneSAF)</i>
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<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Analysis	Various	Various:Various	5.277	0.160		0.160		-		0.160	Continuing	Continuing	Continuing
Domain Analysis	Various	Various:Various	4.681	0.200		0.200		-		0.200	Continuing	Continuing	Continuing
Architecture Engr & Tech Spt	SS/FP	MITRE FFRDC:Ft. Monmouth, NJ	2.986	0.300		0.300		-		0.300	Continuing	Continuing	Continuing
<b>Subtotal</b>			12.944	0.660		0.660		-		0.660			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
OneSAF integration, evaluation and test	SS/FP	Various:Various	5.934	0.800		0.800		-		0.800	Continuing	Continuing	Continuing
OneSAF Verification, Validation & Accreditation	SS/FP	Various:Various	5.460	0.200		0.200		-		0.200	Continuing	Continuing	Continuing
<b>Subtotal</b>			11.394	1.000		1.000		-		1.000			

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			136.695	11.522		11.689		-		11.689			

Remarks

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C78: <i>One Semi-Automated Forces (OneSAF)</i>

	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
OneSAF Version Release 4.0	■																											
OneSAF Version Release 5.0							■																					
OneSAF Version Release 6.0												■																

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604760A: <i>Distributive Interactive Simulations (DIS) - Eng Dev</i>	<b>PROJECT</b> C78: <i>One Semi-Automated Forces (OneSAF)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
OneSAF Version Release 4.0	1	2010	1	2010
OneSAF Version Release 5.0	1	2011	1	2011
OneSAF Version Release 6.0	1	2012	1	2012

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604778A: <i>Positioning Systems Development (SPACE)</i>
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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	7.275	-	-	-	-	-	-	-	-	Continuing	Continuing
168: NAVSTAR GPS EQUIP	7.275	-	-	-	-	-	-	-	-	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Navstar Global Positioning System (Navstar GPS) is a passive, space-based, radio positioning and navigation system providing precise, three dimensional position, navigation, velocity and timing information to warfighters. The Navstar GPS program is designated as a DoD Space Program and the United States Air Force (USAF) is the executive agent. The Joint Program Office develops GPS User Equipment (PE 35164F) with direct Army management and participation. NAVSTAR GPS is composed of three segments: Space, Control, and User Equipment. Project 168 provides for initial and sustained participation in the research and development of Army unique requirements that enhance the Position Navigation capabilities of Army weapons systems and platforms. These funds are used to identify/support the means to increase the functionality and performance of GPS receivers in response to the latest enemy threats to GPS.

The Defense Advanced GPS Receiver has been designated a Horizontal Technology Integration (HTI) program and provides essential capabilities to numerous weapon systems and platforms.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	9.396	-	-	-	-
Current President's Budget	7.275	-	-	-	-
Total Adjustments	-2.121	-	-	-	-
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-2.121	-			
• SBIR/STTR Transfer	-	-			



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604778A: <i>Positioning Systems Development (SPACE)</i>	<b>PROJECT</b> 168: <i>NAVSTAR GPS EQUIP</i>
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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
168: <i>NAVSTAR GPS EQUIP</i>	7.275	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Navstar Global Positioning System (Navstar GPS) is a passive, space-based, radio positioning and navigation system providing precise, three dimensional position, navigation, velocity and timing information to warfighters. The Navstar GPS program is designated as a DoD Space Program and the United States Air Force (USAF) is the executive agent. The Joint Program Office develops GPS User Equipment (PE 35164F) with direct Army management and participation. NAVSTAR GPS is composed of three segments: Space, Control, and User Equipment. Project 168 provides for initial and sustained participation in the research and development of Army unique requirements that enhance the Position Navigation capabilities of Army weapons systems and platforms. These funds are used to identify/support the means to increase the functionality and performance of GPS receivers in response to the latest enemy threats to GPS.

GPS Receivers have been designated a Horizontal Technology Integration (HTI) program and provide essential capabilities to numerous weapon systems and platforms.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> GPS Regional(TAGR)</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Transition of a classified capability of the Tactical Assured - GPS Regional(TAGR) system to augment GPS receivers ability to overcome enemy threats. Complete all required tasks for transition to Milestone A approval</p>	7.031 0	-	-
<p><b>Title:</b> SBIR/STTR</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Small Business Innovative Research/Small Business Technology Transfer Program</p>	0.244 0	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	7.275	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604778A: <i>Positioning Systems Development (SPACE)</i>	<b>PROJECT</b> 168: <i>NAVSTAR GPS EQUIP</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• K47800: <i>Other Procurement, Army, NAVSTAR GPS</i>	145.991	45.693	29.568		29.568		23.682	2.548	1.824	Continuing	Continuing

**D. Acquisition Strategy**

Transition commercial technology investments and Communication and Electronics Research, Development, and Engineering Center (CERDEC) classified program initiatives to improve and enhance functionality of GPS receivers to include unique Army requirements for GPS receivers in overcoming current enemy threats to GPS. Complete all required tasks for transition to technology development phase. Solicit for competitive contract through technology development phase for down select for engineering & 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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604778A: <i>Positioning Systems Development (SPACE)</i>	<b>PROJECT</b> 168: <i>NAVSTAR GPS EQUIP</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
PMO Support	Various	PM GPS:Ft. Monmouth, NJ	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	-		-		-		-			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
C2 CONOPS Development	TBD	TBD:TBD	-	-		-		-		-	Continuing	Continuing	Continuing
Performance Specification Development/Draft CDD KPP/ RFP	MIPR	Penn State ARL:ARL	-	-		-		-		-	Continuing	Continuing	Continuing
Interface ICD Development	MIPR	CERDEC:APG	-	-		-		-		-	Continuing	Continuing	Continuing
Integration Analysis/ ICD Capture	TBD	Rockwell Collins:TBD	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	-		-		-		-			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Analysis of Alternatives Support	MIPR	Battle Command Battle Lab:TRADOC	-	-		-		-		-	Continuing	Continuing	Continuing
Acquisition Plan Development	Various	ARINC:ARINC	-	-		-		-		-	Continuing	Continuing	Continuing
Acquisition Document Development	Various	ARINC:ARINC	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	-		-		-		-			

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604778A: <i>Positioning Systems</i> <i>Development (SPACE)</i>	<b>PROJECT</b> 168: <i>NAVSTAR GPS EQUIP</i>
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<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Regression / Delta / CONOPS Testing	MIPR	EPG:EPG	-	-		-		-		-	Continuing	Continuing	Continuing
Technology Readiness Assessment	MIPR	CERDEC:APG	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	-		-		-		-			
<b>Project Cost Totals</b>			-	-		-		-		-			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604778A: <i>Positioning Systems</i> <i>Development (SPACE)</i>	<b>PROJECT</b> 168: <i>NAVSTAR GPS EQUIP</i>

	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 (MDD)																												
Materiel Solution Analysis (MSA) Phase																												
TAGR System Milestone (MS) A																												

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604778A: <i>Positioning Systems Development (SPACE)</i>	<b>PROJECT</b> 168: <i>NAVSTAR GPS EQUIP</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Matériel Development Decision (MDD)	3	2010	3	2010
Matériel Solution Analysis (MSA) Phase	4	2010	3	2011
TAGR System Milestone (MS) A	4	2011	4	2011

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>
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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	25.241	27.670	22.226	-	22.226	17.550	17.874	23.724	21.373	Continuing	Continuing
571: <i>CLOSE CBT TACT TRAINER</i>	4.690	4.668	4.321	-	4.321	4.213	4.576	4.527	7.517	Continuing	Continuing
577: <i>Gaming Technology in Support of Army Training</i>	0.914	0.937	1.429	-	1.429	1.334	2.020	0.881	1.478	Continuing	Continuing
582: <i>SYNTHETIC ENVIR CORE</i>	17.245	20.073	13.927	-	13.927	9.450	8.587	15.794	9.673	Continuing	Continuing
585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>	2.392	1.992	2.549	-	2.549	2.553	2.691	2.522	2.705	Continuing	Continuing

**Note**

Change Summary Explanation: FY12 includes the following:

- decrease of \$0.315 million for project 571 - Close Combat Tactical Trainer
- increase of \$0.495 million for project 577 - Gaming Technology in Support of Army Training
- increase of \$0.235 million for project 582 - Synthetic Environment Core
- increase of \$2.549 million for project 585 - Aviation Combined Arms Tactical Trainer

**A. Mission Description and Budget Item Justification**

The Combined Arms Tactical Trainers (CATT) represent a family of combined arms simulation systems designed to support the Army's simulation-based Combined Arms Training Strategy. CATT enables units, from crew to the battalion task force level, to conduct a wide variety of combat tasks on a realistic, interactive, synthetic battlefield. CATT's combination of manned simulators and staff officer workstations enables units to train as a combined arms team in a cost effective manner. The initial CATT system is the Close Combat Tactical Trainer (CCTT) which provides the underlying baseline architecture and After Action Review (AAR) for CATT expansions, Pre-Planned Product Improvements (P3I) and system enhancements. The Reconfigurable Vehicle Simulator (RVS) variants support CCTT fixed sites to train combat convoy operations. Synthetic Environment (SE) Core provides for the expansion of the synthetic environment baseline to include enhanced interoperability and the products and infrastructure to support current and future combat operations and mission rehearsal required by the Contemporary Operating Environment (COE). The first synthetic environments to be expanded are the Aviation Combined Arms Tactical Trainer (AVCATT) and the CCTT for both the Active and Reserve components. Gaming Technology provides an application to train and rehearse convoy-operations, platoon level, mounted infantry tactics, dismounted operations, rules-of-engagement training, cross-cultural communications training, IED defeat training, route clearance, ground-air coordination, Unmanned Aerial Vehicle integration, and other small unit and individual training and mission rehearsal requirements. Platoon members can train in a common environment on geotypical or geospecific terrain. It is also possible to link Gaming technology to actual C4I systems and other CATT simulation systems to increase the utility and realism of the training. By practicing skills in CATT, units are able to make effective use of costly live fire and maneuver exercises, as well as train tasks deemed too hazardous to conduct in a live training environment. Fielded in both fixed site and mobile versions, CATT enables both Active and Reserve component units to prepare for real world contingency missions. By being able to use a wide array of training terrain databases and modify the behavior of the computer generated opposing

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>
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forces, CATT offers an unlimited array of training options to support the Army's many regional combat missions. The combination of tough field and live fire training, and realistic simulation training in CATT, is the formula to prepare Soldiers and their Leaders for the uncertainties they face in current combat operations in Iraq and Afghanistan, and larger Overseas Contingency Operations (OCO).

FY12 Project 571 core funding of \$4.321 million for CCTT enables the P3I for the Dismounted Soldier Systems in support of Infantry Brigade Combat Teams, Stryker Brigade Combat Teams, Airborne, Ranger and Special Forces Units and Heavy Brigade Combat Teams.

FY12 Project 577 core funding of \$1.429 million for Games for Training will integrate SE Core products and new commercial and government technology into the current gaming system.

FY12 Project 582 core funding of \$13.927 million for SE Core will provide for common terrain databases to be generated by the Terrain Database Center (TDC). The TDC continues development and refinement of the Standard Terrain Database Generation Capability (STDGC).

FY12 Project 585 core funding of \$2.549 million for AVCATT will develop the capability for AVCATT to interoperate with real and simulated Army Battle Command Systems (ABCS) such as Blue Force Tracker (BFT), Force XXI Command Brigade (FBCB2), Advanced Field Artillery Tactical Data Systems (AFATDs) and others.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	26.107	33.070	19.262	-	19.262
Current President's Budget	25.241	27.670	22.226	-	22.226
Total Adjustments	-0.866	-5.400	2.964	-	2.964
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.866	-			
• Adjustments to Budget Years	-	-5.400	2.964	-	2.964



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 571: <i>CLOSE CBT TACT TRAINER</i>
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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
571: <i>CLOSE CBT TACT TRAINER</i>	4.690	4.668	4.321	-	4.321	4.213	4.576	4.527	7.517	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This program provides for Engineering and Manufacturing Development (EMD) and Pre-Planned Product Improvements (P3I) for the Close Combat Tactical Trainer (CCTT), which will enhance readiness for both Active and Reserve component forces to support the execution of current and future combat operations including Overseas Contingency Operations (OCO). The program develops a networked system of interactive computer driven simulators, emulators, and semi-automated forces that replicate combat vehicles and weapon systems, combat support systems, combat service support systems, and command and control systems to create a fully integrated, real-time collective task training environment. This trainer will allow Soldiers to practice Tactics, Techniques and Procedures (TTP) that, if performed on real equipment, would be too hazardous, time-consuming and expensive. These trainers enhance realism and allow Soldiers and Units to learn tactical combat lessons on maneuver, command and control, convoy operations, and improved teamwork for increased survivability. The P3I enhances CCTT's capabilities as a tactical trainer and maintains concurrency with fielded tactical equipment and force structure. These improvements will maintain interoperability with the Aviation Combined Arms Tactical Trainer (AVCATT), Army Battle Command System (ABCS), including Force XXI Battle Command Brigade and Below (FBCB2), and other simulation systems needed to execute training for current and future combat operations.

FY12 core funding of \$4.321 million for CCTT enables the P3I for the Dismounted Soldier in support of Infantry Brigade Combat Teams, Stryker Brigade Combat Teams, Airborne, Ranger and Special Forces Units and Heavy Brigade Combat Teams.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Government Program Management for the Close Combat Tactical Trainer (CCTT) program.	0.228	0.236	0.182
<b>Articles:</b>	0	0	
<b>Description:</b> Government Program Management for the CCTT program.			
<b>FY 2010 Accomplishments:</b> Supported government program management, engineering, technical, and contracting support, and continued operational evaluation support.			
<b>FY 2011 Plans:</b> Supports government program management, engineering, technical, and contracting support, and continues operational evaluation support.			
<b>FY 2012 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 571: <i>CLOSE CBT TACT TRAINER</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Supports government program management, engineering, technical, and contracting support, and continues operational evaluation support.				
<p><b>Title:</b> Engineering and Manufacturing Development (EMD) phase contract activity for the Close Combat Tactical Trainer (CCTT) Dismounted Soldier System.</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Continue EMD phase contract activities for the CCTT Dismounted Soldier System.</p> <p><b>FY 2010 Accomplishments:</b> Development of the CCTT Dismounted Soldier System.</p> <p><b>FY 2011 Plans:</b> Development of the CCTT Dismounted Soldier System.</p> <p><b>FY 2012 Plans:</b> Enables the P3I for the CCTT Dismounted Soldier System in support of Infantry Brigade Combat Teams, Stryker Brigade Combat Teams, Airborne, Ranger and Special Forces Units and Heavy Brigade Combat Teams.</p>		0.117 0	1.544 0	4.139
<p><b>Title:</b> Engineering and Manufacturing Development (EMD) phase contract activity for the Up-Armored HMMWV and Armored Security Vehicle (ASV) variants of the Reconfigurable Vehicle Simulator.</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Continue EMD phase contract activities for the Up-Armored HMMWV and Armored Security Vehicle (ASV) variants of the Reconfigurable Vehicle Simulator.</p> <p><b>FY 2010 Accomplishments:</b> Development of the Up-Armored HMMWV and Armored Security Vehicle (ASV) variants of the Reconfigurable Vehicle Simulator.</p> <p><b>FY 2011 Plans:</b> Development of the Up-Armored HMMWV variant of the Reconfigurable Vehicle Simulator.</p>		4.345 0	2.888 0	-
<b>Accomplishments/Planned Programs Subtotals</b>		4.690	4.668	4.321

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 571: <i>CLOSE CBT TACT TRAINER</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA3, Appropriation NA0170 SIMNET/C: OPA3, Appropriation NA0170 SIMNET/CCTT	64.954	73.112	17.760		17.760		27.068	26.511	30.895	Continuing	Continuing

**D. Acquisition Strategy**

FY2012 will enable Pre-Planned Product Improvements (P3I) for the Dismounted Soldier System.

**E. Performance Metrics**

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

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2012 Army</b>	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: Combined Arms Tactical Trainer (CATT) Core	<b>PROJECT</b> 571: CLOSE CBT TACT TRAINER
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Government Program Management	Various	PEO STRI:Orlando, FL	16.435	0.236		0.182		-		0.182	Continuing	Continuing	Continuing
<b>Subtotal</b>			16.435	0.236		0.182		-		0.182			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Development of the Up-Armored HMMWV variant for RVS	C/CPFF	Lockheed Martin Corporation:Orlando, FL	1.015	2.888		-		-		-	Continuing	Continuing	Continuing
Development of CCTT Dismounted Soldier System	C/FFP	TBS:TBS	1.424	1.544		4.139		-		4.139	Continuing	Continuing	Continuing
<b>Subtotal</b>			2.439	4.432		4.139		-		4.139			

			<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			18.874	4.668		4.321		-		4.321			

**Remarks**

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>				<b>PROJECT</b> 577: <i>Gaming Technology in Support of Army Training</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
<i>577: Gaming Technology in Support of Army Training</i>	0.914	0.937	1.429	-	1.429	1.334	2.020	0.881	1.478	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Games for Training (GFT) program will provide a commercial-off-the-shelf (COTS) product line of personal computer based gaming applications to train Soldiers in decision-making, team and individual tasks at different skill levels, using multiple mission scenarios. The program will leverage the commercial game industry to provide state of the art training solutions. The program will provide Army-wide licenses from the commercial market, or from Research and Development agencies, and the hardware required to operate the systems. The individual products will permit Soldiers and units to conduct training in a real-time, semi-immersive environment that will leverage Synthetic Environment Core (SE Core) capabilities and operate in the Live, Virtual and Constructive Integrated Training Environment (LVC-ITE).

FY12 core funding of 1.429 million will integrate SE Core products and new commercial and government technology into the current gaming systems.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b>Title:</b> Engineering and Manufacturing Development (EMD) phase contract activity for the Games for Training (GFT) program.</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Continue EMD phase contract activities for the GFT program.</p> <p><b>FY 2010 Accomplishments:</b> Funding provided modifications to the system to integrate and provide interoperability with battle command systems and other simulators and simulations in support of home station training and Overseas Contingency Operations (OCO).</p> <p><b>FY 2011 Plans:</b> Funding will provide modifications to the system to integrate and provide interoperability with battle command systems and other simulators and simulations in support of home station training and Overseas Contingency Operations (OCO).</p> <p><b>FY 2012 Plans:</b> Funding will provide modifications to the system to integrate and provide interoperability with medical training systems, battle command systems and other simulators and simulations in support of home station training and Overseas Contingency Operations (OCO).</p>	0.759 0	0.788 0	1.133
<p><b>Title:</b> Government Program Management for the Games for Training (GFT) program.</p> <p style="text-align: right;"><b>Articles:</b></p>	0.155 0	0.149 0	0.296

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 577: <i>Gaming Technology in Support of Army Training</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
<p><b>Description:</b> Government Program Management for the GFT program.</p> <p><b>FY 2010 Accomplishments:</b> Supported Government program management, engineering, technical, contract and test support for Gaming.</p> <p><b>FY 2011 Plans:</b> Supports Government program management, engineering, technical, contract and test support for Gaming.</p> <p><b>FY 2012 Plans:</b> Supports Government program management, engineering, technical, contract and test support for Gaming.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	0.914	0.937	1.429

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA 3, Appropriation NA0176 Gaming: <i>OPA 3, Appropriation NA0176 Gaming Technology in Support of Training</i>	7.846	4.964								0.000	12.810

**D. Acquisition Strategy**  
Competitive contract against the approved Capabilities Production Document (CPD), dated 18 Sep 08.

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				PE 0604780A: Combined Arms Tactical Trainer (CATT) Core				577: Gaming Technology in Support of Army Training					
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	PEO STRI:Orlando, FL	-	0.149		0.296		-		0.296	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	0.149		0.296		-		0.296			
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Games for Training	Various	PEO STRI:Orlando, FL	-	0.788		1.133		-		1.133	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	0.788		1.133		-		1.133			
<b>Project Cost Totals</b>			-	0.937		1.429		-		1.429			
<b>Remarks</b>													

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 582: <i>SYNTHETIC ENVIR CORE</i>
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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
582: <i>SYNTHETIC ENVIR CORE</i>	17.245	20.073	13.927	-	13.927	9.450	8.587	15.794	9.673	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project supports the Synthetic Environment Core (SE Core) Program. SE Core is a key U.S. Army initiative specifically designed to enhance the training capability we provide our Warfighters. SE Core's mission is to ensure the Army's virtual training systems and simulators are fully integrated and interoperable in order to conduct Contemporary Operating Environment and Combined Arms training. It takes stand alone training systems that were not envisioned to work together and provides a method to have meaningful interoperable training. SE Core provides visual models, terrain, and entity behaviors that are more life-like than simulators have in the past. The result is a "Fair Fight" capability; no simulator will have an inherent advantage over another, allowing for air and ground coordination and integrated training missions that accurately replicate combat operations being experienced in the Contemporary Operational Environment (COE). SE Core provides the capability that is sufficient for current and future combat operations training, Mission Rehearsal, and COE training. SE Core reduces redundancies within simulators and increases realism. SE Core is building the Army's Common Virtual Environment (CVE) that not only provides the linkage between simulators but establishes a common environment for interoperability. Additionally, SE Core links to the Integrated Training Environment (ITE) for an integrated capability to support ARFORGEN and the Combined Arms Training Strategy. SE Core is a foundational element in the Army's Training Transformation Plan linking the embedded systems, multi-mode Live, Virtual, Constructive (LVC) training capability with current systems.

SE Core enables the Army to execute combined arms and joint training, mission planning and rehearsals at home station and deployed locations critical to training for COE operations. SE Core continues to integrate a series of interoperable software components for the Army's CVE and facilitates interoperability in a LVC Integrated Training Environment (ITE). The components are One Semi-Automated Forces (OneSAF) integration; terrain database production; common visual models; a virtual systems architecture; a dynamic environment; battle command development; and being net ready. A major SE Core component is the Standard Terrain Database Generation Capability (STDGC) process used to produce the synthetic terrain used in simulators. The STDGC uses an open format that can be translated into correlated runtime terrain databases to support the LVC ITE and for mission planning/rehearsal/execution in support of Overseas Contingency Operations (OCO). This terrain is currently used by four virtual simulators and expanding to others. This has reduced redundancy, increased realism and facilitates an integrated LVC ITE.

FY12 core funding of \$13.927 million will provide for common terrain databases to be generated by the Terrain Database Center (TDC). The TDC continues development and refinement of the STDGC. FY2012 funds will continue to enhance OneSAF in the SE Core Architecture, CCTT, AVCATT and other virtual simulator baselines. Maintaining OneSAF for virtual simulations enables interoperability with the LVC ITE and reduces cost as individual virtual simulators will no longer develop and maintain separate SAFs. The SE Core Product Line of Common Virtual Components will continue with upgrades, integration and refinement, and the continued development of common visual models.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Engineering and Manufacturing Development (EMD) phase contract activity for the Synthetic Environment Core (SE Core) program.	14.485 0	16.869 0	12.043

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 582: <i>SYNTHETIC ENVIR CORE</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p align="right"><b>Articles:</b></p> <p><b>Description:</b> Continue EMD phase contract activities for the SE Core program.</p> <p><b>FY 2010 Accomplishments:</b> SE Core provided common terrain databases to the CCTT, AVCATT, CDT, CFFT, and other programs. Continued operation of the Terrain Database Center and expanded production capabilities to meet increased product demand. Continued refinement of the STDGC and incorporated advanced automated processing tools. Integration of virtual requirements into OneSAF continued. These requirements were integrated into the SE Core Architecture. Common Moving Model development also continued. SE Core continued work on six Key Performance Parameters defined in the Operational Requirements Document: OneSAF Integration, Standard Terrain Process Capability, Dynamic Terrain, Atmospheric Effects, Net Ready and C4ISR. SE Core began to transition to a new Capabilities Development Document (CDD) with seven KPPs.</p> <p><b>FY 2011 Plans:</b> SE Core will continue providing terrain databases to programs and improving the STDGC to increase efficiencies and increasing production outputs. SE Core will continue integration of virtual requirements (new Contemporary Operating Environment and IED behaviors) into OneSAF. SE Core stands up a virtual systems Architectural Management process that evaluates and consolidates virtual training requirements into common components to reduce redundancy and increase commonality.</p> <p><b>FY 2012 Plans:</b> Provides terrain databases to an expanded number of programs in support of the Integrated Training Environment (ITE). Architectural Management continues evaluation of virtual training requirements to harmonize the requirements throughout the virtual training domain as well as the Constructive and Live training domains. This is to ensure interoperability within the ITE. Continues to provide OneSAF the consolidated virtual SAF requirements.</p>				
<p><b>Title:</b> Government Program Management for the Synthetic Environment Core (SE Core) program.</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Government Program Management for the SE Core program.</p> <p><b>FY 2010 Accomplishments:</b> Provided program management, engineering and technical oversight, contract support, and test support (including travel for Subject Matter Experts) for the SE Core program.</p> <p><b>FY 2011 Plans:</b></p>		2.760 0	3.204 0	1.884

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 582: <i>SYNTHETIC ENVIR CORE</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
Provides program management, engineering and technical oversight, contract support, and test support (including travel for Subject Matter Experts) for development of SE Core.			
<b><i>FY 2012 Plans:</i></b> Provides program management, engineering and technical oversight, contract support, and test support (including travel for Subject Matter Experts) for development of SE Core.			
<b>Accomplishments/Planned Programs Subtotals</b>	17.245	20.073	13.927

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	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
• OPA3, Appropriation NA0173 <i>Aviation: OPA3, Appropriation NA0173 Aviation Combined Arms Tactical Trainer</i>	12.755	26.120	9.413		9.413		18.483	9.871	17.813	Continuing	Continuing
• OPA3, Appropriation NA0170 <i>CCTT: OPA3, Appropriation NA0170 Close Combat Tactical Trainer (CCTT)</i>	64.954	73.112	17.760		17.760		27.068	26.511	30.895	Continuing	Continuing
• RDTE, Appropriation 654760: <i>RDTE, Appropriation 654760 One Semi-Automated Forces (OneSAF)</i>	11.222	11.522	10.998		10.998		12.393	12.260	12.402	Continuing	Continuing

**D. Acquisition Strategy**

An extension to the Architecture & Integration (A&I) contract was awarded to Science Applications International Corp (SAIC) in 2Q09. A competitive, CPFF type contract for the development of SE Core Database Virtual Environment Development (DVED) project was awarded in FY06 to CAE with yearly options until FY11. Program is currently re-competing both of these contracts. The outcome will be a single 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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 582: <i>SYNTHETIC ENVIR CORE</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management Support	Various	PEO STRI:Orlando, FL	10.175	2.640		1.884		-		1.884	Continuing	Continuing	Continuing
Management Services	Various	Various:Various	2.578	0.564		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			12.753	3.204		1.884		-		1.884			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Development - Test Support	Various	Test Community:Various	0.125	-		-		-		-	Continuing	Continuing	0.000
Technology Development - Architecture and Integration	C/CPFF	TBD:TBD	-	6.946		-		-		-	0.000	6.946	6.946
Technology Development - Database Virtual Environment Development	C/CPFF	CAE, USA:Orlando, FL	37.925	9.923		-		-		-	Continuing	Continuing	Continuing
Technology Development - Contractor TBD	C/CPFF	TBD:TBD	-	-		12.043		-		12.043	Continuing	Continuing	Continuing
<b>Subtotal</b>			38.050	16.869		12.043		-		12.043			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Technology Development - Test Support	Various	Test Community:Various	0.125	-		-		-		-	Continuing	Continuing	0.000
<b>Subtotal</b>			0.125	-		-		-		-			0.000

**Remarks**  
Not Applicable

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Army		<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 582: <i>SYNTHETIC ENVIR CORE</i>

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	50.928	20.073	13.927	-	13.927			

Remarks

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army								<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>				<b>PROJECT</b> 585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>	2.392	1.992	2.549	-	2.549	2.553	2.691	2.522	2.705	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project supports the Aviation Combined Arms Tactical Trainer (AVCATT) which is the Army's Aviation Collective training system for Active, Reserve and Army National Guard components to provide home station training and mission rehearsal and training in support of Overseas Contingency Operations (OCO). AVCATT completed Initial Operational Test & Evaluation (IOT&E) on 1 August 2003 and received a Full Rate Production Decision on 19 December 2003. A single suite of equipment consists of two mobile trailers housing six reconfigurable networked simulators that support the AH-64A/D, UH-60A/L, CH-47D, and OH-58D aircraft. Supporting roleplayer, Semi-Automated Forces (SAF), and after action review (AAR) workstations are also provided as part of each suite. AVCATT is a fully mobile system capable of using shore and generator power and is transportable worldwide. The AVCATT system permits aviation units to conduct collective task training on a real-time, virtual battlefield in a combined arms scenario by leveraging Synthetic Environment Core (SE Core) capabilities. Other required elements that are present on the modern, high intensity battlefield, such as the Combat Support (CS) and Combat Service Support (CSS) elements, are an integral part of the simulation database. AVCATT is designed to provide realistic, high intensity collective and combined arms training to aviation units as well as the full spectrum of operations in support of current and future contingency operations. AVCATT supports the Aviation Combined Arms Training Strategy, the Army Forces Generation (ARFORGEN) and OCO. AVCATT also supports the Aviation Functional Area Assessment (FAA), providing collective, combined arms training for aviation units.

FY12 core funding of \$2.549 million will develop the capability for AVCATT to interoperate with real and simulated Army Battle Command Systems (ABCS) such as Blue Force Tracker (BFT), Force XXI Command Brigade (FBCB2), Advanced Field Artillery Tactical Data Systems (AFATDs) and others.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Engineering and Manufacturing Development (EMD) phase contract activity for the Aviation Combined Arms Tactical (AVCATT) program.	2.338	1.822	2.549
<b>Articles:</b>	0	0	
<b>Description:</b> Continue EMD phase contract activities for the AVCATT program.			
<b>FY 2010 Accomplishments:</b> Integration of Non-Rated Crew Member Manned Module (NCM3) First Article into the AVCATT program baseline.			
<b>FY 2011 Plans:</b>			

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
Conducting a technology refresh of various components of AVCATT. Examples include Servo Control Modules, Battle Master Controller and After Action Review computers and various projectors.  <b>FY 2012 Plans:</b> Develop the capability for AVCATT to interoperate with real and simulated Army Battle Command (ABCS) such as BFT, FBCB2, AFATDs and others.			
<b>Title:</b> Government Program Management for the Aviation Combined Arms Tactical Trainer (AVCATT) program.  <b>Description:</b> Government Program Management for the AVCATT program.  <b>FY 2010 Accomplishments:</b> Supported Government program management, engineering, technical, contract, and test support for AVCATT refinements.  <b>FY 2011 Plans:</b> Supports Government program management, engineering, technical, contract, and test support for AVCATT refinements.	0.054 0	0.170 0	-
<b>Articles:</b>			
<b>Accomplishments/Planned Programs Subtotals</b>	2.392	1.992	2.549

**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
• OPA3, Appropriation NA0173 Aviation: OPA3, Appropriation NA0173 Aviation Combined Arms Tactical Trainer	12.755	26.120	9.413		9.413		18.483	9.871	17.813	Continuing	Continuing

**D. Acquisition Strategy**

Operations and Support competitive contract against a performance specification.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Office Support	Various	PEO STRI:Orlando, FL	1.276	0.170		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.276	0.170		-		-		-			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AVCATT	C/CPAF	L3 Communications Corp.:Arlington, TX	41.120	1.822		2.549		-		2.549	Continuing	Continuing	Continuing
<b>Subtotal</b>			41.120	1.822		2.549		-		2.549			

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>		42.396	1.992		2.549		-	2.549			

**Remarks**

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>
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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

NCM3 Integration	
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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604780A: <i>Combined Arms Tactical Trainer (CATT) Core</i>	<b>PROJECT</b> 585: <i>AVIATION COMBINED ARMS TACTICAL TRAINER</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
NCM3 Integration	1	2010	1	2012

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	99.626	24.345	13.828	-	13.828	14.424	19.107	14.184	14.351	Continuing	Continuing
613: <i>MORTAR SYSTEMS</i>	12.830	-	-	-	-	-	-	-	-	0.000	12.830
AS5: <i>Artillery Munitions Engineering Development</i>	1.592	-	-	-	-	-	-	-	-	0.000	1.592
S23: <i>SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)</i>	56.051	-	-	-	-	-	-	-	-	Continuing	Continuing
S36: <i>PRECISION GUIDANCE KIT</i>	29.153	24.345	13.828	-	13.828	14.424	19.107	14.184	14.351	Continuing	Continuing

**Note**

Change Summary Explanation:

FY 2012: Decrease of \$10.280 million reflects total funding requirement to execute Precision Guidance Kit program plan.

**A. Mission Description and Budget Item Justification**

This program element funds multiple efforts for engineering development of weapons and munitions systems.

Project 613: Accelerated Precision Mortar Initiative (APMI), XM395 is a GPS guided 120mm mortar cartridge that will be compatible with all Army 120mm mortar systems in Afghanistan. The requirement for precision mortar capability resulted from an urgent operational need for highly transportable, all weather, rapidly responsive, precise, indirect fires to support widely dispersed combat outposts and operations at the lowest tactical echelons to meet an Operational Needs Statement (ONS) from Afghanistan. APMI will provide a precision 120mm mortar capability that has accuracy within 10 meter Circular Error Probable (CEP).

Mortar Anti-Personnel Anti-Materiel (MAPAM), XM1061 is a 60mm enhanced fragmentation mortar program that provides 81mm effectiveness in a 60mm configuration. FY 2010 Congressional funds provide support for analysis of XM1143 81mm MAPAM and finalizing the design, testing, and qualification of XM1061. The program is in the final stages of development and Type Classification will commence in March 2011.

Project AS5: FY10 funds Lightweight Multi-Functional Material Technology (LMFMT), a materials development program for ammunition containers. It includes the use of advanced composite and non-composite materials in developing the design of mortar containers and barrier applications. The materials development program investigates potential applications in other areas that would require multifunctional capability.

Project S23: The Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM), is the initial kinetic energy component of Integrated Air & Missile Defense (IAMD), an Air and Missile Defense (AMD) Future Force system. SLAMRAAM's force protection mission is to engage the low-altitude aerial threats out to 18km.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i>	PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>
BA 5: <i>Development &amp; Demonstration (SDD)</i>	

Project S36: This program funds engineering development of precision guidance systems applicable to Indirect Fire artillery weapon systems. This includes the Precision Guidance Kit (PGK) which is a Global Positioning Guidance Kit with fuzing functions. PGK will improve the accuracy of existing artillery ammunition by correcting the trajectory of projectiles to their designated target location. Precision guidance systems will effectively reduce target delivery error reducing the number of rounds required to conduct a fire mission. This capability will benefit existing indirect fire systems.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	87.022	24.345	24.108	-	24.108
Current President's Budget	99.626	24.345	13.828	-	13.828
Total Adjustments	12.604	-	-10.280	-	-10.280
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	12.604	-	-10.280	-	-10.280

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> 613: <i>MORTAR SYSTEMS</i>
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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
613: <i>MORTAR SYSTEMS</i>	12.830	-	-	-	-	-	-	-	-	0.000	12.830
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Accelerated Precision Mortar Initiative (APMI), XM395 is a GPS guided 120mm mortar cartridge that will be compatible with all Army 120mm mortar systems in Afghanistan. The requirement for precision mortar capability resulted from an urgent operational need for highly transportable, all weather, rapidly responsive, precise, indirect fires to support widely dispersed combat outposts and operations at the lowest tactical echelons to meet an Operational Needs Statement (ONS) from Afghanistan. APMI will provide a precision 120mm mortar capability that has accuracy within 10 meter Circular Error Probable (CEP).

Mortar Anti-Personnel Anti-Materiel (MAPAM), XM1061 is a 60mm enhanced fragmentation mortar program that provides 81mm effectiveness in a 60mm configuration. FY 2010 Congressional funds provide support for analysis of XM1143 81mm MAPAM and finalizing the design, testing, and qualification of XM1061. The program is in the final stages of development and Type Classification will commence in March 2011.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> APMI Phase II Test and Integration</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> APMI Phase II Test and Integration</p> <p><b>FY 2010 Accomplishments:</b> Perform qualification test and integrate with Double V Hull (DVH) Stryker mortar carrier to achieve Urgent Material Release.</p>	7.211 0	-	-	-	-
<p><b>Title:</b> APMI Engineering and Management Support</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> APMI Engineering and Management Support</p> <p><b>FY 2010 Accomplishments:</b> Funds provide support for Engineering team and management of APMI program</p>	2.419 0	-	-	-	-
<p><b>Title:</b> MAPAM Development and Testing</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> MAPAM Development and Testing</p>	2.300 0	-	-	-	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng</i> <i>Dev</i>	<b>PROJECT</b> 613: <i>MORTAR SYSTEMS</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b><i>FY 2010 Accomplishments:</i></b> Design, Develop and Test of 81mm MAPAM					
<b><i>Title:</i></b> MAPAM Engineering and Management Support	0.900	-	-	-	-
<b><i>Articles:</i></b>	0				
<b><i>Description:</i></b> MAPAM Engineering and Management Support					
<b><i>FY 2010 Accomplishments:</i></b> APMI Engineering and Management Support					
<b>Accomplishments/Planned Programs Subtotals</b>	12.830	-	-	-	-

**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
• CTG, MORTAR, 120MM, HE GUIDED, XM39: CTG, MORTAR, 120MM, HE GUIDED, XM395 (E25511)	14.600	98.623	0.000	24.140	24.140					0.000	137.363

**D. Acquisition Strategy**

The acquisition strategy for Accelerated Precision Mortar Initiative (APMI) was approved by the Milestone Decision Authority (MDA) on 5 January 2010 to meet the Operational Needs Statement (ONS) for a 120mm precision guided mortar round. APMI cartridges will be developed and produced by an industry partner. A DoD Ordnance Technology Consortium (DOTC) competitive development phase (Phase I) was awarded as a Firm Fixed Price (FFP) and subsequently down selected to a single producer. A follow-on Government safety qualification phase (Phase II) was awarded as a Cost Plus Incentive Fee (CPIF) and FFP using other transaction authority through DOTC to complete Urgent Material Release (UMR) qualification for the XM395 cartridge. The base production contract is a FFP for 1,364 All-Up Rounds (AURs). Follow-on production options will be awarded in FY2011 to fulfill the ONS requirement of 5,480 AURs. The first projected delivery to theatre will be in 2Q 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.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>				<b>PROJECT</b> AS5: <i>Artillery Munitions Engineering Development</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
AS5: <i>Artillery Munitions Engineering Development</i>	1.592	-	-	-	-	-	-	-	-	0.000	1.592
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

FY10 funds Lightweight Multi-Functional Material Technology (LMFMT), a materials development program for Ammunition containers. It includes the use of advanced composite and non-composite materials in developing the design of mortar containers and barrier applications. The materials development program investigates potential applications in other areas that would require multifunctional capability.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<b>Title:</b> Lightweight Multi-Functional Material Technology (LMFMT) Engineering Support  <b>Articles:</b>	0.192 0	-	-	-	-
<b>Description:</b> Funding is provided for the following effort  <b>FY 2010 Accomplishments:</b> Lightweight Multi-Functional Material Technology (LMFMT) Engineering Support					
<b>Title:</b> LMFMT Material Development, Design and Testing  <b>Articles:</b>	1.400 0	-	-	-	-
<b>Description:</b> Funding is provided for the following effort  <b>FY 2010 Accomplishments:</b> LMFMT Material Development, Design and Testing					
<b>Accomplishments/Planned Programs Subtotals</b>	1.592	-	-	-	-

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

The Lightweight Multi-Functional Material Technology (LMFMT) Engineering and Manufacturing Development (EMD) contract was awarded as a Sole Source to Frontier Performance Polymers in FY10.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> AS5: <i>Artillery Munitions Engineering Development</i>

**E. Performance Metrics**

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> S23: <i>SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)</i>
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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
S23: <i>SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)</i>	56.051	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

SLAMRAAM has established a new Program Element(PE)0605455A for its RDTE program (Project S35) beginning in FY11.

**A. Mission Description and Budget Item Justification**

Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM) is an air defense system included in the Army Integrated Air & Missile Defense (IAMD) architecture. SLAMRAAM consists of launcher platforms employing the proven AIM-120-C7 Advanced Medium Range Air-to-Air Missile (AMRAAM); Integrated Fire Control Station (IFCS) command, control, and communications platforms; and Improved Sentinel Radars. SLAMRAAM is a day or night, adverse weather, non-line-of-sight system that counters cruise missiles (CM), unmanned aerial vehicle (UAV), fixed wing and rotary wing threats. SLAMRAAM is mobile and armored which allows it to operate in various combat situations to protect maneuver forces and strategic assets.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> Product Development</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This element includes the contractor and government hardware and software development costs, labs and center, and government product office direct support costs.</p> <p><b>FY 2010 Accomplishments:</b> Continue integration of the launcher and Integrated Fire Control Station (IBCS) on the FMTV platform.</p>	33.109 0	-	-	-	-
<p><b>Title:</b> Government System Test and Evaluation</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> This element includes costs for the contractor and government system test and evaluation (STE). Government and contractor STE program in support of the Engineering and Manufacturing Development (EMD) phase.</p> <p><b>FY 2010 Accomplishments:</b> This is in execution of developmental testing and preparation of operational testing.</p>	7.241 0	-	-	-	-
<p><b>Title:</b> System Engineering/ Program Management (SE/PM)</p>	15.701	-	-	-	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> S23: <i>SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Articles:</b>	0				
<b>Description:</b> This element includes costs for government indirect costs. The costs for SBIR/STRRs is also included in this element.					
<b>FY 2010 Accomplishments:</b> Provide government oversight of Engineering and Manufacturing Development activities.					
<b>Accomplishments/Planned Programs Subtotals</b>	56.051	-	-	-	-

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0604869A: <i>Proj M06, Patriot/MEADS Combined Aggregate Program (CAP)</i>	570.831	467.139	406.605		406.605					Continuing	Continuing
• SSN C53101: <i>MSE Missile</i>			74.953		74.953		532.540	487.049	560.099	Continuing	Continuing
• SSN C53201: <i>PATRIOT/MEADS GSE</i>											
• PE 0102419A: <i>Proj E55, JLENS</i>	317.132	372.493	344.655		344.655		58.124	19.717	19.726	Continuing	Continuing
• SSN BZ0525: <i>JLENS Production</i>							501.459	454.966	416.888	Continuing	Continuing
• PE 0604802A: <i>Proj S23, SLAMRAAM</i>	56.441									0.000	56.441
• PE 0605455A: <i>Proj S35, SLAMRAAM</i>		23.700	19.931		19.931					Continuing	Continuing
• SSN C81002: <i>SLAMRAAM Launcher</i>		116.792								Continuing	Continuing
• PE 0603305A: <i>Proj TR7, Indirect Fire Protection Capability II - Intercept</i>		4.296	21.126		21.126		89.021	92.999	142.738	Continuing	Continuing
• SSN WK5053: <i>FAAD GBS</i>		91.467	7.958		7.958					Continuing	Continuing
• PE 0603327A: <i>Proj S34, AMD System of System Engineering and Integration</i>	164.719									Continuing	Continuing

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> S23: <i>SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)</i>
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**C. Other Program Funding Summary (\$ in Millions)**

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0605457A: <i>Project S40, Army Integrated Air and Missile Defense (AIAMD)</i>		251.124	270.607		270.607		346.341	298.869	275.651	Continuing	Continuing
• SSN BZ5075: <i>ARMY IAMD BATTLE COMMAND SYSTEM (IBCS)</i>							23.587	100.560	256.855	Continuing	Continuing
• PE 0605456A: <i>Project PA3, PAC-3/MSE Missile</i>		62.500	88.993		88.993		68.938	63.468	64.215	Continuing	Continuing
• PE 0208053: <i>Proj 635 JOINT TACT GRD STATIONO-P3I (MIP)</i>	13.189	12.403	27.630		27.630		14.109	7.912	8.039	Continuing	Continuing
• SSN BZ8401: <i>Joint Tactical Ground Station (JTAGS)</i>	6.682	9.279	1.199		1.199		9.740	4.432	4.496	Continuing	Continuing
• PE 0604820A: <i>Proj E10, SENTINEL</i>			2.890		2.890		1.983	1.968	2.937	Continuing	Continuing

**D. Acquisition Strategy**

System Development and Demonstration (SDD) contract was awarded in 2nd Quarter FY04 and completed in Oct 09. The SLAMRAAM program has been restructured to a new platform, the FMTV. Furthermore, SLAMRAAM has a new Program Element for RDTE beginning in FY11. The PE Number is 0605455A (S35).

**E. Performance Metrics**

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> S36: <i>PRECISION GUIDANCE KIT</i>
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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
S36: <i>PRECISION GUIDANCE KIT</i>	29.153	24.345	13.828	-	13.828	14.424	19.107	14.184	14.351	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This program funds engineering development of precision guidance systems applicable to Indirect Fire artillery weapon systems. This includes the Precision Guidance Kit (PGK) which is a Global Positioning Guidance Kit with fuzing functions. PGK will improve the accuracy of existing artillery ammunition by correcting the trajectory of projectiles to their designated target location. Precision guidance systems will effectively reduce target delivery error reducing the number of rounds required to conduct a fire mission. This capability will benefit existing indirect fire systems.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> Contractor Engineering and Manufacturing Development</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Contractor Engineering and Manufacturing Development</p> <p><b>FY 2010 Accomplishments:</b> Contractor Engineering and Manufacturing Development</p> <p><b>FY 2011 Plans:</b> Contractor Engineering and Manufacturing Development</p> <p><b>FY 2012 Base Plans:</b> Contractor Engineering and Manufacturing Development</p>	16.737 0	15.954 0	4.432	-	4.432
<p><b>Title:</b> Government Engineering Support and Platform Integration</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Continue Engineering and Intergation Support</p> <p><b>FY 2010 Accomplishments:</b> Continue Engineering and Intergation Support</p> <p><b>FY 2011 Plans:</b> Continue Engineering and Intergation Support</p> <p><b>FY 2012 Base Plans:</b></p>	8.606 0	3.941 0	7.463	-	7.463

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> S36: <i>PRECISION GUIDANCE KIT</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue Engineering and Intergation Support					
<b>Title:</b> Continue Development/Operational Testing	2.860	4.450	1.933	-	1.933
<b>Articles:</b>	0	0			
<b>Description:</b> Continue Development/Operational Test					
<b>FY 2010 Accomplishments:</b> Continue Development/Operational Test					
<b>FY 2011 Plans:</b> Continue Development/Operational Test					
<b>FY 2012 Base Plans:</b> Continue Development/Operational Test					
<b>Title:</b> Small Business Innovative Research/Small Business Technology Transfer Programs	0.950	-	-	-	-
<b>Articles:</b>	0				
<b>Description:</b> SBIR/STTR					
<b>FY 2010 Accomplishments:</b> SBIR/STTR					
<b>Accomplishments/Planned Programs Subtotals</b>	29.153	24.345	13.828	-	13.828

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Precision Guidance Kit (PGK) E99250: <i>Procurment of Ammunition Army: Precision Guidance Kit (PGK) E99250</i>	29.609	25.047					61.409	53.222	54.110	Continuing	Continuing

**D. Acquisition Strategy**  
The PGK program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible, and to deliver advanced capabilities at lower costs as technology matures. The Acquisition Strategy/Acquisition Plan for the PGK Increment 1 program was approved by the Milestone Decision

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	S36: <i>PRECISION GUIDANCE KIT</i>

Authority (MDA) on 20 October 2005, subsequently revised and approved on 5 March 2009. Alliant Techsystems (ATK) was competitively awarded the Engineering and Manufacturing Development (EMD) program in May 2007 following a Technology Development Demonstration. Approval to initiate the procurement of First Article/Production Verification Test (FAT/PVT) hardware occurred at In-Process Review (IPR) 3QFY09. The FAT/PVT hardware were procured in 3QFY10, however, milestone C/Type Classification Limited Procurement was delayed due to reliability growth challenges that required failure and root cause analysis that led to the implementation of corrective action plan. As a result, milestone C is planned for 1Q FY2013 and Initial Operational Capability (IOC) of Increment 1 is scheduled for 2Q FY2014. Following the Increment 1 MS C decision, a follow-on development effort will be initiated to make PGK compatible with future high explosive projectiles that contain an Insensitive Munition fill.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> S36: <i>PRECISION GUIDANCE KIT</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support	Various	Camber: Mt Arlington, NJ	1.144	0.100		-		-		-	Continuing	Continuing	Continuing
Miscellaneous Support Contract	Various	MITRE Corporation: Fort Monmouth, NJ	0.450	0.150		-		-		-	Continuing	Continuing	Continuing
Analysis Support	MIPR	Command and Control Directorate: Ft Monmouth, NJ	0.225	0.075		-		-		-	Continuing	Continuing	Continuing
SBIR/STTR	SS/FP	PM CAS: Picatinny	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.819	0.325		-		-		-			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PGK TD Contract	C/CPHF	Alliant Techsystems (ATK): Plymouth, MN	5.279	-		-		-		-	0.000	5.279	5.279
PGK TD Contract	C/CPHF	BAE: Minneapolis, MN	3.103	-		-		-		-	0.000	3.103	3.103
Soft Recovery Modules	MIPR	SubSystems Technology: Rosslyn, VA	0.116	-		-		-		-	0.000	0.116	0.116
PGK EMD & Phase 1-2 (Reliability Failure/Root Cause Analysis)	C/CPAF	Alliant Techsystems (ATK): Plymouth, MN	40.715	-		-		-		-	Continuing	Continuing	Continuing
PGK EMD Contract - Award Fee	C/CPAF	Alliant Techsystems (ATK): Plymouth, MN	0.235	-		-		-		-	Continuing	Continuing	Continuing
PGK Contracts - Increment 2	Various	TBD: TBD	-	15.954		-		-		-	Continuing	Continuing	Continuing
M107 Metal Parts	MIPR	US ARMY Field Support Command: Rock Island, IL	0.079	-		-		-		-	0.000	0.079	0.079
PGK EMD - Phase 3a & 5	C/FFP	TBD: TBD	-	-		4.432		-		4.432	Continuing	Continuing	Continuing
PGK IM	C/FFP	TBD: TBD	-	-		-		-		-	23.524	23.524	23.524

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> S36: <i>PRECISION GUIDANCE KIT</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			49.527	15.954		4.432		-		4.432			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PM Office	PO	PM CAS:Picatinny, NJ	5.847	0.716		1.470		-		1.470	Continuing	Continuing	Continuing
Platform Integration	MIPR	Various:Various	-	0.500		-		-		-	Continuing	Continuing	Continuing
Government Engineering Support	PO	ARDEC:Picatinny, NJ	12.727	2.400		5.933		-		5.933	Continuing	Continuing	Continuing
<b>Subtotal</b>			18.574	3.616		7.403		-		7.403			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Component Air Gun/Railgun Testing	PO	ARDEC:Picatinny, NJ	0.317	-		-		-		-	Continuing	Continuing	Continuing
System Development Testing Increment 1	MIPR	Yuma Proving Ground:Yuma, AZ	5.178	-		1.993		-		1.993	Continuing	Continuing	Continuing
Other Development Testing	Various	Various:Various	0.139	-		-		-		-	Continuing	Continuing	Continuing
System Development Competitive Prototype Testing Increment 2	MIPR	TBD:TBD	-	0.500		-		-		-	Continuing	Continuing	Continuing
Initial Operational Test & Evaluation - Increment 1	MIPR	Yuma Proving Ground:Yuma, AZ	-	3.500		-		-		-	Continuing	Continuing	Continuing
Cold Region Testing - Increment 1	MIPR	Cold Region Test Center:Ft Greely, AK	-	0.450		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			5.634	4.450		1.993		-		1.993			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2012 Army</b>							<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>			<b>PROJECT</b> S36: <i>PRECISION GUIDANCE KIT</i>			
	<b>Total Prior Years Cost</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>	75.554	24.345	13.828	-	13.828				

**Remarks**



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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng</i> <i>Dev</i>	<b>PROJECT</b> S36: <i>PRECISION GUIDANCE KIT</i>

	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
Insensitive Munitions Development																												
Milestone C - Type Classification Limited Procurement																												
First Article Test (FAT) / Production Verification Test (PVT) Hardware																												
First Article Test (FAT) / Production Verification Test (PVT) Assembly & Test																												
Initial Operational Test and Evaluation (IOT&E)																												
Type Classification Standard / Full Materiel Release																												
IOC																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> S36: <i>PRECISION GUIDANCE KIT</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Insensitive Munitions Development	2	2013	3	2016
Milestone C - Type Classification Limited Procurement	4	2012	4	2012
First Article Test (FAT) / Production Verification Test (PVT) Hardware	2	2010	2	2010
First Article Test (FAT) / Production Verification Test (PVT) Assembly & Test	1	2013	1	2013
Initial Operational Test and Evaluation (IOT&E)	2	2013	2	2013
Type Classification Standard / Full Materiel Release	4	2013	4	2013
IOC	1	2014	1	2014

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	35.046	41.039	251.104	-	251.104	99.363	90.571	71.012	74.649	Continuing	Continuing
194: <i>ENGINE DRIVEN GEN ED</i>	1.354	7.166	4.199	-	4.199	1.601	0.238	0.022	-	Continuing	Continuing
H01: <i>COMBAT ENGINEER EQ ED</i>	5.414	7.044	5.480	-	5.480	5.483	2.976	2.952	2.937	Continuing	Continuing
H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>	12.980	8.741	55.160	-	55.160	24.118	23.385	3.503	3.661	Continuing	Continuing
H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>	0.074	0.955	1.056	-	1.056	1.194	1.208	1.218	1.232	Continuing	Continuing
L39: <i>Field Sustainment Support ED</i>	4.349	5.804	4.230	-	4.230	2.523	2.452	2.392	2.304	Continuing	Continuing
L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>	2.405	2.734	2.079	-	2.079	3.912	3.749	3.771	3.804	Continuing	Continuing
L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>	0.939	0.874	1.096	-	1.096	1.895	1.190	1.182	1.272	Continuing	Continuing
L46: <i>Maintenance Support Equipment</i>	3.138	3.178	3.165	-	3.165	3.657	1.689	1.759	1.778	Continuing	Continuing
L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>	4.393	4.543	-	-	-	-	-	-	2.937	Continuing	Continuing
L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>	-	-	172.093	-	172.093	53.254	52.049	52.488	52.863	0.000	382.747
VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>	-	-	2.546	-	2.546	1.726	1.635	1.725	1.861	Continuing	Continuing

**Note**

Change Summary Explanation: Funding - FY 2012: Adjustment for Joint Light Tactical Vehicle (JLTV) move from Advanced development to Engineering development.

**A. Mission Description and Budget Item Justification**

This Program Element (PE) provides system development and demonstration for various projects. This PE includes the development of military tactical bridging, material handling equipment, construction equipment, engineer support equipment, soldier support equipment (to include shelter systems, environmental control, field service equipment, camouflage systems and aerial delivery equipment), water purification equipment, petroleum distribution equipment, mobile electric power and water craft.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>
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Increase from FY 2011 to FY 2012 reflects Joint Light Tactical Vehicle(JLTV) move from Advance Development to Engineering Development.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	37.023	41.039	106.236	-	106.236
Current President's Budget	35.046	41.039	251.104	-	251.104
Total Adjustments	-1.977	-	144.868	-	144.868
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-1.977	-	144.868	-	144.868

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> 194: <i>ENGINE DRIVEN GEN ED</i>
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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
194: <i>ENGINE DRIVEN GEN ED</i>	1.354	7.166	4.199	-	4.199	1.601	0.238	0.022	-	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Not applicable for this item.

**A. Mission Description and Budget Item Justification**

This project supports the Mobile Electric Power (MEP) program which is established to develop a Modernized, Standard Family of Mobile Electric Power Sources for All Services throughout the Department of Defense. Building on the device/component evaluations conducted in PE 0603804A project G11, this project supports the system development and demonstration of a series of innovative mobile electric power sources that are essential to the development and eventual fielding of modernized mobile electric power sources from 0.5 kW to 920 kW. These sources will ensure compliance with federally mandated environmental statutes and significantly lower noise and thermal signatures (thereby improving battlefield survivability), improve fuel and electrical efficiency, reduce weight, enhance portability, improve reliability and maintainability, and reduce operational and support costs. FY10 will fund completion of DT/OT (Development Test/Operational Test) for AMMPS in preparation for MSC. FY12 will fund the performance specification preparation and will award Engineering and Manufacturing Development(EMD) contract for Large Advanced Mobile Power Sources (LAMPS).

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> Complete DT/OT for AMMPS.</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Complete DT/OT for AMMPS. Complete Documentation for Type Classification (TC), Materiel Release (MR) and other actions required for Milestone C Production Award, e.g., TM's (technical manuals), sustainment test, fielding plans.</p> <p><b>FY 2010 Accomplishments:</b> Complete DT/OT for AMMPS. Complete Documentation for Type Classification (TC), Materiel Release (MR) and other actions required for Milestone C Production Award, e.g., TM's, sustainment test, fielding plans.</p>	1.330 0	-	-	-	-
<p><b>Title:</b> LAMPS Systems Engineering, Manufacturing, and Demonstration (EMD)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Prepare LAMPS performance specification;. begin Pase I EMD</p> <p><b>FY 2011 Plans:</b></p>	-	6.000 0	4.199	-	4.199

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> 194: <i>ENGINE DRIVEN GEN ED</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Begin preparing LAMPS performance specification;. begin Phase I EMD <b>FY 2012 Base Plans:</b> Continue preparing LAMPS performance specification; continue Phase I EMD					
<b>Title:</b> STEP Systems Engineering, Manufacturing, and Development (EMD) <b>Description:</b> Prepare STEP performance specification; begin Phase I of EMD <b>FY 2011 Plans:</b> Prepare STEP performance specification; begin Phase I of EMD	-	1.166 0	-	-	-
<b>Title:</b> Small Business Innovative Research/Small Business Technology Transfer Program (SBIR/STTR) <b>Description:</b> Small Business Innovative Research/Small Business Technology Transfer Program <b>FY 2010 Accomplishments:</b> Small Business Innovative Research/Small Business Technology Transfer Program	0.024 0	-	-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	1.354	7.166	4.199	-	4.199

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 0603804A: <i>Logistics and Engineer Equipment - Adv Dev G11</i>	2.547	2.618	7.679		7.679				1.534	Continuing	Continuing
• MA9800: <i>Generators and Associated Equipment</i>	212.600	151.052	31.897		31.897		61.950	121.118	163.704	Continuing	Continuing

**D. Acquisition Strategy**  
Perform Developmental Testing (DT)/Operational Testing (OT) for the AMMPS family; perform phase II contract award through a down select. Developmental test and evaluation of technologies that transition into procurement after Milestone C. Complete Delivery of Technical Drawing Packages, Repair Parts and Special Tools List

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	194: <i>ENGINE DRIVEN GEN ED</i>

(RPSTL), Technical Manuals and Training Packages in preparation of Milestone C and Phase III-Production and Fielding. Prepare performance Specification for LAMPS (Large Advanced Mobile Power Sources). Begin Phase I SDD for LAMPS.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> 194: <i>ENGINE DRIVEN GEN ED</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
AMMPS(5-60kW)	Various	CECOM:Ft. Monmouth, NJ	2.977	-		-		-		-	Continuing	Continuing	Continuing
IECU	Various	CECOM:Ft. Monmouth, NJ	0.015	-		-		-		-	Continuing	Continuing	Continuing
LAMPS (100-200kw)	Various	CECOM:Ft. Monmouth, NJ	-	-		-		-		-	Continuing	Continuing	Continuing
Small Business Innovative Research/Small Business Technology Transfer Program	Various	Various:Various	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			2.992	-		-		-		-			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
AMMPS(5-60kW)	Various	Various:Various	28.755	-		-		-		-	Continuing	Continuing	Continuing
Follow-on 2kW Improvement Program	Various	Various:Various	3.300	-		-		-		-	Continuing	Continuing	Continuing
STEP	Various	Various:Various	-	0.900		-		-		-	Continuing	Continuing	Continuing
IECU	Various	Various:Various	0.613	-		-		-		-	Continuing	Continuing	Continuing
LAMPS (100-200kw)	Various	Various:Various	-	5.181		4.199		-		4.199	Continuing	Continuing	Continuing
<b>Subtotal</b>			32.668	6.081		4.199		-		4.199			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
AMMPS(5-60kW)	Various	CECOM:Fort Monmouth, NJ	2.635	-		-		-		-	Continuing	Continuing	Continuing
Follow-on 2kW Improvement Program	Various	CECOM:Fort Monmouth, NJ	0.065	-		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> 194: <i>ENGINE DRIVEN GEN ED</i>
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<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
IECU	Various	CECOM:Ft Monmouth NJ	0.372	-		-		-		-	Continuing	Continuing	Continuing
STEP	Various	CECCOM:Fort Monmouth, NJ	-	0.485		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			3.072	0.485		-		-		-			

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
AMMPS(5-60kW)	Various	Various:Various	6.873	-		-		-		-	Continuing	Continuing	Continuing
Follow-on 2kW Improvement Program	Various	CECOM:Fort Monmouth, NJ	0.216	-		-		-		-	Continuing	Continuing	Continuing
STEP	Various	CERDEC:Fort Belvoir, VA	-	0.600		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			7.089	0.600		-		-		-			

			<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			45.821	7.166		4.199		-		4.199			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> 194: <i>ENGINE DRIVEN GEN ED</i>

	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
MS C-AMMPS					■																							
Production Release					■	■																						
Transition to Production						■																						
Proof of Principle Milestone B					■	■	■	■																				
Award SDD Contract Phase I-STEP													■															
SDD Phase I													■	■	■	■												
Award SDD Contract Phase II																	■											
SDD Phase II-STEP																	■	■	■	■								
MS C-STEP																									■			
LAMPS (Large Advanced Mobile Power Systems)									■	■	■	■																
Prepare Performance Spec									■	■	■	■																
Award EMD Contract - LAMPS													■															
EMD - LAMPS									■	■	■	■	■	■	■	■												
MS C-LAMPS																	■											
Prepare Production RFP and Source Solicitation																	■	■	■	■								
Award Production Contract - LAMPS																									■			

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>	<b>PROJECT</b> 194: <i>ENGINE DRIVEN GEN ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MS C-AMMPS	1	2011	1	2011
Production Release	1	2011	2	2011
Transition to Production	2	2011	2	2011
Proof of Principle Milestone B	1	2011	1	2012
Award SDD Contract Phase I-STEP	1	2013	1	2013
SDD Phase I	1	2013	1	2014
Award SDD Contract Phase II	1	2014	1	2014
SDD Phase II-STEP	1	2014	2	2015
MS C-STEP	2	2015	2	2015
LAMPS (Large Advanced Mobile Power Systems)	2	2010	3	2010
Prepare Performance Spec	3	2010	3	2011
Award EMD Contract - LAMPS	3	2011	3	2011
EMD - LAMPS	3	2011	2	2014
MS C-LAMPS	3	2014	3	2014
Prepare Production RFP and Source Solicitation	3	2014	3	2015
Award Production Contract - LAMPS	2	2015	2	2015

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H01: <i>COMBAT ENGINEER EQ ED</i>
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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
H01: <i>COMBAT ENGINEER EQ ED</i>	5.414	7.044	5.480	-	5.480	5.483	2.976	2.952	2.937	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project supports the System Development and Demonstration(SDD) of military Construction Equipment used in support of horizontal and vertical engineer construction tasks; required in order to develop a variety of enabling systems that will support and improve mobility for Engineers in the Brigade Combat Teams (BCT) and Combat Support Brigades (CSB) modular forces. This project also supports the SDD of enabling systems to meet critical capabilities of joint interdependence through Air and Ground (A/G) Line of Communication (LOC) and Rapid Tactical Earthmoving (RTE) repair and construction which increase the operational reach of modular forces. The BCT and CSB systems include: High Mobility Engineer Excavators (HMEE); Scrapers, Scoop Loaders, Skid Steer Loaders, Dozers, Cranes and Graders. This project will also support the Research into the Deuce Replacement and the Energy Productivity Study per Assistant Secretary of the Army for Aquisition, Logistics & Technology (ASA(ALT) memo dated 4 June 2009.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Title:</b> Family of All Terrain Cranes	-	-	2.500	-	2.500
<b>Description:</b> System Pre-Award requirements, Key Performance Parameters (KPP), selection criteria development. Testing of systems.					
<b>FY 2012 Base Plans:</b> System Pre-Award requirements, KPP, selection criteria development. Testing of systems.					
<b>Title:</b> CE Armor Kits	1.056	0.500	-	-	-
<b>Articles:</b>	0	0			
<b>Description:</b> Design armor kits for Combat Engineer Equipment.					
<b>FY 2010 Accomplishments:</b> Design armor kits for Combat Engineer Equipment.					
<b>FY 2011 Plans:</b> Design armor kits for Combat Engineer Equipment.					
<b>Title:</b> CE Robotics Research	0.100	0.100	0.100	-	0.100
<b>Articles:</b>	0	0			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H01: <i>COMBAT ENGINEER EQ ED</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<p><b>Description:</b> Development of Robotics Research</p> <p><b>FY 2010 Accomplishments:</b> Development of Robotics Research</p> <p><b>FY 2011 Plans:</b> Development of Robotics Research</p> <p><b>FY 2012 Base Plans:</b> Development of Robotics Research</p>					
<p><b>Title:</b> CE Simulators</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Labor, software, and hardware simulator development</p> <p><b>FY 2010 Accomplishments:</b> Labor, software, and hardware simulator development</p> <p><b>FY 2011 Plans:</b> Labor, software, and hardware simulator development</p> <p><b>FY 2012 Base Plans:</b> Labor, software, and hardware simulator development</p>	1.000 0	1.500 0	2.880	-	2.880
<p><b>Title:</b> Heavy Scraper Ballistic Testing</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> FY10: Heavy Scraper Ballistic Testing</p> <p><b>FY 2010 Accomplishments:</b> Heavy Scraper Ballistic Testing</p>	0.800 0	-	-	-	-
<p><b>Title:</b> Forced Entry (Airborne/Air Assault) HMEE, Grader and Loader Type 1 Study/Development</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> FY10: Forced Entry (Airborne/Air Assault) HMEE, Grader and Loader Type 1 Study/Development</p> <p><b>FY 2010 Accomplishments:</b></p>	1.164 0	4.894 0	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H01: <i>COMBAT ENGINEER EQ ED</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Forced Entry (Airborne/Air Assault) HMEE, Grader and Loader Type 1 Study/Development <b>FY 2011 Plans:</b> Forced Entry (Airborne/Air Assault) HMEE, Grader and Loader Type 1 Study/Development					
<b>Title:</b> Survivability Enhancements and Armor for Combat Engineer Equipment <b>Articles:</b>	0.550 0	-	-	-	-
<b>Description:</b> FY10: Survivability Enhancements and Armor for Combat Engineer Equipment <b>FY 2010 Accomplishments:</b> Survivability Enhancements and Armor for Combat Engineer Equipment					
<b>Title:</b> Non Nuclear Soil Density Set Testing <b>Articles:</b>	0.744 0	0.050 0	-	-	-
<b>Description:</b> FY10: Test non nuclear soil density test sets. <b>FY 2010 Accomplishments:</b> Test non nuclear soil density test sets. <b>FY 2011 Plans:</b> Test non nuclear soil density test sets.					
<b>Accomplishments/Planned Programs Subtotals</b>	5.414	7.044	5.480	-	5.480

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• HMEE 1: <i>High Mobility Engineer Excavator I</i>	41.497	60.253	16.907		16.907					0.000	119.349
• HMEE 3: <i>High Mobility Engineer Excavator III</i>	11.339	8.456	2.067		2.067					0.000	21.862
• Grader: <i>Grader, Mtzd, Hvy</i>	44.157	51.769	2.201		2.201					0.000	98.127
• Light Loader: <i>Loader, Scoop Type, 2 1/2 CU YD</i>	13.493	8.362								0.000	21.855
	8.365									0.000	8.365

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>	<b>PROJECT</b> H01: <i>COMBAT ENGINEER EQ ED</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Heavy Loader: <i>Loader, Scoop</i> <i>Type, 4 - 5 CU YD</i>										0.000	27.474
• HYEX: <i>Hydraulic Excavator</i>	19.016	8.458			8.314					0.000	45.312
• AMP: <i>Plant, Asphalt Mixing</i>	15.374	10.783	8.314		8.314					0.000	45.312
• Dozer: <i>Tractor Full Tracked, Med</i> <i>T-9</i>	49.944	64.032	59.534		59.534		65.024	60.305	43.977	Continuing	Continuing
• Cranes: <i>All Terrain Cranes</i>	101.445		21.859	1.800	23.659					0.000	125.104
• SSL: <i>Skid Steer Loaders</i>	18.330		8.584		8.584					0.000	26.914

**D. Acquisition Strategy**

Conduct research, development, and investigations on future Construction Equipment (CE) and identify the path forward for programs to be transitioned for PEO program management. Identify technical advancements that can improve reliability, survivability, transportability, availability, maintainability and reduce the logistical footprints for future CE equipment.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>	<b>PROJECT</b> H01: <i>COMBAT ENGINEER EQ ED</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mgt	Various	PM CE/MHE:various	0.856	-		-		-		-	Continuing	Continuing	Continuing
SBIR/STTR	Various	Small Business:Warren, Michigan	0.236	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.092	-		-		-		-			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Continue development of engineer and acquisition documents	Various	various:various	1.642	-		-		-		-	Continuing	Continuing	Continuing
System Pre-Award requirements, KPP, selection criteria development. Testing fo systems	Various	TACOM & TARDEC:Warren, MI	-	-		2.500		-		2.500	0.000	2.500	0.000
Market Research, Studies, Update Specs for future engineer	Various	various:various	1.693	-		-		-		-	Continuing	Continuing	Continuing
Design armor kits for Combat Engineer	Various	TARDEC:Warren, MI	4.192	0.500		-		-		-	Continuing	Continuing	Continuing
Development of Robotic Research for Combat Engineer	Various	TBD:TBD	1.419	0.100		0.100		-		0.100	Continuing	Continuing	Continuing
Survivability Enhancements and Armor for Combat Engineer	Various	various:various	-	-		-		-		-	Continuing	Continuing	Continuing
Development of Simulator	Various	PEO Stricom:PEO, Stricom, Orlando, FL	3.409	1.500		2.880		-		2.880	Continuing	Continuing	Continuing
Forced Entry Airborne(Air Assault) HMEE Type II, Grader and Loader Type I Study/Development	Various	TARDEC:Warren, MI	3.128	4.894		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H01: <i>COMBAT ENGINEER EQ ED</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			15.483	6.994		5.480		-		5.480			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Matrix Support	Various	TACOM & TARDEC,;Warren, MI	10.718	-		-		-		-	Continuing	Continuing	Continuing
Engineering Operational Integrator Support	Various	HQDA:Washington, DC	0.156	-		-		-		-	Continuing	Continuing	Continuing
Construction Equipment Lease Study	Various	TACOM & TARDEC,;Warren, MI	0.200	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			11.074	-		-		-		-			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Future Engineer Equipment (various)	Various	ATEC:Virginia	2.882	-		-		-		-	Continuing	Continuing	Continuing
Heavy Scraper Ballistic Test	Various	TARDEC:Warren, MI	0.800	-		-		-		-	Continuing	Continuing	Continuing
Test Nuclear soil density test sets.	Various	TARDEC:Warren, MI	0.736	0.050		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			4.418	0.050		-		-		-			

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			32.067	7.044		5.480		-		5.480			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H01: <i>COMBAT ENGINEER EQ ED</i>

	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

HMEE Type II Development Phase I	[REDACTED]																											
Survivability Enhancements for Construction Equipment	[REDACTED]																											

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H01: <i>COMBAT ENGINEER EQ ED</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
HMEE Type II Development Phase I	1	2010	3	2012
Survivability Enhancements for Construction Equipment	1	2010	3	2012

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army									<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>				<b>PROJECT</b> H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>	12.980	8.741	55.160	-	55.160	24.118	23.385	3.503	3.661	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project supports the engineering, system development and demonstration, and transition to procurement of Future Force Tactical Bridge Systems. Efforts supported include the integration and testing of forty-six meter capability for the Dry Support Bridge (DSB) as well as the development, integration and testing for float capabilities for the Dry Support Bridge (DSB). Other efforts include the development, integration and testing of the Bridge Erection Boat (BEB) and testing of the Program of Record (POR) Line of Communication (LOC) bridge. This project also includes the development and testing of light assault gap crossing capability, a remote controlled automatic launch for the REBS and integrate and test the Rapidly Emplaced Bridge System (REBS) on a Stryker chassis, various bridging product improvements such as upgrade of Armored Vehicle Launch Bridge (AVLB), to higher Military Load Classifications, development of a health monitoring system, and testing of failure modes for composite bridges. Additionally, these funds support the development and testing of the Joint Assault Bridge (JAB) system.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<b>Title:</b> LOC Bridge POR Testing	3.000	1.800	-	-	-
<b>Articles:</b>	0	0			
<b>Description:</b> LOC Bridge POR Testing					
<b>FY 2010 Accomplishments:</b> LOC Bridge POR Testing					
<b>FY 2011 Plans:</b> LOC Bridge POR Testing					
<b>Title:</b> JAB Testing	-	2.541	49.810	-	49.810
<b>Articles:</b>		0			
<b>Description:</b> JAB Testing					
<b>FY 2011 Plans:</b> JAB Testing					
<b>FY 2012 Base Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army				<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>		<b>PROJECT</b> H02: <i>TACTICAL BRIDGING - ENGINEERING</i> <i>DEVELOPMENT</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Continues development and begins testing of the Joint Assault Bridge.						
<b>Title:</b> Assault Breacher Vehicle (ABV) Tests		0.200	-	-	-	-
<b>Description:</b> ABV Tests		<b>Articles:</b> 0				
<b>FY 2010 Accomplishments:</b> ABV Tests						
<b>Title:</b> AVLB Upgrade Test Selfridge Air National Guard Base (SANG)						
<b>Description:</b> Funding is provided for the following effort		0.300	-	-	-	-
<b>FY 2010 Accomplishments:</b> AVLB Upgrade Test (SANG)		<b>Articles:</b> 0				
<b>Title:</b> BEB Testing						
<b>Description:</b> BEB Testing		9.330	3.500	4.250	-	4.250
<b>FY 2010 Accomplishments:</b> BEB Testing		<b>Articles:</b> 0	0			
<b>FY 2011 Plans:</b> BEB Testing						
<b>FY 2012 Base Plans:</b> Completion of operational and development testing and logistics demonstration of the Bridge Erection Boat.						
<b>Title:</b> Development, integration, and testing of REBS Auto Launch-Retrieve with Common Bridge Transporter (CBT)						
<b>Description:</b> Development, integration, and testing of REBS Auto Launch-Retrieve with Common Bridge Transporter (CBT)		-	0.500	1.100	-	1.100
		<b>Articles:</b>	0			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<b><i>FY 2011 Plans:</i></b> Development, integration, and testing of REBS Auto Launch-Retrieve with Common Bridge Transporter (CBT)					
<b><i>FY 2012 Base Plans:</i></b> Completion of the development, integration and testing of the Rapidly Emplaced Bridge System Auto Launch-Retrieve capability with the Common Bridge Transporter (CBT).					
<b><i>Title:</i></b> Light Assault Gap Crossing Development and Testing  <b><i>Description:</i></b> Light Assault Gap Crossing Development and Testing  <b><i>FY 2011 Plans:</i></b> Light Assault Gap Crossing Bridge development and testing	<b><i>Articles:</i></b>	0.400 0	-	-	-
<b><i>Title:</i></b> Advanced Modular Composite Bridge Testing  <b><i>Description:</i></b> Advanced Modular Composite Bridge Testing  <b><i>FY 2010 Accomplishments:</i></b> Advanced Modular Composite Bridge Testing	<b><i>Articles:</i></b>	0.150 0	-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	12.980	8.741	55.160	-	55.160

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Tactical Bridging: OPA3, MX0100	53.739	62.817	77.428	15.000	92.428		39.735	11.577	10.462	Continuing	Continuing
• Tactical Bridge - Float Ribbon: OPA3, MA8890	148.113	109.057	49.154	26.900	76.054		50.571	46.330	46.831	Continuing	Continuing
• Assault Breacher Vehicle: WTCV, G82925	63.055	77.930	99.904		99.904		126.020	118.548	103.356	Continuing	Continuing
	70.419	44.133					46.179	79.840	111.686	Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Joint Assault Bridge: <i>WTCV, GZ3001</i>											

**D. Acquisition Strategy**

Limited RDT&E effort to support testing and follow-on production.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ABV Tests	Various	ATEC:APG	0.550	-		-		-		-	Continuing	Continuing	Continuing
AVLB Upgrade Test	Various	Tardec:Warren, MI	-	-		-		-		-	Continuing	Continuing	Continuing
BEB Development	Various	TBS:TBD	4.193	-		-		-		-	Continuing	Continuing	Continuing
Light Assault Gap Crossing Development and Testing	Various	TBS:TBD	-	0.400		-		-		-	Continuing	Continuing	Continuing
JAB Development	Various	TBS:TBD	-	-		49.810		-		49.810	Continuing	Continuing	Continuing
REBS Auto Launch-Retrieve	Various	GDELS:Germany, DE	-	0.500		1.100		-		1.100	Continuing	Continuing	Continuing
<b>Subtotal</b>			4.743	0.900		50.910		-		50.910			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Government Agencies	Various	various:various	0.140	-		-		-		-	0.000	0.140	0.000
<b>Subtotal</b>			0.140	-		-		-		-	0.000	0.140	0.000

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LOC Testing	Various	ATEC:APG/Ft. Leonardwood	-	1.800		-		-		-	Continuing	Continuing	Continuing
JAB Testing	Various	TBS:TBD	-	2.541		-		-		-	Continuing	Continuing	Continuing
BEB Testing	Various	Various:Various	1.000	3.500		4.250		-		4.250	Continuing	Continuing	Continuing
Advanced Modular Composite Bridge Testing	Various	TARDEC,:Warren, MI	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.000	7.841		4.250		-		4.250			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Army							<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>			<b>PROJECT</b> H02: <i>TACTICAL BRIDGING - ENGINEERING</i> <i>DEVELOPMENT</i>			
	<b>Total Prior Years Cost</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>	5.883	8.741	55.160	-	55.160				

**Remarks**



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
LOCB POR Testing	1	2010	3	2012
JAB Testing	1	2011	3	2014
AVLB Upgrade Test	1	2010	3	2011
REBS Auto Launch-Retrieve	2	2010	3	2013
Light Assault Gap Crossing Testing and Development	1	2011	3	2013
Advanced Modular Composite Bridge Testing	1	2010	3	2010

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>
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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
H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>	0.074	0.955	1.056	-	1.056	1.194	1.208	1.218	1.232	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project supports system development and demonstration of Material Handling Equipment (MHE) that support Combat Service Support units with MHE for world wide rapid movement of supplies including container handling equipment, forklifts, and other cargo handling related items. Necessary efforts include simulator development, validating requirements, developing acquisition strategies, developing performance specifications, and test and evaluation planning.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> Material Handling Equipment (MHE) Training Aids</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Develop and Integrate 5 Channel Simulators for MHE systems.</p> <p><b>FY 2011 Plans:</b> Development and Integration of 5 Channel Simulators for MHE systems.</p> <p><b>FY 2012 Base Plans:</b> Continue to Develop and Integrate 5 Channel Simulators for MHE systems.</p>	0.054 0	0.955 0	1.056	-	1.056
<p><b>Title:</b> Rough Terrain Container Handler (RTCH) CPK Testing</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> RTCH Crew Protection Kit Testing at Aberdeen Proving Grounds</p>	0.010 0	-	-	-	-
<p><b>Title:</b> RTCH CPK MWO's (based off testing)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p>	0.010 0	-	-	-	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>	<b>PROJECT</b> H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b><i>FY 2010 Accomplishments:</i></b> Engineering for Modification Work Orders required (based off testing)					
<b>Accomplishments/Planned Programs Subtotals</b>	0.074	0.955	1.056	-	1.056

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
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
• OPA3, M41200: <i>Rough Terrain Container Handler (RTCH)</i>	95.469	34.022								0.000	129.491
• OPA3, M41800: <i>All Terrain Lifting Army System (ATLAS)</i>	94.075	73.961	21.859	1.800	23.659					0.000	191.695
• OPA3, G41002: <i>Light Capacity Rough Terrain (LCRT) Forklift</i>		12.936	10.944		10.944		5.595	9.489	25.230	Continuing	Continuing

**D. Acquisition Strategy**  
RDT&E Engineering - Engineering efforts will be conducted: Programmatic Pre-Milestone C support of 5,000 LB Light Capacity Rough Terrain Forklift; Rough Terrain Container Handler Crew Protection Kit Development; Rough Terrain Container Handler Crew Protection Kit Testing and Engineering Support at Aberdeen Proving Grounds; Engineering for Modification Work Orders required (based off testing).

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
SBIR/STTR	Various	Small Business:Warren, MI	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	-		-		-		-			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
PM/Matrix Support	Various	TACOM,:Warren, MI	0.506	-		-		-		-	Continuing	Continuing	Continuing
TARDEC	Various	TARDEC,:Warren, MI	0.340	-		-		-		-	Continuing	Continuing	Continuing
ATLAS II Contract	Various	TBD:TBD	0.822	-		-		-		-	Continuing	Continuing	Continuing
6K VRRFTLT Contract	Various	TRAK International, Port:various	0.928	-		-		-		-	Continuing	Continuing	Continuing
MHE Simulators	MIPR	Kalmar Rt:Cibolo, TX	-	0.955		1.056		-		1.056	Continuing	Continuing	Continuing
<b>Subtotal</b>			2.596	0.955		1.056		-		1.056			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
ATLAS	Various	TBD:TBD	0.250	-		-		-		-	Continuing	Continuing	Continuing
6K VRRFTLT	Various	TBD:TBD	0.342	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.592	-		-		-		-			

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
6K VRRFTLT	MIPR	APG:Aberdeen, MD	0.500	-		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>
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<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
RTCH	MIPR	APG:Aberdeen, MD	0.059	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.559	-		-		-		-			
<b>Project Cost Totals</b>			3.747	0.955		1.056		-		1.056			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>
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	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

T&E of MHE Simulators	<table border="1" style="width:100%; height: 20px;"> <tr> <td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td> <td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td> <td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td> <td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td> <td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td> <td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td> <td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td> <td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td><td style="width:4%;"> </td> </tr> </table>																																																											



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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
T&E of MHE Simulators	4	2010	4	2010

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L39: <i>Field Sustainment Support ED</i>
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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
L39: <i>Field Sustainment Support ED</i>	4.349	5.804	4.230	-	4.230	2.523	2.452	2.392	2.304	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project supports the System Development and Demonstration (SDD) of critical distribution and sustainment capabilities to include cargo aerial delivery, field shelters, showers, latrines, heaters, mortuary affairs systems, organizational equipment, and other combat service support equipment to fill identified theater distribution and services capability gaps, improve unit sustainability, and increase combat effectiveness. Project supports the demonstration of engineering development models and Type Classification of cargo parachutes, airdrop containers and other aerial delivery equipment to improve safety, effectiveness, and efficiency of airborne operations. Project supports development of tactical field systems and support equipment such as heaters, camouflage systems and base camp equipment. This project develops critical enablers that support the Quartermaster (QM) Force Transformation Strategy and the Army's Modular Force Capabilities by maintaining readiness through fielding and integrating new equipment. This project also ensures Army Expeditionary Forces are capable of rapid deployment by providing aerial delivery initiatives. These reduce sustainment requirements, related Combat Support/Combat Service Support (CS/CSS), lift demands, the combat zone footprint, and costs for logistical support.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Title:</b> Joint Precision Airdrop System 2,400 pounds (JPADS 2K)	-	-	0.874	-	0.874
<b>Description:</b> JPADS 2K is a Precision Guided Airdrop system that autonomously navigates along a predetermined glide and flight path to accurately deliver supplies and equipment. Its two primary components, a decelerator and an Autonomous Guidance Unit (AGU), interface with the United States Air Force (USAF) JPADS mission planner and has a gross rigged weight of 2,400 lbs.					
<b>FY 2012 Base Plans:</b> Continue JPADS 2K product improvement efforts to integrate advanced hardware and software capabilities					
<b>Title:</b> Joint Precision Airdrop System 10,000 lbs. (JPADS 10K)	3.934	2.191	0.374	-	0.374
<b>Articles:</b>	0	0			
<b>Description:</b> JPADS 10K is a Precision Guided Airdrop system that autonomously navigates along a predetermined glide and flight path to accurately deliver supplies and equipment. It utilizes two primary components, a JPADS 10K air vehicle's decelerator connected to an Autonomous Guided Unit (AGU) which interface with the USAF JPADS Mission Planner, and has a maximum gross rigged weight of 10,000 lbs.					
<b>FY 2010 Accomplishments:</b>					

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L39: <i>Field Sustainment Support ED</i>
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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
Completed JPADS 10K Design Validation (DV). Conduct and Initiated JPADS 10K Developmental Testing (DT). <b>FY 2011 Plans:</b> Complete Operational Testing (OT) and obtain Milestone C for JPADS 10K. <b>FY 2012 Base Plans:</b> Complete Operational Testing (OT) and obtain Milestone C for JPADS 10K.					
<b>Title:</b> Advanced Low Velocity Airdrop System (ALVADS) - Light and Heavy <b>Articles:</b>	-	2.171 0	-	-	-
<b>Description:</b> ALVADS - Light and Heavy are capable of airdrop operations at an altitude of 500-ft Above Ground Level (AGL) with increased aircraft survivability, and improved accuracy. Light-Gross rigged weight of 2,520-22,000 lbs and Heavy-Gross rigged weight of 22,001-42,000 lbs. <b>FY 2011 Plans:</b> Conduct and complete DT for Advanced Low Velocity Airdrop Systems (ALVADS-L).					
<b>Title:</b> Low Cost Aerial Delivery System (LCADS) <b>Articles:</b>	0.415 0	0.406 0	0.782	-	0.782
<b>Description:</b> LCADS is a modular suite of low cost, expendable parachute/container air items that can be used in lieu of current low and high velocity systems. System includes a low cost container, high-velocity parachute (70 - 90 fps) and low-velocity parachute (less than 28.5 fps). System is compatible with United States Air Force Aircraft (USAF A/C) and aerial port handling equipment. LCADS is a proven means to execute critical resupply missions without having to place soldiers and ground vehicle convoys on the road. <b>FY 2010 Accomplishments:</b> Execute LCADS Pre Planned Product Improvements (P3I) efforts with a focus on reusable Low Cost Low Altitude (LCLA) personnel parachutes for cargo use. <b>FY 2011 Plans:</b> Execute Low Cost Aerial Delivery System (LCADS) P3I efforts with a focus on reusable Low Cost Low Altitude (LCLA) personnel parachutes for cargo use. <b>FY 2012 Base Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L39: <i>Field Sustainment Support ED</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Execute LCADS product improvement efforts with focus on modular capability that spans weights and altitudes for low velocity and high velocity systems.					
<b>Title:</b> Advanced Cargo Parachute Release System (ACPRS) <b>Description:</b> The ACPRS will replace the existing M-1 and M-2 cargo parachute release and is intended to decrease the number of inoperable payloads due to rollovers, while also providing a capability to airdrop loads at 500 ft AGL. <b>FY 2012 Base Plans:</b> Complete Operational Testing (OT) and obtain Milestone C decision.	-	-	2.200	-	2.200
<b>Title:</b> Space Heater Convective 120,000 British Thermal Unit per Hour (BTUH) (SHC 120K) <b>Description:</b> The SHC 120K is a self-powered, thermoelectric heater that operates outside the tent and provides forced hot air circulation without the need for an external power supply (i.e., field generator). The SHC 120K generates its own electrical power, without any moving parts, through the use of thermoelectric modules located inside the combustion chamber that convert waste heat into electricity. The internal generation of electrical power gives the SHC 120K the added capabilities of single switch operation, forced hot air circulation, outside the tent operation, completely automatic safety and temperature controls, built-in troubleshooting diagnostics, operation without the need for a fire guard, and significantly higher combustion efficiencies, all without the need for an external power supply. The heater burns multi-fuels and operates in extreme cold temperatures down to -60oF. <b>FY 2011 Plans:</b> FY 11: Complete the Operational Field Evaluation on the Space Heater Convective 120,000 BTUH (SHC 120K) and obtain Milestone C LRIP.	-	0.300 0	-	-	-
<b>Title:</b> Pyrolysis Waste to Energy System <b>Description:</b> FY 11: Conduct OT on Pyrolysis Waste to Energy System transitioning from Foreign Comparative Test Program and conduct Milestone C. <b>FY 2011 Plans:</b>	-	0.736 0	-	-	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L39: <i>Field Sustainment Support ED</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Conduct Operational Testing (OT) on Pyrolysis Waste to Energy System transitioning from Foreign Comparative Test Program and conduct Milestone C.					
<b>Accomplishments/Planned Programs Subtotals</b>	4.349	5.804	4.230	-	4.230

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• OPA 3, MA7806: <i>Precision Airdrop, OPA 3, MA7806</i>	22.230	21.402	16.207		16.207		18.160	17.450	15.807	Continuing	Continuing
• 643804 K39: <i>Field Sustainment Support AD, 643804 K39</i>	14.690	18.908	2.952		2.952		3.150	3.330	3.070	Continuing	Continuing
• 643804 VR8: <i>Combat Service Support Systems AD, 643804 VR8</i>			2.042		2.042		1.986	2.015	2.347	Continuing	Continuing
• 654804 VR7: <i>Combat Service Support Systems, 654804 VR7</i>			2.546		2.546		1.635	1.725	1.861	Continuing	Continuing

**D. Acquisition Strategy**

Accelerate product development and testing to transition into production.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L39: <i>Field Sustainment Support ED</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Project Management Support	Various	PM FSS, Natick:Natick, MA	1.308	0.290		0.482		-		0.482	Continuing	Continuing	Continuing
Small Business Innovative Research/Small Business Technical Transfer Program (SBIR/STTR)	Various	ABO:Warren, MI	0.127	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.435	0.290		0.482		-		0.482			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Soldier Support Equipment	Various	PM FSS, Natick:Various	3.329	0.176		0.248		-		0.248	Continuing	Continuing	Continuing
ACPRS	Various	Various:Various	13.559	0.118		0.500		-		0.500	Continuing	Continuing	Continuing
JPADS 10K Development	Various	Various:Various	1.925	2.000		0.100		-		0.100	Continuing	Continuing	Continuing
LCADS P3I efforts	Various	Various:Various	0.125	0.500		0.100		-		0.100	Continuing	Continuing	Continuing
<b>Subtotal</b>			18.938	2.794		0.948		-		0.948			

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Soldier Support Equipment	Various	DTC, MD and ATC, MD:MD	1.686	-		-		-		-	Continuing	Continuing	Continuing
Soldier Support Equipment	Various	Yuma Proving Ground (YPG), AZ, AEC:AZ	7.984	0.500		-		-		-	Continuing	Continuing	Continuing
JPADS 10K DT and OT	Various	YPG, AZ:AZ	1.055	-		-		-		-	Continuing	Continuing	Continuing
JPADS P3I	Various	Yuma Proving Ground, AZ:Yuma, AZ	-	-		0.600		-		0.600	0.000	0.600	0.000
JPADS 10K OT	Various	GSA:GSA	0.054	-		0.200		-		0.200	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L39: <i>Field Sustainment Support ED</i>
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<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
ACPRS	Various	Yuma Proving Ground, AZ:Yuma, AZ	-	-		1.500		-		1.500	0.000	1.500	0.000
LCADS P3I efforts	Various	YPG, AZ/ OTC, NC:YPG, AZ/ OTC, NC	0.211	2.220		0.500		-		0.500	Continuing	Continuing	Continuing
<b>Subtotal</b>			10.990	2.720		2.800		-		2.800			

	<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>		31.363	5.804		4.230		-	4.230			

**Remarks**

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>	<b>PROJECT</b> L39: <i>Field Sustainment Support ED</i>
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	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
Milestone C (MS C) Joint Precision Airdrop System (JPADS) 10K																												
Operational Testing (OT) on JPADS 10 K																												
OT on Advanced Cargo Parachute Release System (ACPRS)																												
Milestone C (MS C) on ACPRS																												
Complete Advanced Low Velocity Airdrop System-Light (ALVADS-L) MS C																												
Conduct Developmental Testing/Operational Testing DT/OT on ALVADS-L																												
Conduct DT and OT on ALVADS Rapid Rigging/Derigging Airdrop System																												
Conduct Milestone C on ALVADS Rapid Rigging/Derigging Airdrop System																												
Conduct Developmental Testing (DT) on JPADS 10K																												
Obtain Milestone C for Space Heater Convective 120K British Thermal Unit per Hou																												
Conduct Operational Testing (OT) on Pyrolysis Waste to Energy System																												
Conduct Milestone C on Pyrolysis Waste to Energy System																												



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>	<b>PROJECT</b> L39: <i>Field Sustainment Support ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Milestone C (MS C) Joint Precision Airdrop System (JPADS) 10K	3	2012	3	2012
Operational Testing (OT) on JPADS 10 K	3	2011	4	2011
OT on Advanced Cargo Parachute Release System (ACPRS)	4	2011	1	2012
Milestone C (MS C) on ACPRS	3	2012	3	2012
Complete Advanced Low Velocity Airdrop System-Light (ALVADS-L) MS C	3	2014	3	2014
Conduct Developmental Testing/Operational Testing DT/OT on ALVADS-L	4	2012	1	2014
Conduct DT and OT on ALVADS Rapid Rigging/Derigging Airdrop System	4	2013	1	2015
Conduct Milestone C on ALVADS Rapid Rigging/Derigging Airdrop System	3	2015	3	2015
Conduct Developmental Testing (DT) on JPADS 10K	1	2011	2	2011
Obtain Milestone C for Space Heater Convective 120K British Thermal Unit per Hou	3	2011	3	2011
Conduct Operational Testing (OT) on Pyrolosis Waste to Energy System	4	2010	1	2011
Conduct Milestone C on Pyrolosis Waste to Energy System	3	2011	3	2011

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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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
L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>	2.405	2.734	2.079	-	2.079	3.912	3.749	3.771	3.804	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Description: This project provides all services with ample supply of clean fuel and water. The Army has the mission to supply fuel for all land-based forces, including the Marines and the Air Force, and must supply bulk drinking water to the soldiers. This System Development and Demonstration (SDD) program enables the Army to improve maneuver sustainment operations to meet the demands of the Stryker Brigade Combat Teams and Future Force. The mission includes receiving and transferring petroleum from trucks, ships, pipelines and permanent and temporary storage facilities; moving petroleum from storage to and within corps and division areas; fuel quality surveillance testing; and, dispensing in support of tactical operations, including rapid refueling of aircraft. The mission covers purification, storage, distribution, and quality control of water. The Army cannot fight without clean fuel and water. These research and development (R&D) missions support the development and enhancement of rapidly deployed Petroleum and Water equipment which enables the Army to achieve transformation vision by providing a highly mobile and self-sustaining system in hostile theaters of operation.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> Evaluate portability advancements.</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Evaluate the portability advancements designed into the near-infrared (NIR) spectrometer from earlier efforts. Evaluate new fiber optic probes and demonstrate for CASCOM</p>	0.122 0	-	-	-	-
<p><b>Title:</b> Family of Fuel System Supply Points (FSSPs)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Continue improvements for the Family of Fuel System Supply Points (FSSPs).</p>	0.141 0	-	-	-	-
<p><b>Title:</b> Integrate product improvements and conduct system level testing and evaluation.</p> <p align="right"><b>Articles:</b></p>	0.220 0	-	0.904	-	0.904

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army				<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>		<b>PROJECT</b> L41: <i>WATER AND PETROLEUM</i> <i>DISTRIBUTION - ED</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2010 Accomplishments:</b> Integrate product improvements and conduct system level testing and evaluation of improved Tactical Water Purification System (TWPS) and Lightweight Water Purification system (LWP) and Reverse Osmosis Water Purification Unit (ROWPU), Load Handling System Water Tank Rack (HIPPO) system and the Unit Water Pod (Camel) system. Based on component testing results, perform engineering integration analysis and system design to incorporate in-line water quality monitoring and perform technical and operational testing on TWPS, LWPs and ROWPUs. Perform engineering integration analysis and system design to incorporate chlorine dosing and control into the Hippo system and Unit Water Pod System (Camel) system and conduct technical and operational testing. Prepare technical data to incorporate improved components into production units and to support system modernization through spares.					
<b>FY 2012 Base Plans:</b> Integrate product improvements and conduct system level testing and evaluation of improved Tactical Water Purification System (TWPS) and Lightweight Water Purification system (LWP) and Reverse Osmosis Water Purification Unit (ROWPU), Load Handling System Water Tank Rack (HIPPO) system and the Unit Water Pod (Camel) system. Based on component testing results, perform engineering integration analysis and system design to incorporate in-line water quality monitoring and perform technical and operational testing on TWPS, LWPs and ROWPUs. Perform engineering integration analysis and system design to incorporate chlorine dosing and control into the Hippo system and Unit Water Pod System (Camel) system and conduct technical and operational testing. Prepare technical data to incorporate improved components into production units and to support system modernization through spares.					
<b>Title:</b> Petroleum Quality Analysis System (PQAS).					
<b>Articles:</b>					
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2010 Accomplishments:</b> Introduction of new technologies to enhance the Petroleum Quality Analysis System (PQAS). Market surveys and component testing.					
<b>Title:</b> Fuel System Supply Point (FSSP).					
<b>Articles:</b>					
	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
	0.514 0	-	-	-	-
	1.408 0	0.120 0	0.253	-	0.253

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army				<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>		<b>PROJECT</b> L41: <i>WATER AND PETROLEUM</i> <i>DISTRIBUTION - ED</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>					
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2010 Accomplishments:</b> Integration of component level improvements at the system level for the Fuel System Supply Point (FSSP). Reliability and limited user testing. Preparation of component level performance based specifications.					
<b>FY 2011 Plans:</b> Continue improvements for the Family of Fuel System Supply Points (FSSPs).					
<b>FY 2012 Base Plans:</b> Integration of component level improvements at the system level for the Fuel System Supply Point (FSSP). Reliability and limited user testing. Preparation of component level performance based specifications.					
<b>Title:</b> In-house low/high temperature testing.					
<b>Articles:</b>					
	-	0.301 0	-	-	-
<b>Description:</b> Funding is provided for the following effort.					
<b>FY 2011 Plans:</b> Continue to refine the property prediction models. In-house low/high temperature testing.					
<b>Title:</b> Tactical Water Purification System (TWPS) and Lightweight Water Purification System (LWP).					
<b>Articles:</b>					
	-	0.755 0	-	-	-
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2011 Plans:</b> Integrate product improvements and conduct system level testing and evaluation of improved Tactical Water Purification System (TWPS) and Lightweight Water Purification System (LWP) and Reverse Osmosis Water Purification Units, Hippo System and the Unit Water Pod (Camel) system. Based on component testing results, perform engineering integration analysis and system design to incorporate in-line water quality monitoring, and perform technical and operational testing. Perform engineering integration analysis and system design to incorporate chlorine dosing and control into the Hippo system and Unit Water Pod System (Camel) system and conduct technical and operational testing. Prepare technical data to incorporate improved components into production units and to support system modernization through spares.					
<b>Title:</b> Integration of component level improvements at the system level for the Fuel System Supply Point (FSSP).					
	-	0.278	-	-	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> Integration of component level improvements at the system level for the Fuel System Supply Point (FSSP). Reliability and limited user testing. Preparation of component level performance based specifications</p>		0			
<p><b>Title:</b> Introduction of new technologies to enhance the Petroleum Quality Analysis System (PQAS).</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> Introduction of new technologies to enhance the Petroleum Quality Analysis System (PQAS). Market surveys and component testing.</p>	-	0.340 0	-	-	-
<p><b>Title:</b> Future Water Storage and Distribution Water Packaging System.</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> Will fund Future Water Storage and Distribution Water Packaging Systems.</p>	-	0.940 0	-	-	-
<p><b>Title:</b> Versatile Tank and Pump Unit (VTPU)</p> <p><b>Description:</b> Funding is provided for the following effort.</p> <p><b>FY 2012 Base Plans:</b> Test and evaluation of the Versatile Tank and Pump Unit.</p>	-	-	0.200	-	0.200
<p><b>Title:</b> Testing the Modular Fuel System (MFS).</p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2012 Base Plans:</b> Initial Operational test and evaluation of the Modular Fuel system (MFS) pump rack modulae (PRM) .</p>	-	-	0.722	-	0.722
<b>Accomplishments/Planned Programs Subtotals</b>	2.405	2.734	2.079	-	2.079

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE, 0603804/K41: <i>RDTE, 0603804/K41, Logistics and Engineer Equipment - Advanced Development</i>	3.097	2.586	4.122		4.122		2.785	2.894	2.937	Continuing	Continuing
• OPA, R05600: <i>OPA 3, R05600, Water Purification Systems</i>	10.168	15.683								0.000	25.851
• OPA 3, MA6000: <i>OPA 3, MA6000, Distribution Systems, Petroleum &amp; Water</i>	142.309	230.174	76.633		76.633		70.901	74.335	84.610	Continuing	Continuing

**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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Advanced Petroleum Test Kit (PTK)	Various	TBD:TBD	-	0.180		-		-		-	Continuing	Continuing	Continuing
Advanced Petroleum Test Kit (PTK)	Various	TARDEC:Warren, MI	-	0.121		-		-		-	Continuing	Continuing	Continuing
FSSP Improvements	Various	TBD:TARDEC, Warren, MI	-	0.278		0.122		-		0.122	Continuing	Continuing	Continuing
Water Purification Systems Improvements	Various	TARDEC:TARDEC Warren, MI	-	0.150		0.300		-		0.300	Continuing	Continuing	Continuing
Water Purification Systems Improvements	Various	TBD:TBD	-	0.150		0.154		-		0.154	Continuing	Continuing	Continuing
Unit Water Pod (Camel II) 900 Gallon	Various	TARDEC:Warren, MI	0.150	-		-		-		-	Continuing	Continuing	Continuing
Water Packaging System	Various	TARDEC:TARDEC Warren, MI	-	0.150		-		-		-	Continuing	Continuing	Continuing
Petroleum Quality Analysis System (PQAS-E)	Various	TARDEC:TARDEC Warren, MI	-	0.300		-		-		-	Continuing	Continuing	Continuing
Water Packaging System	Various	DRS Sustainment Systems:St. Louis, MO	-	0.790		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.150	2.119		0.576		-		0.576			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Fuel System Supply Point (FSSP)	Various	TARDEC:Warren, MI	-	0.120		-		-		-	Continuing	Continuing	Continuing
Unit Water Pod (Camel II) 900 Gallon	Various	TARDEC:Warren, MI	0.100	-		-		-		-	Continuing	Continuing	Continuing
Water Purification Systems Improvements	Various	TARDEC:Warren, MI	-	0.100		-		-		-	Continuing	Continuing	Continuing
Unit Water Pod (Camel) 900 Gallon	Various	TBD:TBD	1.394	-		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
<b>Subtotal</b>			1.494	0.220		-		-		-			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Modular Fuel System	Various	Yuma Proving Ground:YPG, AZ	-	-		0.600		-		0.600	Continuing	Continuing	Continuing
Fuel System Supply Point (FSSP)	Various	TBD:TBD	-	-		0.253		-		0.253	Continuing	Continuing	Continuing
Water Purification Improvements	Various	TARDEC:Warren, MI	-	0.155		-		-		-	Continuing	Continuing	Continuing
Water Purification Improvements	Various	NFESC:Port Hueneme, CA	0.332	0.240		0.450		-		0.450	Continuing	Continuing	Continuing
Unit Water Pod (Camel) 900 Gallon	Various	Yuma Proving Ground:Yuma, AZ	1.996	-		-		-		-	Continuing	Continuing	Continuing
Water Packaging System	Various	Aberdeen Proving Ground:APG, MD	-	-		-		-		-	Continuing	Continuing	Continuing
Versitale Tank and Pump Unit (VTPU)	Various	TARDEC:Warren, MI	-	-		0.200		-		0.200	Continuing	Continuing	Continuing
<b>Subtotal</b>			2.328	0.395		1.503		-		1.503			

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>		3.972	2.734	2.079	-	2.079		

**Remarks**

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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	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				
Advanced Petroleum Test Kit (PTK): Design prototype and conduct technical tests																																
Family of Fuel System Supply Points (FSSPs): Performance of common pumps																																
Bulk Fuel Distribution System																																
Versatile Tank and Pump Unit (VTPU)																																
Future Water Storage and Distribution																																
Bulk Water Purifier																																

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Advanced Petroleum Test Kit (PTK): Design prototype and conduct technical tests	4	2014	4	2014
Family of Fuel System Supply Points (FSSPs): Performance of common pumps	3	2010	4	2014
Bulk Fuel Distribution System	4	2013	4	2015
Versatile Tank and Pump Unit (VTPU)	4	2011	3	2014
Future Water Storage and Distribution	4	2013	3	2014
Bulk Water Purifier	2	2014	1	2016

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>
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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
L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>	0.939	0.874	1.096	-	1.096	1.895	1.190	1.182	1.272	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Not applicable for this item.

**A. Mission Description and Budget Item Justification**

This project supports development, demonstration, testing and evaluation within the Engineering Support Equipment arena for the Hydraulic Electric Pneumatic Petroleum Operated Equipment (HEPPOE), Surveying, Individual Firefighter Support, Concrete and Masonry, Electricians, Plumbers, Pipefitters, Field Lighting Sets, Diving Equipment, Surface Swimmer Support Sets, Surface Supplied Diving Set, procurement of new Technical Tools, Pioneer Support Set, and the Pioneer Land Clearing and Building Erection Set. Funding will support the procurement of market samples and testing for Hazard ID & Marking, Pioneer Light Field Engineering, Underwater Construction Set, Closed Circuit Scuba Set, the Family of Diving Air Compressors, and Assault Boats and Outboard Motors. Efforts will also involve modernization of the Swimmer Support Sets and Individual Swimmer Support Sets as well as existing Sets, Kits, and Outfits (SKOs).

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> Document Development</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> Coordinate to have Initial Capabilities Documents (ICDs), Capability Development Documents (CDDs), and Capabilities Production Documents (CPDs) written for various programs</p> <p><b>FY 2012 Base Plans:</b> Coordinate to have Initial Capabilities Documents (ICDs), Capability Development Documents (CDDs), and Capabilities Production Documents (CPDs) written for various programs</p>	-	0.125 0	0.050	-	0.050
<p><b>Title:</b> Underwater Construction Sets</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Research, Development, and Testing of Underwater Construction Sets</p> <p><b>FY 2011 Plans:</b></p>	-	0.175 0	0.357	-	0.357

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Conduct market research on Underwater Construction Sets <b>FY 2012 Base Plans:</b> Procurement of Underwater Construction Set test articles					
<b>Title:</b> Soldier Portable Sets and Support Equipment  <b>Description:</b> Funding is provided for the following effort  <b>FY 2011 Plans:</b> Procure market samples for the testing and evaluation of Surveying, Individual Firefighter Support, Concrete & Masonry, Electricians, Plumbers, Pipefitters, Field Lighting Sets, Power Plant Installation Sets, and various other Soldier Portable Sets and Support Equipment	<b>Articles:</b> -	0.343 0	-	-	-
<b>Title:</b> Surface Supplied Diving Set and Deep Sea Set  <b>Description:</b> Development and testing for Surface Supplied Diving Set and Deep Sea Set  <b>FY 2010 Accomplishments:</b> Description For Purchase (DFP) development, market research, and procurement of components for Surface Supplied Diving Set and the Deep Sea Set, based on latest technology (Life Support Equipment)  <b>FY 2012 Base Plans:</b> Procurement of test articles for the Deep Sea Set	<b>Articles:</b> 0.246 0	-	0.229	-	0.229
<b>Title:</b> Closed Circuit Scuba Set  <b>Description:</b> Test articles and testing of Closed Circuit Scuba Set  <b>FY 2010 Accomplishments:</b> Procure test articles and field test Closed Circuit Scuba Set for suitability	<b>Articles:</b> 0.250 0	-	-	-	-
<b>Title:</b> Family of Diving Air Compressors	<b>Articles:</b> 0.243 0	-	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<p><b>Description:</b> Development and testing of the Family of Diving Air Compressors</p> <p><b>FY 2010 Accomplishments:</b> Procurement of test articles based on Capabilities Production Document (CPD) requirements for the Family of Diving Air Compressors</p>					
<p><b>Title:</b> Deep Sea Set</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Redevelopment of state of the art Deep Sea Set based on the latest technology (Life Support Equipment)</p> <p><b>FY 2011 Plans:</b> Continue the redevelopment of state of the art Deep Sea Set based on the latest technology (Life Support Equipment)</p>	0.200 0	0.175 0	-	-	-
<p><b>Title:</b> Soldier Portable/Shelter Mounted Sets, Kits, and Outfits (SKOs)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Modernization Analysis for modularity of Soldier Portable/Shelter Mounted Sets, Kits, and Outfits</p> <p><b>FY 2011 Plans:</b> Modernization Analysis for modularity of Soldier Portable/Shelter Mounted Sets, Kits, and Outfits to determine the feasibility of upgrading/combining sets</p>	-	0.056 0	-	-	-
<p><b>Title:</b> Assault Boats and Outboard Motors</p> <p><b>Description:</b> Development of various Assault Boats and Outboard Motors</p> <p><b>FY 2012 Base Plans:</b> Procurement of Assault Boats and Outboard Motors test articles</p>	-	-	0.250	-	0.250
<p><b>Title:</b> Engineering and Quality Assurance</p> <p><b>Description:</b> Engineering and Quality Assurance of engineering SKOs</p>	-	-	0.100	-	0.100

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<b><i>FY 2012 Base Plans:</i></b> Engineering and Quality Assurance dedicated to the development and quality of Assault Boats, Outboard Motors, Diving Equipment, and other engineering sets					
<b><i>Title:</i></b> Vertical Skills Engineer Construction Kit (VSECK) <b><i>Description:</i></b> Research, Development, and Testing of Vertical Skills Engineer Construction Kit (VSECK)	-	-	0.065	-	0.065
<b><i>FY 2012 Base Plans:</i></b> Purchase and analysis of VSECK market samples					
<b><i>Title:</i></b> Detainee Kit <b><i>Description:</i></b> Research, Development, and Testing of Detainee Kit	-	-	0.045	-	0.045
<b><i>FY 2012 Base Plans:</i></b> Purchase and analysis of Detainee Kit market samples					
<b>Accomplishments/Planned Programs Subtotals</b>	0.939	0.874	1.096	-	1.096

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 1.: OPA 3 ML5301, Items Less than \$5.0M (Engineering Support)	30.439	31.420	12.482		12.482		21.963	19.489	15.818	Continuing	Continuing
• 2.: OPA 3 R70110, Hydraulic Electric Pneumatic Petroleum Operated Equipment (HEPPOE)			28.949		28.949					0.000	38.588
• 3.: OPA 3 R70120, Urban Operations, Platoon Set			13.760		13.760		12.392	20.853	18.566	Continuing	Continuing
			11.481		11.481		15.003	21.521	19.122	Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 4.: <i>OPA 3 R70130, Urban Operations, Squad Set</i>											

**D. Acquisition Strategy**

Progression of Programs will be developed by the completion of the Initial Capabilities Document, Capability Development Document, Capability Production Document, and Description For Purchase continuing into Low Rate Initial Production. Modernization and Optimization of existing tools and testing of market samples will progress from System Development and Demonstration (SDD) and transition into production.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Expedited Modernization Initiative Procedure (EMIP) / BOD Procurement of Technical Tools	SS/FP	PM SKOT:Harrison, MI	0.024	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.024	-		-		-		-			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Diving equipment	C/FPAF	Navy/PM SKOT:(FL, IL)	1.605	-		-		-		-	Continuing	Continuing	Continuing
Hydraulic Electric Pneumatic Petroleum Operated Equipment (HEPPOE)	SS/FP	PM SKOT:Harrison, MI	0.180	-		-		-		-	Continuing	Continuing	Continuing
Underwater Construction Set market research and purchase of test articles	C/FP	PM SKOT/Edgewood Chemical and Biological Center (ECBC)/TBS:(IL, MI, TBS)	-	0.175		0.357		-		0.357	Continuing	Continuing	Continuing
Surface Supplied Diving Set and Deep Sea Set	C/FP	PM SKOT/ECBC/TBS:(IL, MI, TBS)	0.050	-		0.229		-		0.229	Continuing	Continuing	Continuing
Individual Swimmer Support Set	SS/FP	PM SKOT:Harrison, MI	0.050	-		-		-		-	Continuing	Continuing	Continuing
Family of Diving Air Compressors test articles	SS/FP	Defense Logistics Agency (DLA):Philadelphia, PA	-	-		-		-		-	Continuing	Continuing	Continuing
Closed Circuit Scuba Set test articles	SS/FP	PM SKOT/ECBC:(MI, IL)	-	-		-		-		-	Continuing	Continuing	Continuing
Assault Boats and Outboard Motors test articles	C/FP	TBS:TBS	-	-		0.250		-		0.250	Continuing	Continuing	Continuing
Market Samples of Soldier Portable Sets and Support Equipment	SS/FP	PM SKOT:Harrison, MI	0.243	0.343		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Market Samples of Vertical Skills Engineer Construction Kit (VSECK)	C/FP	PM SKOT:Harrison, MI	-	-		0.065		-		0.065	0.000	0.065	0.000
Market Samples for Detainee Kit	C/FP	PM SKOT:Harrison, MI	-	-		0.045		-		0.045	0.000	0.045	0.000
<b>Subtotal</b>			2.128	0.518		0.946		-		0.946			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Allied Trade Organization (ORG) & General Purpose (GP)	SS/FP	PM SKOT:Harrison, MI	0.330	-		-		-		-	Continuing	Continuing	Continuing
Pioneer Land Clearing and Building Erection	SS/FP	PM SKOT:Harrison, MI	0.010	-		-		-		-	Continuing	Continuing	Continuing
Engineering Support Equipment Configuration Analyses and document development support	SS/BOA	Combined Arms Support Command (CASCOM)/ Maneuver Support Center (MANSCEN):(VA, MO)	-	0.125		0.050		-		0.050	Continuing	Continuing	Continuing
Modernization Analyses for modularity of Soldier Portable/ Shelter Mounted SKOs	SS/FP	Armament Research Development and Engineering Center (ARDEC):Rock Island, IL	-	0.056		-		-		-	Continuing	Continuing	Continuing
Pioneer Support Set	SS/FP	PM SKOT:Harrison, MI	0.021	-		-		-		-	Continuing	Continuing	Continuing
Future Combat Systems	SS/FP	PM SKOT:Harrison, MI	0.070	-		-		-		-	Continuing	Continuing	Continuing
Engineering and Quality Assurance of engineering SKOs	C/FP	ECBC/ARDEC:Rock Island, IL	-	-		0.100		-		0.100	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.431	0.181		0.150		-		0.150			

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>
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<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>				
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
Organization/General Purpose Tools	SS/FP	PM SKOT:Harrison, MI	0.051	-		-		-		-	Continuing	Continuing	Continuing	
Surface Supplied Diving Set	C/FP	Navy/PM SKOT:(FL, IL)	0.200	-		-		-		-	Continuing	Continuing	Continuing	
Closed Circuit Scuba Testing	SS/FP	Army Test and Evaluation Command (ATEC):Alexandria, VA	-	-		-		-		-	Continuing	Continuing	Continuing	
Redevelopment and testing of state of the art Deep Sea Set	C/FP	PM SKOT/ECBC:Rock Island, IL	-	0.175		-		-		-	Continuing	Continuing	Continuing	
<b>Subtotal</b>			0.251	0.175		-		-		-				
<b>Project Cost Totals</b>			2.834	0.874		1.096		-		1.096				

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>			<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>		<b>PROJECT</b> L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>	

	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
Design, develop, build, and test Underwater Construction and Deep Sea Sets	[REDACTED]																											
Procurement of test articles and testing of Assault Boats & Outboard Motors	[REDACTED]																											
Procurement of test articles & testing of Soldier Portable Sets & Support Equip	[REDACTED]																											

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Design, develop, build, and test Underwater Construction and Deep Sea Sets	1	2011	3	2013
Procurement of test articles and testing of Assault Boats & Outboard Motors	1	2012	3	2015
Procurement of test articles & testing of Soldier Portable Sets & Support Equip	1	2013	3	2016

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L46: <i>Maintenance Support Equipment</i>
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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
L46: <i>Maintenance Support Equipment</i>	3.138	3.178	3.165	-	3.165	3.657	1.689	1.759	1.778	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Not applicable for this item.

**A. Mission Description and Budget Item Justification**

This project supports requirements generation for Sets, Kits, and Outfits (SKOs) and the subsequent creation of technical data as well as purchase descriptions. Funding will support the modernization of Shop Equipment Truck/Trailer Transported Shelters for the next generation armored vehicle in order to lower the weight of enclosure to accommodate required tool load. Efforts will continue on rapid deploying SKOs to support rapid emerging missions including joint efforts. Support equipment items including Special Tool Sets will be acquired and tested. Various towbar configurations will be researched, procured, and tested. This project will fund efforts to include development of the Metalworking and Machining Shop Set (MWMSS) as well as the Armament Shop Set (ARSS) that support the merging of Military Occupational Specialties (MOS). Research, development, and testing of Fire Suppression systems and investigation feasibility of Joint Modular Container Systems for SKOs will also be performed.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> Optimization of antiquated Sets, Kits, and Outfits (SKOs)</p> <p align="right"><b>Articles:</b></p>	0.100 0	-	-	-	-
<p><b>Description:</b> Optimization of antiquated SKOs to support modularity in a 2 level maintenance environment including Towbar redesign</p> <p><b>FY 2010 Accomplishments:</b> Procurement/testing of technologically advanced market samples for verification of feasibility to support latest weapons systems</p>					
<p><b>Title:</b> Modernize Tool Loads</p> <p align="right"><b>Articles:</b></p>	0.314 0	-	0.075	-	0.075
<p><b>Description:</b> Modernize and update tool loads - Procure and verify additional items based on field feedback. Create Purchase Descriptions and purchase Support Equipment test articles</p> <p><b>FY 2010 Accomplishments:</b></p>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army				<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>		<b>PROJECT</b> L46: <i>Maintenance Support Equipment</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>						
		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Create Purchase Descriptions and purchase support equipment test articles <b>FY 2012 Base Plans:</b> Expedited Modernization Initiative Procedure (EMIP) procurement of new technical tools. Acquisition of Support Equipment items						
<b>Title:</b> Unique Identification (UID) Codes and Warranty/Replacement system <b>Articles:</b>		0.625 0	-	-	-	-
<b>Description:</b> UID Codes and Warranty/Replacement system enhancements/testing. Joint Modular Intermodal Container System/Joint Modular Intermodal Distribution System (JMICS/JMIDS) Containers <b>FY 2010 Accomplishments:</b> Market research in support of UID for utilization in warranty and replacement claims						
<b>Title:</b> Future Combat Systems <b>Articles:</b>		0.070 0	-	-	-	-
<b>Description:</b> Market research for tool identification in support of Future Combat Systems <b>FY 2010 Accomplishments:</b> Re-verification of tool requirements as a result of changes in Future Combat Systems						
<b>Title:</b> Metalworking & Machining Shop Set (MWMSS) <b>Articles:</b>		0.922 0	1.000 0	0.100	-	0.100
<b>Description:</b> Design, Develop, Build, and Test Metalworking & Machining Shop Set (MWMSS) configurations <b>FY 2010 Accomplishments:</b> Design, Develop, and Build MWMSS <b>FY 2011 Plans:</b> Test MWMSS <b>FY 2012 Base Plans:</b> Test MWMSS						
<b>Title:</b> Joint Container Research <b>Articles:</b>		0.063 0	-	-	-	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L46: <i>Maintenance Support Equipment</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Description:</b> Composite Manipulation, Joint Container utilization research, and Virtual Engineering incorporation and enhancements</p> <p><b>FY 2010 Accomplishments:</b> Virtual Engineering incorporation and enhancements of Joint Container</p>					
<p><b>Title:</b> New Technical Tools</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Procure new technical tools and subsequent evaluations of tools for SKO optimization</p> <p><b>FY 2010 Accomplishments:</b> Procurement of new technical tools</p>	0.012 0	-	-	-	-
<p><b>Title:</b> Shop Equipment, Shelters, Truck/Trailer Transported</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Modernization / Redesign efforts of truck/trailer transported shelters for next generation of vehicles</p> <p><b>FY 2010 Accomplishments:</b> Preliminary research and drawings for truck/trailer transported shelters for next generation of vehicles</p> <p><b>FY 2011 Plans:</b> Procure, build, and integrate the next generation truck/trailer transported shelters on a new platform</p> <p><b>FY 2012 Base Plans:</b> Purchase of a next generation vehicle chassis, and integration and testing of the next generation vehicle platform variant</p>	0.400 0	1.600 0	0.300	-	0.300
<p><b>Title:</b> Support for Requirements Generation</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Support for requirements generation of future SKOs</p> <p><b>FY 2010 Accomplishments:</b> Document development support for future requirements SKOs</p> <p><b>FY 2011 Plans:</b></p>	0.232 0	0.073 0	0.125	-	0.125

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L46: <i>Maintenance Support Equipment</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Document development support for future requirements SKOs <b>FY 2012 Base Plans:</b> Document development support for future requirements SKOs					
<b>Title:</b> Rapid Deployment SKOs  <b>Articles:</b>  <b>Description:</b> Develop Rapid Deployment Sets, Kits, and Outfits (SKOs) - Special Tool Initiative and support to Mine Resistance Ambush Protection (MRAP) vehicles  <b>FY 2010 Accomplishments:</b> Research of lift and hold devices for MRAP	0.100 0	-	-	-	-
<b>Title:</b> Engineering and Quality Assurance  <b>Articles:</b>  <b>Description:</b> Engineering and Quality Assurance in support of SKOs  <b>FY 2011 Plans:</b> Engineering and Quality Assurance dedicated to the development and quality of maintenance SKOs  <b>FY 2012 Base Plans:</b> Engineering and Quality Assurance of the Armament Shop Set (ARSS), Special Tool Sets, and other maintenance SKOs	-	0.380 0	0.500	-	0.500
<b>Title:</b> Fire Suppression Systems  <b>Articles:</b>  <b>Description:</b> Development and testing of Fire Suppression Systems  <b>FY 2010 Accomplishments:</b> Purchase of Fire Suppression test articles for testing and Field Feedback	0.300 0	-	-	-	-
<b>Title:</b> Armament Shop Set (ARSS)  <b>Articles:</b>  <b>Description:</b> Armament Shop Set upgrades	-	0.125 0	2.065	-	2.065



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L46: <i>Maintenance Support Equipment</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b><i>FY 2011 Plans:</i></b> Market Research and modeling/simulation for the ARSS					
<b><i>FY 2012 Base Plans:</i></b> Purchase of ARSS prototypes					
<b>Accomplishments/Planned Programs Subtotals</b>	3.138	3.178	3.165	-	3.165

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	<b>Cost To Complete</b>	<b>Total Cost</b>
• 1.: OPA 1 DL5110, Items Less Than \$5.0M (TACTICAL VEHICLE)	4.763									Continuing	Continuing
• 2.: OPA 3 D16400, Forward Repair System (FRS)	62.884	72.747								Continuing	Continuing
• 3.: OPA 3 M61500, Shop Equipment, Contact Maintenance (SECM)	36.004	82.001	12.052	25.056	37.108		17.933	9.888	10.053	Continuing	Continuing
• 4.: OPA 3 MA9650, Standard Automotive Tool Set (SATS)	94.239	43.698								Continuing	Continuing
• 5.: OPA 3 M62700, Shop Equipment, Welding (SEW)		2.237								Continuing	Continuing
• 6.: OPA 3 ML5345, Items Less Than \$5.0M (MAINTENANCE EQUIPMENT)	3.848	3.702	3.852		3.852					Continuing	Continuing
• 7.: OPA3 G39200, Hydraulic Systems Test and Repair Unit (HSTRU)			4.520		4.520		1.692	1.898	1.686	Continuing	Continuing

**D. Acquisition Strategy**

Programs will progress from requirements generation through market research, development, market samples and testing. Efforts will support two level maintenance concept utilizing commercial technologies and incorporating them into SKO to support next generation weapon and support systems.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L46: <i>Maintenance Support Equipment</i>

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L46: <i>Maintenance Support Equipment</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Conduct Sets, Kits, & Outfits (SKOs) modernization efforts	C/FP	ATEC / PM SKOT:(MD, MI)	0.840	-		-		-		-	Continuing	Continuing	Continuing
Unique Identification Codes, Joint Modular Intermodal Container/Distribution System (JMICS/JMIDS)	SS/FP	PM SKOT:Harrison, MI	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.840	-		-		-		-			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Maintenance Support Equipment Life Cycle Configuration Analyses and ICD Development Support	C/FP	PM SKOT/ Army Test & Evaluation Command (ATEC)/ Combined Arms Support Command (CASCOM):(IL, MI, MD, VA)	0.865	0.073		0.050		-		0.050	Continuing	Continuing	Continuing
Further develop SATS Field Maintenance Module & viability of adding Load Handling System capability	SS/FP	PM SKOT:Harrison, MI	0.183	-		-		-		-	Continuing	Continuing	Continuing
Expedited Modernization Initiative Procedure (EMIP) Procurement of new Technical Tools	SS/FP	Multiple CONUS:(GA, CA, IL, WI, MI)	-	-		0.025		-		0.025	Continuing	Continuing	Continuing
Metalworking & Machining Shop Set (MWMSS) Configuration	SS/FP	Edgewood Chemical and Biological Center (ECBC) - Prototype Integration Facility (PIF):Edgewood, MD	0.015	-		-		-		-	Continuing	Continuing	Continuing
Modernization/Redesign efforts of Truck/Trailer	SS/FP	ECBC:Rock Island, IL	-	1.600		0.300		-		0.300	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L46: <i>Maintenance Support Equipment</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
transported shelters for next generation vehicles													
Development of Fire Suppression Systems	SS/FP	PM SKOT:Harrison, MI	0.127	-		-		-		-	Continuing	Continuing	Continuing
Develop Rapid Deployment Sets, Kits, & Outfits - Special Tool Initiative. Joint Aviation Tool Set	Various	ECBC:Rock Island, IL	0.020	-		-		-		-	Continuing	Continuing	Continuing
Hydraulic Systems Test & Repair Unit (HSTRU) development	C/FP	MANDUS Group, LaBarge:(IL, MO)	0.313	-		-		-		-	Continuing	Continuing	Continuing
Armament Shop Set (ARSS) prototypes	SS/FP	ECBC-PIF:Edgewood, MD	-	0.125		2.065		-		2.065	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.523	1.798		2.440		-		2.440			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Life Cycle Configuration Analyses & Support to Initial Capabilities Document Development	C/BOA	PM SKOT Rock Island/ CASCOM / Maneuver Support Center (MANSCEN):(IL, VA, MO)	0.306	-		0.125		-		0.125	Continuing	Continuing	Continuing
Modernization of Tool Loads based on Field Feedback	SS/FP	PM SKOT:Harrison, MI	-	-		-		-		-	Continuing	Continuing	Continuing
Industrial Plant Equipment (IPE) documentation for new test articles	SS/FP	PM SKOT:Harrison, MI	0.161	-		-		-		-	Continuing	Continuing	Continuing
Engineer and Quality Assurance in support of SKOs	C/BOA	ECBC / ARDEC / PM SKOT:(IL, MI)	0.135	0.380		0.500		-		0.500	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.602	0.380		0.625		-		0.625			

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L46: <i>Maintenance Support Equipment</i>
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<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Life Cycle Configuration Analyses & Support to Initial Capabilities Document Development	C/FP	ATEC/PM SKOT/CASCOM/MANSCEN: (MD, IL, VA, MO)	0.830	-		-		-		-	Continuing	Continuing	Continuing
Testing of the Metalworking & Machining Shop Set (MWMSS)	SS/FP	ATEC:Aberdeen, MD	-	1.000		0.100		-		0.100	Continuing	Continuing	Continuing
Further develop SATS Field Maintenance Module & viability of adding Load Handling System capability	SS/FP	PM SKOT:Harrison, MI	0.263	-		-		-		-	Continuing	Continuing	Continuing
Forward Repair System (FRS) enhancements, Flatrack Redesign and Universal Sling Testing	C/BOA	PM SKOT/Army Test & Evaluation Command (ATEC):(IL, MD)	0.047	-		-		-		-	Continuing	Continuing	Continuing
Testing of Support Equipment Items and Configurations	C/BOA	ATEC/ PM SKOT/ ECBC:(MD, MI, IL)	-	-		-		-		-	Continuing	Continuing	Continuing
Testing of Fire Suppression	C/FP	ATEC/PM SKOT/ECBC: (MD, MI, IL)	-	-		-		-		-	Continuing	Continuing	Continuing
Testing of Hydraulic Systems Test & Repair Unit (HSTRU)	SS/FP	ATEC/US Army Research Lab:Aberdeen, MD	0.341	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.481	1.000		0.100		-		0.100			
<b>Project Cost Totals</b>			4.446	3.178		3.165		-		3.165			

**Remarks**

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>
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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
L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>	4.393	4.543	-	-	-	-	-	-	2.937	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Not applicable for this item.

**A. Mission Description and Budget Item Justification**

The Improved Environmental Control Units (IECU) program will provide a new generation of ECUs that use environmentally approved refrigerants, with zero ozone-depleting chemicals (ODCs) to replace the current Military Standard (MIL-STD) Family of Environmental Control Units (ECUs). The IECUs will provide improved cooling, heating, and dehumidification to soldiers and materiel systems in combat, combat support and combat service support units. The IECUs are required to replace currently fielded environmental control units in order to comply with statutory and regulatory restrictions on the use of Class II ODCs and to improve the performance of military ECUs. They are form, fit and function replacements to the current MIL-STD ECUs. Technical improvements over existing military-standard ECUs will yield significant fuel and weight savings, reduction in scheduled maintenance, and increased reliability. 9,18, and 36K BTU/H IECUs: The 9,18 and 36K BTU/H IECUs will be a replacement for the current MIL-STD-ECU variants. The new family of IECUs will utilize a new refrigerant which complies with mandated EPA (Environmental Protection Agency) requirements (non-global warming). FY10-11 funds System Development and Demonstration (SDD) Phase activities for 9,18 and 36K IECUs. This program has no FY12 RDTE request.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Title:</b> Concept and Technology Development	0.626	1.500	-	-	-
<b>Articles:</b>	0	0			
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2010 Accomplishments:</b> Continue Concept and Technology Development					
<b>FY 2011 Plans:</b> Continue Concept and Technology Development					
<b>Title:</b> SDD for the 9, 18 and 36K IECUs.	3.630	3.043	-	-	-
<b>Articles:</b>	0	0			

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2010 Accomplishments:</b> Continue SDD for the 9, 18 and 36K IECUs.					
<b>FY 2011 Plans:</b> Continue SDD for the 9, 18 and 36K IECUs.					
<b>Title:</b> Small Business Innovative Research/Small Business Technology Transfer Program (SBIR/STTR) <b>Articles:</b>	0.137 0	-	-	-	-
<b>Description:</b> Small Business Innovative Research/Small Business Technology Transfer Program					
<b>FY 2010 Accomplishments:</b> Small Business Innovative Research/Small Business Technology Transfer Program					
<b>Accomplishments/Planned Programs Subtotals</b>	4.393	4.543	-	-	-

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPA 3: <i>OPA 3, Improved Environmental Control Units, MF9303</i>	13.055	11.453	10.109		10.109		0.386		13.238	Continuing	Continuing

**D. Acquisition Strategy**

The 9/18/36K IECU variants contract will be executed in four phases: 1) one year Cost-Plus-Fixed-Fee contract for the first phase of System Development and Demonstration (SDD), 2) two year CPFF contract to complete the SDD efforts, 3) an eight-month Firm-Fixed-Price (FFP) option for the Low Rate Initial Production (LRIP) phase, and 4) 5 one-year Fixed Price, Indefinite Delivery-Indefinite Quantity (IDIQ) options for the Full Rate Production (FRP) phase. During Phase I, two contractors will be required to design and fabricate two prototypes each for two government selected variants. These units will be subjected to limited testing. A down select based primarily on test results will be used by the Government to determine which contractor will continue development of all four variants in Phase II of the SDD effort. These variants will include four configurations: (1) 9K BTU/H, 115V, 1 phase, 60 Hertz; (2) 18K BTU/H, 208V, 3 phase, 60 Hz; (3) 18K BTU/H, 230V, 1 phase, 60 Hz; and (4) 36K BTU/H, 208V, 3 phase, 60 Hz.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>	<b>PROJECT</b> L47: <i>IMPROVED ENVIRONMENTAL</i> <i>CONTROL UNITS ED</i>

**E. Performance Metrics**

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



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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
9,18 and 36K IECU	Various	PM-MEP:various	-	0.509		-		-		-	Continuing	Continuing	Continuing
SBIR/STTR	Various	various:various	-	-		-		-		-	Continuing	Continuing	0.000
<b>Subtotal</b>			-	0.509		-		-		-			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
9, 18 and 36K IECU	Various	Various:TBD	-	1.534		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	1.534		-		-		-			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
9, 18 and 36K IECU	Various	CERDEC:Fort Belvoir, VA	-	0.900		-		-		-	Continuing	Continuing	Continuing
Concept & Technology Development	Various	CERDEC:Fort Belvoir, Va	-	1.500		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	2.400		-		-		-			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
9,18 and 36K IECU	Various	A TEC:various	-	0.100		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	0.100		-		-		-			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Army							<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>			<b>PROJECT</b> L47: <i>IMPROVED ENVIRONMENTAL</i> <i>CONTROL UNITS ED</i>			
	<b>Total Prior Years Cost</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>	-	4.543	-	-	-				

**Remarks**

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>
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	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
SDD Phase II	[REDACTED]																											
Conduct User Evaluation & Validation/ Verification	[REDACTED]																											
Milestone C Decision	[REDACTED]																											

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SDD Phase II	3	2010	4	2012
Conduct User Evaluation & Validation/Verification	2	2012	2	2012
Milestone C Decision	1	2013	1	2013

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>
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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
L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>	-	-	172.093	-	172.093	53.254	52.049	52.488	52.863	0.000	382.747
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Joint Light Tactical Vehicles (JLTV): Funding supports the development and testing of the JLTV Family of Vehicles (FoV), which is being developed as a joint system between the Army and Marine Corps. International participation will be offered during this phase. The JLTV goal is a FoV with companion trailers capable of performing multiple mission roles that will be designed to provide protected, sustained, networked mobility for personnel and payloads across the full Range of Military Operations (RoMO). JLTV objectives include increased protection and performance over the current fleet; minimizing ownership costs by maximizing commonality, fuel efficiency and other means; and maintaining effective competition throughout the lifecycle. Commonality of components, maintenance procedures, training, etc., between vehicles and trailers is expected to be inherent in FoV solutions within and across sub-configurations to minimize FoV total ownership cost. Unique service requirements have been minimized. This is a continuation of the JLTV program which was initiated for the Technology Development Phase. Funding was provided under PE 0603804A, Project L04 for FY11 and previous years.

During FY12, major budget activities are based upon an expected December 2011 Capability Development Document (CDD) approval and will support the Source Selection Evaluation Board (SSEB), multiple Engineering and Manufacturing Development (EMD) contracts, hull and ballistic coupon testing, government furnished equipment and program management support. FY12 funding increased from President's Budget (PB)11, \$66.8 million, to PB12, \$172.093 million as a result of requirement changes to the FoV, implementation of the Weapon System Acquisition Reform Act (point estimate to an 80% confidence cost estimate) and updated test estimates.

At the request of the House Armed Services Committee - Air and Land Forces, a separate and distinct funding line (0605812A-VU9) was established for JLTV. Transition of Project L50 funding to this newly established Program Element (PE) will occur in FY13.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Title:</b> Program Management	-	-	11.600	-	11.600
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2012 Base Plans:</b> For salaries, in-house, etc.					
<b>Title:</b> Variant Prototype Contract Design, Development and Fabrication	-	-	155.393	-	155.393

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>	<b>PROJECT</b> L50: <i>JOINT LIGHT TACTICAL VEHICLES</i> <i>(JLTV) - SDD</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2012 Base Plans:</b> For prototype design and development					
<b>Title:</b> Developmental Test and Evaluation	-	-	5.100	-	5.100
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2012 Base Plans:</b> For JLTV Test Support					
<b>Accomplishments/Planned Programs Subtotals</b>	-	-	172.093	-	172.093

<b>C. Other Program Funding Summary (\$ in Millions)</b>	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
• D15603: <i>Joint Light Tactical Vehicles (JLTV), Army OPA 1</i>							592.644	4.182	921.550	1,188.365	2,894.548
• 0603635M: <i>Marine Corps Ground Combat/Support Systems, RDTE Project 3209</i>			71.847		71.847		34.645	20.043	31.777	0.000	287.275
• 0206221M: <i>Marine Corps Ground Combat/Support Systems, Production</i>							14.765	147.754	236.941	0.000	399.460

**D. Acquisition Strategy**  
The JLTV Acquisition Strategy for the Engineering and Manufacturing Development (EMD) phase, FY12-16, is to award two full and open competition contracts to design, fabricate and test the full range of sub-configurations in sufficient quantities to validate all Capability Development Document requirements. International participation will be offered during this phase. Technology Readiness Level (TRL) 6 or higher is required. The fabricated prototypes will undergo Developmental Test, Reliability, Availability, Maintainability (RAM) testing, Limited User Test and Live Fire Testing.

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Contract Service Support	Various	BAH:Ft. Belvoir, VA	-	-		2.225		-		2.225	Continuing	Continuing	0.000
Contract Service Support	Various	ALION:Ft. Belvoir, VA	-	-		0.885		-		0.885	Continuing	Continuing	0.000
Contract Service Support	Various	Technomics/ Camber:Indian Head, MD	-	-		0.690		-		0.690	Continuing	Continuing	0.000
<b>Subtotal</b>			-	-		3.800		-		3.800			0.000

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
JLTV Systems Engineering Design & Development /GFE	Various	TBD:Various	-	-		22.689		-		22.689	Continuing	Continuing	0.000
Engineering and Manufacturing Development Contracts	Various	TBD:Various	-	-		106.604		-		106.604	Continuing	Continuing	0.000
JLTV Source Selection Evaluation Board	Various	TBD:Various	-	-		15.200		-		15.200	Continuing	Continuing	0.000
JLTV Program Management	Various	TACOM:Warren, MI	-	-		11.600		-		11.600	Continuing	Continuing	0.000
<b>Subtotal</b>			-	-		156.093		-		156.093			0.000

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
JLTV Prototype Design	Various	TACOM:Warren, MI	-	-		2.850		-		2.850	Continuing	Continuing	0.000
JLTV Prototype Design	Various	TARDEC:Warren, MI	-	-		3.450		-		3.450	Continuing	Continuing	0.000
JLTV Prototype Design	Various	TBD:Various	-	-		0.800		-		0.800	Continuing	Continuing	0.000
<b>Subtotal</b>			-	-		7.100		-		7.100			0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2012 Army</b>										<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>				<b>PROJECT</b> L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>					
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
JLTV Live Fire Test and Evaluation	Various	TBD:Various	-	-		5.100		-		5.100	Continuing	Continuing	0.000
<b>Subtotal</b>			-	-		5.100		-		5.100			0.000
			<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	-		172.093		-		172.093			0.000

**Remarks**



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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>			<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>		<b>PROJECT</b> L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>	

	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
CDD Army, Marine Corps, and Joint Req Oversight Staffing																												
CDD Joint Req Oversight Com																												
Source Selection Evaluation Board (SSEB)																												
MS B (Eng & Man Development)																												
EMD Contract Award																												
EMD Development Contract																												
EMD Test and Validation / Report																												
MS C (Production & Deployment)																												
LRIP Contract Award																												

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>	<b>PROJECT</b> L50: <i>JOINT LIGHT TACTICAL VEHICLES</i> <i>(JLTV) - SDD</i>
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Schedule Details

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>
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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
VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>	-	-	2.546	-	2.546	1.726	1.635	1.725	1.861	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project supports the System Development and Demonstration (SDD) of critical distribution and sustainment capabilities to include base camp subsystems, field shelters, showers, latrines, heaters, mortuary affairs systems, camouflage systems, organizational equipment, and other combat service support equipment to fill identified theater distribution and services capability gaps, improve unit sustainability, and increase combat effectiveness. Project supports development of expeditionary tactical field systems and support equipment to improve safety, effectiveness, and efficiency of deployed soldiers. This project develops critical enablers that support the Quartermaster (QM) Force Transformation Strategy and the Army's Modular Force Capabilities by maintaining readiness through fielding and integrating new equipment. This project also ensures Army Expeditionary Forces are capable of rapid deployment and reduces sustainment requirements, related Combat Support/Combat Service Support (CS/CSS), lift demands, the combat zone footprint, and costs for logistical support.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> Pyrolysis Waste Disposal System (PWDS)</p> <p><b>Description:</b> The PWDS is a containerized solid waste disposal system with energy reclamation that utilizes pyrolysis technology (low oxygen thermal destruction) to process several waste streams that include plastic, cardboard, paper, metal cans, medical and sanitary, liquid oil, sewage sludge and food waste in a single waste management machine. Key benefits of pyrolysis over competing technologies include that it requires very little input to operate, has the ability to export energy, and requires minimal water to cool the system. This program will transition the system into production to procure the PWDS for the Army's Force Provider base camp systems.</p> <p><b>FY 2012 Base Plans:</b> Complete logistic requirements and obtain Milestone C Type Classification of the PWDS.</p>	-	-	1.070	-	1.070
<p><b>Title:</b> Human Remains Temperature Controlled Transfer Case (HRTC2)</p> <p><b>Description:</b> The HRTC2 is a replacement for the current aluminum case for transporting remains from a theater of operation to CONUS that incorporates insulation and refrigeration to provide optimal temperature control and eliminate use of ice and the need for reicing enroute.</p> <p><b>FY 2012 Base Plans:</b></p>	-	-	0.600	-	0.600

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer</i> <i>Equipment - Eng Dev</i>	<b>PROJECT</b> VR7: <i>COMBAT SERVICE SUPPORT</i> <i>SYSTEMS</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Complete Operational Testing (OT) and obtain Milestone C Type Classification of the HRTC2.					
<b>Title:</b> Modular Ballistic Protection System (MBPS) <b>Description:</b> MBPS is a lightweight, rapidly deployable and reusable ballistic protection system that can be installed in commonly used military shelters in expeditionary and remote base camps and outposts where more robust forms of ballistic protection (i.e. sandbags, concrete barriers) are not readily available or logistically feasible. <b>FY 2012 Base Plans:</b> Conduct Operational Testing (OT) on Tent Extendable Modular Personnel (TEMPER) version of the Modular Ballistic Protection System (MBPS)	-	-	0.651	-	0.651
<b>Title:</b> Family of Space Heaters <b>Description:</b> The family of Army Space Heaters support soldiers operating in basic, cold and extreme cold environments with a safe, portable, lightweight, multi-fueled, self-powered, space heaters for use in multiple tents and/or expeditionary shelters that do not require an external power source. These heaters provide the much needed capability of providing heated air effectively and efficiently while eliminating the shortcomings of the antiquated, dangerous and inefficient heaters they are replacing in the inventory. <b>FY 2012 Base Plans:</b> Execute Pre-Planned Product Improvement (P3I) effort on the family of Space Heaters to improve on fuel efficiency	-	-	0.225	-	0.225
<b>Accomplishments/Planned Programs Subtotals</b>	-	-	2.546	-	2.546

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 643804 K39: <i>Field Sustainment AD, 643804 K39</i>	14.690	18.908	2.952		2.952		3.150	3.330	3.070	Continuing	Continuing
• 643804 VR8: <i>Combat Service Support Systems AD, 643804 VR8</i>			2.042		2.042		1.986	2.015	2.347	Continuing	Continuing
	4.349	5.804	4.230		4.230		2.452	2.392	2.304	Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>
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**C. Other Program Funding Summary (\$ in Millions)**

Line Item	FY 2010	FY 2011	<u>FY 2012</u> Base	<u>FY 2012</u> OCO	<u>FY 2012</u> Total	FY 2013	FY 2014	FY 2015	FY 2016	<u>Cost To</u> Complete	<u>Total Cost</u>
• 654804 L39: <i>Field Sustainment Support ED, 654804 L39</i>											

**D. Acquisition Strategy**

Accelerate product development and testing to transition into production.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Project Management Support	Various	PM Force Sustainment Systems:Natick, MA	-	-		0.239		-		0.239	Continuing	Continuing	0.000
<b>Subtotal</b>			-	-		0.239		-		0.239			0.000

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Soldier Support Equipment	Various	Various:Various	-	-		1.323		-		1.323	Continuing	Continuing	0.000
<b>Subtotal</b>			-	-		1.323		-		1.323			0.000

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Soldier Support Equipment	Various	Various:Various	-	-		0.984		-		0.984	Continuing	Continuing	0.000
<b>Subtotal</b>			-	-		0.984		-		0.984			0.000

			<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	-		2.546		-		2.546			0.000

**Remarks**

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>
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	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
Conduct logisitics requirements on PWDS																												
Obtain Milestone C TC on PWDS																												
Conduct OT on HRTC2																												
Obtain Milestone C TC on HRTC2																												
Complete evaluation on Net-Zero energy efficiency solutions																												
Conduct OT on TEMPER version of the MBPS																												
Transition Zero-Footprint Base Camp capabilities into Joint Base Camp systems																												
Conduct OT on external framed MBPS																												
Transition MBPS capability into Base Camp systems																												
Obtain Milestone C TC on Mobile Integrated Shop Shelter System																												
Conduct OT SoS Base Camp Efficiency & Environ Combat Outpost																												
Conduct OT on ULCANS mobility variants																												

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	<b>PROJECT</b> VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Conduct logisitcs requirements on PWDS	3	2011	2	2012
Obtain Milestone C TC on PWDS	3	2012	3	2012
Conduct OT on HRTC2	1	2012	1	2012
Obtain Milestone C TC on HRTC2	3	2012	3	2012
Complete evaluation on Net-Zero energy efficiency solutions	4	2012	1	2013
Conduct OT on TEMPER version of the MBPS	2	2012	3	2012
Transition Zero-Footprint Base Camp capabilities into Joint Base Camp systems	4	2013	3	2016
Conduct OT on external framed MBPS	3	2013	3	2014
Transition MBPS capability into Base Camp systems	4	2013	1	2014
Obtain Milestone C TC on Mobile Integrated Shop Shelter System	1	2015	1	2015
Conduct OT SoS Base Camp Efficiency & Environ Combat Outpost	4	2015	3	2016
Conduct OT on ULCANS mobility variants	1	2016	3	2016



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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	57.040	90.736	137.811	-	137.811	33.492	18.583	18.178	17.216	Continuing	Continuing
485: <i>Info Standards Interop Eng/ Joint Interop Cert</i>	9.781	10.008	19.769	-	19.769	13.900	13.128	14.013	14.076	Continuing	Continuing
589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>	47.259	10.100	-	-	-	-	-	-	-	Continuing	Continuing
593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>	-	70.628	118.042	-	118.042	19.592	5.455	4.165	3.140	0.000	221.022

**A. Mission Description and Budget Item Justification**

This Program Element (PE) supports efforts to develop interoperability of Army programs and products, horizontally and vertically for the digitized battlefield. Project D485 supports Information Standards Interoperability Engineering and Joint Interoperability Certification. It provides the critical elements of the Army/Joint Technical Architecture, the mandated standards and communication protocols for Army/Joint ground and air operations, and crucial certification test tools to evaluate systems' interoperability for the Warfighter in support of the Vice Chief of Staff of the Army (VCSA) and Army Acquisition Executive (AAE). It also provides Joint certification testing and certification recommendations to the Joint Chiefs of Staff (JCS) for Army systems. This Army-wide effort directly supports the management, oversight, development, maintenance, and interoperability at the Army enterprise level C4I/IT (Command, Control, Communications, Computers, and Intelligence/Information Technology) architecture efforts required to implement Unit Set Fielding (USF), Software Blocking (SWB) Policy and Army Knowledge Management.

Project D589 Army Systems Engineering (ASE) & Warfighter Technical Support provides essential technology expertise on all Systems Engineering and Technical Architecture (SE/TA) matters critical to gain Information Dominance and foster interoperability among all Army systems.

Project D593, Joint Battle Command - Platform (JBC-P) funds the Systems Engineering, Software Development and Testing of JBC-P. Joint Battle Command - Platforms (JBC-P), which includes Blue Force Tracking (BFT) 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 (NOC), Tactical Operation Centers (TOCs), Brigade Command Posts) and enables mission accomplishment across the entire spectrum of military operations.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	58.739	90.789	49.071	-	49.071
Current President's Budget	57.040	90.736	137.811	-	137.811
Total Adjustments	-1.699	-0.053	88.740	-	88.740
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-0.273			
• Adjustments to Budget Years	-0.051	-	56.148	-	56.148
• Other Adjustments 1	-1.648	0.220	-	-	-
• Other Adjustments 2	-	-	19.753	-	19.753
• Other Adjustments 3	-	-	12.839	-	12.839

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army									<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>				<b>PROJECT</b> 485: <i>Info Standards Interop Eng/Joint Interop Cert</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
485: <i>Info Standards Interop Eng/Joint Interop Cert</i>	9.781	10.008	19.769	-	19.769	13.900	13.128	14.013	14.076	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

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

To support the Army Vice Chief of Staff (VCSA) and the Army Chief Information Officer/G6, as cited in the AEA Master Plan, this initiative fulfills the Clinger-Cohen Act mandate of developing sound integrated Information Technology (IT) architectures and the Army's Software Blocking Policy. The increased combat power of the Future Force will be dependent on the information superiority of network & knowledge centric warfare and the ability of systems to be fully -interoperable as a member of the joint, multinational, interagency team as well as emerging Future Force (FF) C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) Systems. It identifies and reduces interoperability issues earlier in the life cycle by intra-Army/FF/Joint/combined experiments and assessments, and through the establishment & sustainment of common standards. This Army wide effort directly supports the management, oversight, development, maintenance, and interoperability of the Army enterprise level C4/IT architecture efforts required to implement Software Blocking and Army Enterprise Architecture (AEA). Specifically, this project resources the Army's messaging standards conformance authority in assessing compliance with the Defense Information Systems Repository (DISR), in meeting the warfighter information exchange requirements and in facilitating their interoperability. It also resources, in accordance with the DISR, the development and maintenance of the following information standards: Variable Message Format (VMF) & Combat Net Radio (CNR) protocol, which support Army/Joint ground operations; Tactical Digital Information Links (TADILs), which support Air Defense operations; and US Message Text Format (USMTF), which support Intel and Commanders operations. It provides the Army's lead for configuration management functions of these standards and test tools at both Army and Joint levels. This project resources the Army participation in joint/allied messaging certification testing & configuration management processes. This project also resources the development and fielding of a suite of four (4) crucial tools which are used throughout the entire Army. These tools which are currently under development will provide the ideal means to: a) validate Technical Architecture/Technical Reference Model (TA/TRM) critical messaging and protocol standards; b) improve systems interoperability; c) verify/certify correct system implementations and interpretation to TA/TRM; d) sustain/support digitization and transition of fielded systems; e) support Software Blocking and interoperability testing; f) provide Legacy AEA interoperability with Future Combat System (FCS) command and control systems. These crucial tools are critical to the TA/TRM Compliance, Certification Testing mission & Interoperability programs. The task also supports the Army's transformation campaign while mitigating interoperability issues resulting in reducing cost & program slippages. This project also provides the Configuration Management & Control for the Software Blocking (SWB)/USF (Unit Set Fielding).

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 485: <i>Info Standards Interop Eng/Joint Interop Cert</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> C4ISR</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funds to support the following effort</p> <p><b>FY 2010 Accomplishments:</b> Develop and update architecture standards and protocols necessary to ensure C4ISR systems interoperability</p> <p><b>FY 2011 Plans:</b> Develop and update architecture standards and protocols necessary to ensure C4ISR systems interoperability</p> <p><b>FY 2012 Base Plans:</b> Develop and update architecture standards and protocols necessary to ensure C4ISR systems interoperability</p>	2.938 0	3.045 0	4.882	-	4.882
<p><b>Title:</b> Army Warfighter Information Standards</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funds to support the following effort</p> <p><b>FY 2010 Accomplishments:</b> Engineer, develop &amp; publish Army Warfighter Information Standards (i.e. XML-USMTF/VMF,Wireless XML, database exchange, etc...) incorporating DoD standards requirements.</p> <p><b>FY 2011 Plans:</b> Engineer, develop &amp; publish Army Warfighter Information Standards (i.e. XML-USMTF/VMF,Wireless XML, database exchange, etc...) incorporating DoD standards requirements.</p> <p><b>FY 2012 Base Plans:</b> Engineer, develop &amp; publish Army Warfighter Information Standards (i.e. XML-USMTF/VMF,Wireless XML, database exchange, etc...) incorporating DoD standards requirements.</p>	2.006 0	2.011 0	4.882	-	4.882
<p><b>Title:</b> technical architecture standards requirements</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funds to support the following efforts</p> <p><b>FY 2010 Accomplishments:</b></p>	2.206 0	2.270 0	4.882	-	4.882

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army			<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 485: <i>Info Standards Interop Eng/Joint Interop Cert</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Identify, analyze, and provide solutions to gaps in technical architecture standards requirements <b>FY 2011 Plans:</b> Identify, analyze, and provide solutions to gaps in technical architecture standards requirements <b>FY 2012 Base Plans:</b> Identify, analyze, and provide solutions to gaps in technical architecture standards requirements					
<b>Title:</b> Army Net-Centric Enterprise Service <b>Articles:</b>	2.307 0	2.373 0	4.813	-	4.813
<b>Description:</b> Funds to support the following effort <b>FY 2010 Accomplishments:</b> Develop and engineer Army Net-Centric Enterprise Service standards and protocols supporting OSD Global Information Grid messaging requirements and serve as Army focal point for messaging working group. <b>FY 2011 Plans:</b> Develop and engineer Army Net-Centric Enterprise Service standards and protocols supporting OSD Global Information Grid messaging requirements and serve as Army focal point for messaging working group. <b>FY 2012 Base Plans:</b> Develop and engineer Army Net-Centric Enterprise Service standards and protocols supporting OSD Global Information Grid messaging requirements and serve as Army focal point for messaging working group.					
<b>Title:</b> Knowledge Center Development <b>Articles:</b>	0.324 0	0.309 0	0.310	-	0.310
<b>Description:</b> Funds to support the following effort <b>FY 2010 Accomplishments:</b> Knowledge Center Development - Build & update as necessary access to website repositories for key policies, directives, and architecture products. <b>FY 2011 Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 485: <i>Info Standards Interop Eng/Joint Interop Cert</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Knowledge Center Development - Build & update as necessary access to website repositories for key policies, directives, and architecture products.					
<b><i>FY 2012 Base Plans:</i></b> Knowledge Center Development - Build & update as necessary access to website repositories for key policies, directives, and architecture products					
<b>Accomplishments/Planned Programs Subtotals</b>	9.781	10.008	19.769	-	19.769

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

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

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 485: <i>Info Standards Interop Eng/Joint Interop Cert</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Labor	Various	USACECOM, :Ft. Monmouth, NJ	37.103	10.008		19.769		-		19.769	Continuing	Continuing	Continuing
Travel	Various	USACECOM, :Ft. Monmouth, NJ	0.457	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			37.560	10.008		19.769		-		19.769			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support	Various	Arinc, :various	5.699	-		-		-		-	Continuing	Continuing	Continuing
Development Support	Various	Telos, :various	4.581	-		-		-		-	Continuing	Continuing	Continuing
Development Support	Various	CSC, :various	1.963	-		-		-		-	Continuing	Continuing	Continuing
Development Support	Various	C3I, :various	1.374	-		-		-		-	Continuing	Continuing	Continuing
Development Support	Various	Mitre, :various	0.280	-		-		-		-	Continuing	Continuing	Continuing
Development Support/ Army Enterprise Applications Architecture	Various	Binary, :various	0.046	-		-		-		-	Continuing	Continuing	Continuing
Development Support-Knowledge Center	Various	ITEL, :various	1.198	-		-		-		-	Continuing	Continuing	Continuing
Development Support	Various	ITEL, :various	2.640	-		-		-		-	Continuing	Continuing	Continuing
Development Support	Various	Northrop Grumman (SEC SSES), :various	2.579	-		-		-		-	Continuing	Continuing	Continuing
Technical Support	Various	TFE, :various	0.095	-		-		-		-	Continuing	Continuing	Continuing
Technical Support	Various	Marconi, :various	0.183	-		-		-		-	Continuing	Continuing	Continuing
Equipment	Various	USACECOM, :various	0.485	-		-		-		-	Continuing	Continuing	Continuing
Equipment (Development Support)	Various	GTE, :various	0.106	-		-		-		-	Continuing	Continuing	Continuing
Telecommunications	Various	USASC, :various	1.145	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			22.374	-		-		-		-			

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 485: <i>Info Standards Interop Eng/Joint Interop Cert</i>
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Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost				

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

	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	59.934	10.008		19.769		-		19.769			

**Remarks**



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>
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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
589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>	47.259	10.100	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

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

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

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>
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The allocated resources fund two support efforts for CIO/G6. First, subsequent to the development of the AKEA (Army Knowledge Enterprise Architecture) Guidance Document, the effort has shifted to development of the Army Technical Reference Model (TRM) for information broker/mediation services, and mapping the Army's architecture requirements to DOD Information Enterprise Architecture, including NCES (Net-Centric Enterprise Services). Second, support of the design and development of the AAIC (Army Architecture Integration Center) Web-based Knowledge Center continues with increased development requirements and functionality, including the consolidation of architectural repositories, design of the CADIE Repository and acting as the Army's agent for Defense Architecture Repository-Army (DARS) database.

Joint Battle Command - Platforms (JBC-P), which includes Blue Force Tracking (BFT) 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 (NOC), TOCs, Brigade Command Posts) and enables mission accomplishment across the entire spectrum of 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). JBC-P enhances Joint Combat Identification to increase combat effectiveness and reduce fratricide in a secure environment. It enables Joint, Net-Centric Command and Control (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 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 transceivers/antennas), encryption devices, and ancillary equipment (e.g., Mission Data Loader, Disc Duplicator, cables, installation kits, etc.).

JBC-P RDT&E Funding began in FY10. FY10 RDTE funding is shown in this Program Element (654805) and Project No. (589).

Beginning in FY11, JBC-P RDT&E funding will be shown in Program Element 654805, Project No. 593.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> C4ISR</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Analyze and provide Systems Engineering solutions to fill in gaps identified in C4ISR systems under development as well as fielded systems.</p> <p><b>FY 2011 Plans:</b> Analyze and provide Systems Engineering solutions to fill in gaps identified in C4ISR systems under development as well as fielded systems.</p>	<p>3.104</p> <p>0</p>	<p>3.180</p> <p>0</p>	<p>-</p>	<p>-</p>	<p>-</p>
<b>Title:</b> Joint Technical Architecture (JTA)	0.417	0.416	-	-	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
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<b><i>FY 2010 Accomplishments:</i></b> Research and incorporate applicable emerging open standards-based commercial technologies to influence future force systems. Ensure that open commercial standards adopted by Future Force enabling systems are reflected in the DISR baseline. Maintain subject matter expertise on DISR, Defense Standards Repository Information Technology (IT) standards' mandates to ensure current and future force systems remain interoperable. Ensure a logical and cost-effective evolution of TA baselines while maximizing Joint interoperability.					
<b><i>FY 2011 Plans:</i></b> Research and incorporate applicable emerging open standards-based commercial technologies to influence future force systems. Ensure that open commercial standards adopted by Future Force enabling systems are reflected in the DISR baseline. Maintain subject matter expertise on DISR, Defense Standards Repository Information Technology (IT) standards' mandates to ensure current and future force systems remain interoperable. Ensure a logical and cost-effective evolution of TA baselines while maximizing Joint interoperability.					
<b><i>Title:</i></b> DISR Compliance Requirements  <b><i>Description:</i></b> Funding is provided for the following effort	0.729 <b><i>Articles:</i></b> 0	0.729 0	-	-	-
<b><i>FY 2010 Accomplishments:</i></b> DISR Compliance Requirements -Ensure Program Managers have an executable and effective strategy for implementing the Army/DoD Technical Architecture standards.					
<b><i>FY 2011 Plans:</i></b> DISR Compliance Requirements -Ensure Program Managers have an executable and effective strategy for implementing the Army/DoD Technical Architecture standards.					
<b><i>Title:</i></b> Army Enterprise Technical Views  <b><i>Description:</i></b> Funding is provided for the following effort	1.666 <b><i>Articles:</i></b> 0	1.506 0	-	-	-
<b><i>FY 2010 Accomplishments:</i></b>					



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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
current technology agreements with various technology developers such as HP, Cisco, Microsoft and Telecordia. In addition, PING represented the ARMY CIO/G6 office at various ASD (NII)/DoD CIO meetings discussing DoD IPv6 policy and Transition Planning, participated with JITC at DISA's Def Interop Comm Exercise 2003 (DICE 2003) demonstrating IPv6 interoperability, active member of DoD IPv6 Test Bed evaluating and testing IPv6 benefits and trade-offs, first Army lab participating with North American IPv6 Task Forces MoonV6 initiative, drafted ARmy's Phase I IPv6 Transition plan and initial transition strategy to migrate Army systems and networks to native IPv6 by FY08 in compliance with DoD policy, prepared evaluation criteria for selecting early IPv6 adopter candidates in support of the Army GIO/G6 office, hosted first Army IPv6 data call to collect systems impact information and baseline on Army IPv6 transition plan, provided IPv6 technical guidance and knowledge to the Army acquisition community.					
<p><b>Title:</b> Define and exploit</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Define and exploit (through analysis) the relationships between architectural views to provide quantitative answers to complex questions regarding the Army's future capabilities and the roadmap the Army will pursue in realizing them.</p> <p><b>FY 2011 Plans:</b> Define and exploit (through analysis) the relationships between architectural views to provide quantitative answers to complex questions regarding the Army's future capabilities and the roadmap the Army will pursue in realizing them.</p>	0.729 0	0.729 0	-	-	-
<p><b>Title:</b> Joint Blue Force Situational Awareness (JBFSA) initiative</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Provide systems engineering solutions including technical architectures for Army systems supporting Joint Blue Force Situational Awareness (JBFSA) initiative</p> <p><b>FY 2011 Plans:</b></p>	0.958 0	1.041 0	-	-	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
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Provide systems engineering solutions including technical architectures for Army systems supporting Joint Blue Force Situational Awareness (JBFS A) initiative

<p><b>Title:</b> JBC-P Software Development</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Develop Capabilities, Product Applications, Platform Interoperability, and System Services across the JBC-P family of systems, to include the development of capabilities to meet Key Performance Parameters (KPPs) and in support of Multi-Level Security Domains for Network, Users, and Information.</p> <p><b>FY 2010 Accomplishments:</b> Develop Capabilities, Product Applications, Platform Interoperability, and System Services across the JBC-P family of systems, to include the development of capabilities to meet Key Performance Parameters (KPPs) and in support of Multi-Level Security Domains for Network, Users, and Information.</p>	18.329 0	-	-	-	-
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<p><b>Title:</b> JBC-P Software Engineering</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Perform Software/Systems Engineering in support of the Development of JBC-P Capabilities, Applications, and Services, to include, but not limited to, Conducting Engineering Studies, Architecture Development (both Software and Network), Systems Analyses, Technical Readiness Assessments, Technical Interchange Meetings/Events, and Development of Related Reports and other Deliverables.</p> <p><b>FY 2010 Accomplishments:</b> Perform Software/Systems Engineering in support of Development of JBC-P Capabilities, Applications, and Services, to include, but not limited to, Conducting Engineering Studies, Architectural Development (both Software and Network), Systems Analyses, Technical Readiness Assessments, Technical Interchange Meeting Events, and Development of Related Reports and other Deliverables.</p>	12.500 0	-	-	-	-
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<p><b>Title:</b> JBC-P Prototype Development</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Design, Develop, and Procure Prototypes for Platform Dismountable Product, Standalone Dismounted Handheld Product, Beacon Product, Embedded Encryption, and Satellite Transceiver.</p> <p><b>FY 2010 Accomplishments:</b></p>	1.100 0	-	-	-	-
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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Design, Develop and Procure Prototypes for Platform Dismountable Product, Standalone Dismounted Handheld Product, Beacon Product, Embedded Encryption, and Satellite Transceiver.					
<b>Title:</b> JBC-P Test and Integration  <b>Description:</b> Develop and Conduct JBC-P Integration Test Events  <b>FY 2010 Accomplishments:</b> Develop and Conduct JBC-P Integration Test Events	1.100 0	-	-	-	-
<b>Title:</b> JBC-P System Engineering/Program Management  <b>Description:</b> JBC-P System Engineering/Program Management for PM FBCB2 Program Office Personnel, including Core, Matrix, and Contractor Support Personnel.  <b>FY 2010 Accomplishments:</b> JBC-P System Engineering/Program Management for PM FBCB2 Program Office Personnel, including, Core, Matrix, and Contractor Support Personnel.	3.042 0	-	-	-	-
<b>Title:</b> Small Business Innovative Research/Small Business Technology Transfer Programs  <b>Description:</b> Funding to Support Small Business Innovative Research/Small Business Technology Transfer Programs  <b>FY 2010 Accomplishments:</b> Funding to Support Small Business Innovative Research and Small Business Technology Transfer Programs.	1.086 0	-	-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	47.259	10.100	-	-	-



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

The JBC-P program was Joint Requirements Oversight Council (JROC) approved in May 2008. The Acquisition Strategy Report (ASR) was approved in September 2009. An Acquisition Decision Memorandum, approving a Modified Milestone B and entry into the Engineering and Manufacturing Development phase, was issued in September 2009.

RDTE funding for JBC-P began in FY10.

The FY10 JBC-P RDTE program funding is in this Program Element (654805) and Project Number (589).

Beginning in FY11, JBC-P RDTE program funding will be shown in Program Element 654805, Project Number 593.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Systems Engineering Support	Various	ASEO, DCTS, PING/03 only,:various	23.516	5.944		-		-		-	Continuing	Continuing	Continuing
Contract Support 1	Various	C3ISGI,:various	3.080	-		-		-		-	Continuing	Continuing	Continuing
Contract Support 2	Various	TRW,:various	1.281	-		-		-		-	Continuing	Continuing	Continuing
Overhead	Various	ASEO/WTS CECOM,:various	1.422	-		-		-		-	Continuing	Continuing	Continuing
Contract Systems Engineering Support	Various	Battelle,:various	0.354	-		-		-		-	Continuing	Continuing	Continuing
System Development and Integration	Various	PEO C3S, PM TOCS,:Ft. monmouth, NJ	0.025	-		-		-		-	Continuing	Continuing	Continuing
Travel	Various	SEC, USACECOM,:various	0.145	0.025		-		-		-	Continuing	Continuing	Continuing
Development Support	Various	Northrop Grummon (SEC SSES),:various	0.300	0.050		-		-		-	Continuing	Continuing	Continuing
Contract Systems Engineering Support	Various	SRI,:various	0.199	-		-		-		-	Continuing	Continuing	Continuing
Labor (Internal Government)	Various	SEC, USACECOM,:various	5.174	0.856		-		-		-	Continuing	Continuing	Continuing
Equipment	Various	USACECOM,:various	0.030	0.005		-		-		-	Continuing	Continuing	Continuing
Development Support	Various	ITEL,:various	0.300	0.050		-		-		-	Continuing	Continuing	Continuing
Contract Support 3	Various	Lockheed Martin,:various	0.545	-		-		-		-	Continuing	Continuing	Continuing
Contract Support 4	Various	SAIC,:various	1.811	-		-		-		-	Continuing	Continuing	Continuing
Contract Systems Engineering Support	Various	SRC,:various	0.612	-		-		-		-	Continuing	Continuing	Continuing
Contract Systems Engineering Support	Various	MITRE,:various	9.177	0.350		-		-		-	Continuing	Continuing	Continuing
Systems Engineering and Integration	Various	WTS - ISIO CECOM,:various	2.341	-		-		-		-	Continuing	Continuing	Continuing
Contract Support	Various	Datron,:various	0.305	-		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Contract Systems Engineering Support	Various	Gemini,:various	0.137	-		-		-		-	Continuing	Continuing	Continuing
Development Support-Knowledge Center	Various	ITEL,:various	0.849	-		-		-		-	Continuing	Continuing	Continuing
Contract Support	Various	Rutgers University,:various	0.528	-		-		-		-	Continuing	Continuing	Continuing
Contract Systems Engineering Support	Various	Suntek Systems,:various	0.460	-		-		-		-	Continuing	Continuing	Continuing
Contract Systems Engineering Support	Various	HTPi,:various	0.145	-		-		-		-	Continuing	Continuing	Continuing
Contract Support	Various	Telos,:various	0.024	-		-		-		-	Continuing	Continuing	Continuing
Engineering Support	Various	ISEC,:various	1.357	-		-		-		-	Continuing	Continuing	Continuing
Contract Support	Various	PTG/CACI,:various	0.026	-		-		-		-	Continuing	Continuing	Continuing
Contract Systems Engineering Support	TBD	Litton,:TBD	0.970	0.240		-		-		-	Continuing	Continuing	Continuing
Contract Support	TBD	CSC,:TBD	1.746	-		-		-		-	Continuing	Continuing	Continuing
Contract Support	TBD	BAE,:TBD	0.139	-		-		-		-	Continuing	Continuing	Continuing
Contract Support	TBD	Janus Research Group,:TBD	0.072	-		-		-		-	Continuing	Continuing	Continuing
Contract Systems Engineering Support	TBD	CSC,:TBD	20.506	2.500		-		-		-	Continuing	Continuing	Continuing
Contract Systems Engineering Support	TBD	GTE/BBN,:TBD	0.960	-		-		-		-	Continuing	Continuing	Continuing
Travel	TBD	ASEO/WTS CECOM,:TBD	1.856	0.080		-		-		-	Continuing	Continuing	Continuing
Development of software based VOIP	TBD	TBD:TBD	2.400	-		-		-		-	Continuing	Continuing	Continuing
JBC-P Software Development	MIPR	Software Engineering Directorate (SED):Huntsville, AL	-	-		-		-		-	Continuing	Continuing	Continuing
JBC-P Software/Systems Engineering	MIPR		-	-		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Software Engineering Center (SEC):Huntsville, AL											
JBC-P Hardware Development	MIPR	SED:Huntsville, AL	-	-				-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			82.792	10.100				-		-			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JBC-P PM Office Support	Various	PM FBCB2 PMO:various	-	-				-		-	Continuing	Continuing	Continuing
JBC-P Matrix Support	Various	PM FBCB2 PMO:various	-	-				-		-	Continuing	Continuing	Continuing
JBC-P Miscellaneous Contractor Support	Various	CACI:various	-	-				-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	-				-		-			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JBC-P Contractor Test Support	MIPR	SED, Redstone Arsenal:Huntsville, AL	-	-				-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	-				-		-			

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			82.792	10.100				-		-			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army							DATE: February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>			<b>PROJECT</b> 589: <i>ARMY SYS ENGINEERING &amp; WARFIGHTING TECH SUP</i>			
	<b>Total Prior Years Cost</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Remarks</b>									

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>
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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
593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>	-	70.628	118.042	-	118.042	19.592	5.455	4.165	3.140	0.000	221.022
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Joint Battle Command - Platforms (JBC-P), which includes Blue Force Tracking (BFT) 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 (NOC), Tactical Operation Centers (TOCs), Brigade Command Posts) and enables mission accomplishment across the entire spectrum of 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). JBC-P enhances Joint Combat Identification to increase combat effectiveness and reduce fratricide in a secure environment. It enables Joint, Net-Centric Command and Control (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 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 transceivers/antennas), encryption devices (e.g., KGV-72), and ancillary equipment (e.g., Mission Data Loader, Disc Duplicator, cables, installation kits, etc.).

JBC-P RDTE Funding began in FY10. FY10 RDTE funding is shown in Program Element (654805) and Project No. (589).

Beginning in FY11, JBC-P RDTE funding will be shown in this Program Element (654805) and Project No. (593).

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Title:</b> Software Development	-	28.000	33.600	-	33.600
<b>Articles:</b>		0			
<b>Description:</b> Develop Capabilities, Product Applications, Platform Interoperability, and System Services across the JBC-P family of systems, to include the development of capabilities to meet Key Performance Parameters (KPPs) and in support of Multi-Level Security Domains for Network, Users, and Information.					
<b>FY 2011 Plans:</b> Develop Capabilities, Product Applications, Platform Interoperability, and System Services across the JBC-P family of systems, to include the development of capabilities to meet Key Performance Parameters (KPPs), and in support of Multi-Level Security Domains for Network, Users, and Information.					
<b>FY 2012 Base Plans:</b>					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<p>Complete Software System Acceptance Test (SSAT) for product build 2 for Capability Set 13-14 software and deliver to PM. Complete engineering, design, development, coding and SSAT for Build 3 of product software (vehicle, network operations center, command post, NETT Warrior products and incorporation of Movement Tracking System functionality into JBC-P) for Capability Set 13-14 and deliver to PM. In order to meet timelines for the Army's Capability Set 15-16 fielding cycle, begin Software Development in Fiscal Year 2012. Initiate engineering, design and coding for Capability Set 15-16 Core/Product Development Kit (PDK) software. Complete engineering, design and coding for product builds 4 through 6 to complete all threshold Key System Attributes and to fully meet the Key Performance Parameters outlined in the Capability Development Document for all of the products. Continue development of functionality for aviation platforms, including work needed for convergence of Ground and Air Command and Control (C2) and Situational Awareness (SA) and to successfully complete DO178B airworthiness qualification testing. Conduct User Juries to gain user feedback on the software. Include Marine Corps participation in working groups and integrated product/process teams and provide software builds to the Marine Corps as required for testing to ensure Marine Corps requirements are included and adequately addressed throughout the software development effort.</p> <p><b>Title:</b> Software Engineering</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Perform Software/Systems Engineering in support of the development of JBC-P Capabilities, Applications, and Services, to include, but not limited to, Conducting Engineering Studies, Architecture Development (both Software and Network), System Analyses, Technical Readiness Assessments, Technical Interchange Meetings/Events, and development of Related Reports and other deliverables.</p> <p><b>FY 2011 Plans:</b> Perform Software/Systems Engineering in support of the development of JBC-P capabilities, Applications, and Services, to include, but not limited to, Conducting Engineering Studies, Architecture Development (both Software and Network), System Analyses, Technical Readiness Assessments, Technical Interchange Meetings/Events, and development of Related Reports and other deliverables.</p> <p><b>FY 2012 Base Plans:</b> In order to meet timelines for the Army's Capability Set 15-16 fielding cycle, begin Software and System Engineering in Fiscal Year 2012. Begin planning, requirements analysis, system architecture and Family of Systems (FoS) engineering for Capability Set 15-16 software. Begin security engineering including security</p>	-	20.000 0	12.800	-	12.800

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army			<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
certification and accreditation plan, safety engineering and FoS definition study and prototyping. Begin development of System/Subsystem specification for Capability Set 15-16 software.					
<p><b>Title:</b> Prototype Manufacturing</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Design, Develop and Procure Prototypes for Platform Dismountable Product, Standalone Dismounted Handheld Product, and Beacon Product, Embedded Encryption and Satellite Transceiver</p> <p><b>FY 2011 Plans:</b> Design, Develop and Procure Prototypes for Platform Dismountable Product, Standalone Dismounted Handheld Product, and Beacon Product, Embedded Encryption and Satellite Transceiver.</p> <p><b>FY 2012 Base Plans:</b> Stand-alone Dismount (Handheld) hardware: Complete Commercial Off-the-Shelf (COTS) and other prototype assessments and develop performance specification for Low Rate Initial Production effort for. Release Draft Low Rate Initial Production Request for Proposal. Based on successful Low Rate Initial Production decision review, release final Low Rate Initial Production Request for Proposal and begin evaluation of proposals.</p> <p>Platform Dismountable hardware: Conduct Low Rate Initial Production decision review based on test results. Upon successful completion of Initial Operational Test and Evaluation (IOT&amp;E), conduct Full Rate Production decision review.</p>	-	5.000 0	12.240	-	12.240
<p><b>Title:</b> Battle Command Common Operating Environment</p> <p><b>Description:</b> Develop a Common Operating Environment based on the Battle Command Product Line for Mounted and Mobile Computing Environments</p> <p><b>FY 2012 Base Plans:</b> Conduct technology assessments and establish an infrastructure to support development of third party Mounted and Mobile Computing Environments based on the Battle Command Product Line across the spectrum of Mission Command applications at the platform level. Converge on a Common Operating Environment for Battle Command at the platform and dismount level.</p>	-	-	19.753	-	19.753
<p><b>Title:</b> Common Computing Hardware System</p>	-	-	12.839	-	12.839



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<p><b>Description:</b> Develop a common family of computing hardware to support Mission Command applications at the platform level</p> <p><b>FY 2012 Base Plans:</b> Identify consolidated platform functional capabilities for Battle Command, Logistics and other Warfighter Functional Areas. Identify and prioritize sensor data integration requirements required for the dismounted soldier, mounted platforms and at Company Command Posts. Develop computing requirements for each role or class of platform and use to define functional and performance requirements for competitive hardware procurements.</p>					
<p><b>Title:</b> Program Management</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> FBCB2 Program Management</p> <p><b>FY 2011 Plans:</b> Program Management, to include Core, Matrix and Contractor Support.</p> <p><b>FY 2012 Base Plans:</b> Provide requirement, technical, logistics and business oversight for all software and hardware development activities. Monitor progress of performing organizations and prepare reports to higher headquarters. Develop and implement plans for process and product improvements.</p>	-	5.628 0	7.060	-	7.060
<p><b>Title:</b> Test, Evaluation and Integration</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Develop and Conduct Integration Events (i.e., Tests and Assessments)</p> <p><b>FY 2011 Plans:</b> Develop and Conduct Software and Hardware Integration Events (i.e., Tests and Assessments).</p> <p><b>FY 2012 Base Plans:</b> Complete planning for Capability Set 13-14 Operational Test. Equip test unit with Engineering and Manufacturing Development hardware. Conduct Initial Test and Evaluation (IOT&amp;E) on Capability Set 13-14 software and Remoteable Vehicle (Tablet) hardware. Conduct operational assessment of Stand-Alone</p>	-	12.000 0	19.750	-	19.750

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Dismounted (Handheld) hardware concurrent with Initial Operational Test and Evaluation. Evaluate test data and provide reports to the Project Manager and Milestone Decision Authority for use in decision reviews.					
<b>Accomplishments/Planned Programs Subtotals</b>	-	70.628	118.042	-	118.042

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Joint Battle Command - Platform: <i>OPA W61990</i>	17.188	0.147	69.514	148.335	217.849		139.100	133.095	134.696	134.696	854.150
• ARMY SYS ENGR & WARFIGHTING TECH SP: <i>RDTE</i> <i>PE 654805, Proj. No. 589</i>	37.620									0.000	37.620
• Joint Battle Cmd - Platform (JBC- P): <i>RDTE PE 273759, Proj. No.</i> <i>122</i>		3.935								0.000	3.935

**D. Acquisition Strategy**

The JBC-P program was Joint Requirements Oversight Council (JROC) approved in May 2008. RDTE funding for JBC-P begins in Fiscal Year 2010. The Acquisition Strategy Report (ASR) was approved in September 2009. An Acquisition Decision Memorandum, approving a Modified Milestone B, and entry into the Engineering and Manufacturing Development phase, was issued in September 2009.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Joint Battle Command - Platforms (JBC-P) development	MIPR	SED, Redstone Arsenal:Huntsville, AL	-	28.000		33.600		-		33.600	Continuing	Continuing	Continuing
JBC-P Software/System Engineering	MIPR	SED, Redstone Arsenal:Huntsville, AL	-	20.000		12.800		-		12.800	Continuing	Continuing	Continuing
Design, Develop, and Procure Hardware Prototypes	Various	Multiple:Multiple	-	5.000		12.240		-		12.240	Continuing	Continuing	Continuing
Battle Command Common Operating Environment Platform/Dismount Convergence	Various	Multiple:Multiple	-	-		19.753		-		19.753	Continuing	Continuing	0.000
Common Computing Hardware System for Platform based Applications	Various	Multiple:Multiple	-	-		12.839		-		12.839	Continuing	Continuing	0.000
<b>Subtotal</b>			-	53.000		91.232		-		91.232			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Government In-House System/Project Management	Sub Allot	PM FBCB2:Aberdeen Proving Ground (APG), MD	-	2.000		2.500		-		2.500	Continuing	Continuing	Continuing
Government Matrix System/Project Management	MIPR	PM FBCB2:Aberdeen Proving Ground (APG), MD	-	1.000		1.500		-		1.500	Continuing	Continuing	Continuing
Contractor System/Project Management Support	C/FP	TBD:TBD	-	2.628		3.060		-		3.060	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	5.628		7.060		-		7.060			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Army										<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>				<b>PROJECT</b> 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>					
<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Develop and Conduct Tests and Assessments	MIPR	SED, Redstone Arsenal:Huntsville, AL	-	12.000		19.750		-		19.750	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	12.000		19.750		-		19.750			
			<b>Total Prior Years Cost</b>	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			-	70.628		118.042		-		118.042			
<b>Remarks</b>          													

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>

	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	
Hardware Development	■																												
System Requirements Review	■																												
Critical Design Review									■																				
MS C (Approval for software to go to operational testing)													■																
Operational Test																	■												
Full Rate Production (FRP) Decision Review/ SW Fielding Decision																					■								

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	<b>PROJECT</b> 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Hardware Development	1	2010	1	2014
System Requirements Review	2	2010	2	2010
Critical Design Review	3	2011	3	2011
MS C (Approval for software to go to operational testing)	4	2011	4	2011
Operational Test	1	2012	2	2012
Full Rate Production (FRP) Decision Review/SW Fielding Decision	3	2012	3	2012

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>
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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	37.572	34.474	27.160	-	27.160	41.872	47.711	48.204	48.177	Continuing	Continuing
812: <i>MIL HIV VAC&amp;DRUG DEV</i>	4.296	4.456	3.866	-	3.866	2.949	4.329	4.490	4.486	Continuing	Continuing
832: <i>Field Medical Systems Engineering Development</i>	15.104	17.791	14.807	-	14.807	23.719	27.720	27.835	28.141	Continuing	Continuing
849: <i>INFEC DIS DRUG/VACC ED</i>	13.193	12.227	8.487	-	8.487	13.631	14.728	15.131	15.178	Continuing	Continuing
A11: <i>LSTAT MEDICAL TECHNOLOGY (CA)</i>	0.800	-	-	-	-	-	-	-	-	0.000	0.800
CS5: <i>MED MATERIEL/MED BIO DEFENSE INITIATIVES (CA)</i>	4.179	-	-	-	-	-	-	-	-	0.000	4.179
VS8: <i>MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - END DEV</i>	-	-	-	-	-	1.573	0.934	0.748	0.372	Continuing	Continuing

**Note**

FY12 funds realigned (\$2899) to higher priority requirements.

**A. Mission Description and Budget Item Justification**

This program element (PE) funds advanced development of medical materiel within the System Demonstration and Low Rate Initial Production portions of the acquisition life cycle using 6.5 funding. It supports products successfully developed in the Systems Integration portion of the Systems Development and Demonstration phases through completion of the Milestone C Decision Review. Commercially-off-the-shelf (COTS) medical products are also tested and evaluated for military use, when available. This PE primarily includes pivotal (conclusive) human clinical trials necessary for licensure by the Food and Drug Administration.

(PROJ 832) this project funds the engineering and manufacturing development of medical products for enhanced combat casualty care and follow-on care, including rehabilitation. Mature commercial-off-the-shelf (COTS) medical products are also evaluated for military use. Consideration will also be given to reduce the medical sustainment footprint through smaller weight and cube volume, or equipment independence from supporting materiel. Products from this project will normally transition to OPA Funds.

(PROJ 812) project funds military relevant human immunodeficiency virus (HIV) medical countermeasures. These funds provide for engineering and manufacturing development of candidate vaccines and drugs to permit large-scale field testing. Development focused on military unique needs effecting manning, mobilization, and deployment. Products from this project will normally transition to DoD Health Programs or OPA Funds.

(PROJ 849) funds development of candidate medical countermeasures for military relevant infectious diseases. These products fall between four major areas: vaccines, drugs, diagnostic kits/devices, and insect control measures to limit exposure and disease transmission. FDA approval is a mandatory obligation for all military

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>
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products placed into the hands of medical providers or service members for human use. Products from this project will normally transition to DoD Health Programs or OPA funds.

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

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	41.794	34.474	30.059	-	30.059
Current President's Budget	37.572	34.474	27.160	-	27.160
Total Adjustments	-4.222	-	-2.899	-	-2.899
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-3.099	-			
• SBIR/STTR Transfer	-1.123	-			
• Adjustments to Budget Years	-	-	-2.899	-	-2.899



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 812: <i>MIL HIV VAC&amp;DRUG DEV</i>
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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
812: <i>MIL HIV VAC&amp;DRUG DEV</i>	4.296	4.456	3.866	-	3.866	2.949	4.329	4.490	4.486	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project funds militarily relevant human immunodeficiency virus (HIV) medical countermeasures. These funds provide for engineering and manufacturing development of candidate vaccines and drugs to permit large-scale field testing. Development is focused on militarily unique needs effecting manning, mobilization, and deployment.

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

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Military HIV Vaccine and Drug Development			
<b>Articles:</b>	4.296 0	4.456 0	3.866
<b>Description:</b> This project provides funds for engineering and manufacturing development of candidate vaccines and drugs to permit large-scale field testing of vaccines for medical countermeasures to HIV.			
<b>FY 2010 Accomplishments:</b> prepared preliminary clinical study report on the completed expanded safety/efficacy trial in Thailand and conduct a critical design review (CDR) to determine future development of the prime-boost vaccine based on trial results. Follow up clinical trial for HIV positive for viral load in order to validate viral load as a surrogate endpoint for use in HIV vaccine studies.			
<b>FY 2011 Plans:</b> Finalize and submit to the Food and Drug Administration (FDA) results from the expanded safety/efficacy trial in Thailand, update/revise the clinical development plan, and continue to follow up clinical trial for HIV positive for viral load.			
<b>FY 2012 Plans:</b> Perform three inter-related studies to enhance our understanding of precisely how the vaccine strategy used in the safety/efficacy trial completed in 2009 caused vaccine recipients to be protected from infection, including intense laboratory studies using samples from the trial, and commencement of two small clinical vaccine trials to generate data and samples to hopefully define what vaccine responses to try to generate for next increment studies.			
<b>Accomplishments/Planned Programs Subtotals</b>	4.296	4.456	3.866

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

N/A

**D. Acquisition Strategy**

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

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 812: <i>MIL HIV VAC&amp;DRUG DEV</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1M individually	Various	Various:Various	0.672	0.091		0.215		-		0.215	Continuing	Continuing	0.000
<b>Subtotal</b>			0.672	0.091		0.215		-		0.215			0.000

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	Various	Henry M. Jackson Foundation,:Various	21.570	3.231		2.655		-		2.655	Continuing	Continuing	Continuing
<b>Subtotal</b>			21.570	3.231		2.655		-		2.655			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1M individually	Various	Various:Various	0.487	0.046		0.046		-		0.046	Continuing	Continuing	0.000
<b>Subtotal</b>			0.487	0.046		0.046		-		0.046			0.000

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	Various	Henry M. Jackson Foundation,:Various	21.570	1.088		0.950		-		0.950	Continuing	Continuing	Continuing
<b>Subtotal</b>			21.570	1.088		0.950		-		0.950			

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 812: <i>MIL HIV VAC&amp;DRUG DEV</i>

	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

HIV Vaccine Critical Design Review (CDR)																												
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**Exhibit R-4A, RDT&E Schedule Details:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 812: <i>MIL HIV VAC&amp;DRUG DEV</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
HIV Vaccine Critical Design Review (CDR)	3	2010	3	2010

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 832: <i>Field Medical Systems Engineering Development</i>
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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
832: <i>Field Medical Systems Engineering Development</i>	15.104	17.791	14.807	-	14.807	23.719	27.720	27.835	28.141	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project funds the engineering and manufacturing development of medical products for enhanced combat casualty care and follow-on care, including rehabilitation. This project funds pivotal (conclusive) human clinical trials or mechanical engineering evaluations for efficacy of devices or biologics (products derived from living organisms) to fulfill unique military requirements. Mature commercial-off-the-shelf (COTS) medical products are also evaluated for military use. Consideration will also be given to reducing the medical sustainment footprint through smaller weight and cube volume, or equipment independence from supporting materiel. This work is frequently completed through a laboratory/contractor team with the contractor obtaining the U.S. Food and Drug Administration (FDA) licensure for sale of the product.

In FY10, Project 834 Soldier Sys Prot-ED was consolidated into Project 832.

Major contractors/intra-governmental agencies include: IGR Enterprises, Inc.; Army Medical Department Board Test Center; SeQual Technologies, Inc.; Enginivity, Inc.; Ultrasound Diagnostics, Inc.; HemCon Medical Technologies, Inc.; Cerdak Ltd; Hemerus Medical, LLC; Fast Track Drugs & Biologics, LLC; Integrated Medical Systems, Inc; the National Institutes of Health National Heart, Lung and Blood Institute (NHLBI), and the U.S. Army Aeromedical Research Laboratory Walter Reed Army Institute of Research (WRAIR) and Institute of Surgical Research (ISR) for user evaluation. Other military agencies include Program Executive Office (PEO) Soldier, PEO Combat Service Support (CSS), and Naval Undersea Warfare Center.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Medical Materiel/Medical Biological Defense Equipment- Engineering Development FY 10 and 11	15.104	17.791	-
<b>Articles:</b>	0	0	
<b>Description:</b> This project funds in FY 10 and 11 the engineering and manufacturing development of medical products for enhanced combat casualty care and follow-on care, including rehabilitation.			
<b>FY 2010 Accomplishments:</b> Ceramic Oxygen Generator: conducted developmental and operational testing to obtain Milestone C. Follow on testing and report analysis was performed to facilitate FDA and UL approval and ascertain that production capabilities adhere to good manufacturing practices. Further analyses were performed to facilitate FDA and UL approval and ascertain that production capabilities adhere to good manufacturing processes. In 2Q FY10 for the RVPSAOG submitted final reports for FDA clearance. Field Sterilizer: completed analysis and validation report of down selected products in OT&E trials for final selection and movement to production and deployment. Ultrasonic Brain Imager (UBI): transitioned from project 836, began safety and effectiveness human clinical trial,			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 832: <i>Field Medical Systems Engineering Development</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>
<p>conducted a human factor evaluation of the prototype, and conducted a Milestone C for transition to Production and Deployment. Freeze Dried Plasma Program: initiated a multi-center safety/efficacy human clinical trial, and performed stability studies on product. Red blood cell extended life program: prepared and completed enrollment in human safety/efficacy study. Woundstat Safety Study: completed the study. Continued testing of commercial lab equipment: expanded study to include Hematology Analyzers continued testing and evaluation for final report in 3Q FY10. Noise immune stethoscope: conducted environmental/ transportation testing. Verified stethoscope will be able to stand up to the military environment. Conducted storage and operational temperature, drop and vibration, as well as air-worthiness testing. Life Support for Trauma and Transport (LSTAT): transitioned from project 834.</p> <p><b>FY 2011 Plans:</b> In FY11, Freeze-dried Plasma: start enrollment in the multi-center limited human safety/efficacy clinical trial and evaluate stability profile of the product. Red Blood Cell Extended Life Program: complete the human safety/efficacy study, conduct data analysis, and prepare and submit report to the FDA. Platelet Derived Hemostatic Agent (PDHA): transition from project 836 to begin enrollment/follow-up in the human safety/efficacy trial. Intranasal Ketamine (low dose pain management via nasal spray): transition from project 836 and conduct pre-clinical trial activities for human drug use in aeromedical evacuation and burn patients. Hypertonic Saline Dextran (treatment of shock due to blood loss): support human expanded safety/efficacy trial for treatment of shock. Continue market analysis and surveys for candidate resuscitative fluids for treatment of shock. Enhanced SAVe: Conduct clinical user evaluation and operational testing. Remote Diagnostic Access: Conduct Prototype field testing and refinement for MOC Sensor Modul Development phase of this device. Treatment Table for PM, HBCT Medical Mission Package for Treatment Variants: Transition from Project 836. Transition to production for use on PM, HBCT Treatment Variant. Refrigerator for PM, HBCT for Medical Mission Package for Treatment Variant: Transition from Project 836. Conduct environmental and operational testing. Shelter for PM, HBCT Treatment Variant: Transition from Project 836. Evaluate alternatives in operational setting. Shock and Vibration Isolation System for Patient Litters in Ground and Air Medical Evacuation Vehicles: Transition from Project 836. Conduct Shock and Vibration Isolation System for patient litters - air worthiness and ground vehicle testing. One-handed tourniquet update: Conduct study to update medical set and down select product. Passive Cold Chain Capability for Temperature Sensitive Medical Materiel: Transition from Project 836. Conduct environmental testing and user testing.</p>			
<p><b>Title:</b> Field Medical Systems Engineering Development FY 12 PM Medical Devices</p> <p><b>Description:</b> This project funds in FY 12 the engineering and manufacturing development of medical products for enhanced combat casualty care managed by PM Medical Devices.</p> <p><b>FY 2012 Plans:</b> : The Burn Resuscitation Decision Device: Will conduct final environmental, operational and clinical testing on device for MS C submission. Wireless Medical Monitoring will transition from Congressional Special Interest (CSI) project to an Army Core funded</p>		-	-
			6.033



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 832: <i>Field Medical Systems Engineering Development</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
project and will undergo a Milestone C review as well as prototype field testing. Plasma Knife: Will transition from 836 6.4 funding line into 832 6.5 funding line. Will finalize results of clinical and operational testing. Will also identify and address all refinements and undergo Milestone C review in 4Q.					
<p><b>Title:</b> Field Medical Systems Engineering Development FY 12 PM Pharmaceuticals</p> <p><b>Description:</b> This project funds in FY 12 the engineering and manufacturing development of medical products managed by PM Pharmaceuticals for enhanced combat casualty care and follow-on care, including rehabilitation.</p> <p><b>FY 2012 Plans:</b> Freeze-dried Plasma: Will begin enrollment in a multi-center limited human safety/efficacy clinical trial; will improve manufacturing &amp; laboratory capabilities to meet Food and Drug Administration requirements; and will evaluate stability profile of the product. Cryopreserved Platelets (CPP) (formerly Platelet Derived Hemostatic Agent (PDHA)): Will continue enrollment/follow-up in a human safety/efficacy trial.</p>			-	-	5.034
<p><b>Title:</b> Field Medical Systems Engineering Development FY 12 PM Integrated Clinical Systems (ICS)</p> <p><b>Description:</b> This project funds in FY 12 the engineering and manufacturing development of medical products managed by PM ICS for enhanced combat casualty care and follow-on care, including rehabilitation.</p> <p><b>FY 2012 Plans:</b> Will conduct final testing of Phase IV of Remote Access Device (RDA). Will Develop a universal security compliant access portal to serve as a standardized compliance wrapper for all vendors, medical technology, and even IT management products that may traverse between the .com and .mil networks. The Milestone Decision Authority (MDA) has scheduled an in process review for the RDA project in March 2011 .</p>			-	-	0.737
<p><b>Title:</b> Field Medical Systems Engineering Development FY 12 PM Medical Support Systems</p> <p><b>Description:</b> This project funds in FY 12 the engineering and manufacturing development of medical products managed by PM Medical Support Systems for enhanced combat casualty care and follow-on care, including rehabilitation.</p> <p><b>FY 2012 Plans:</b> PM will collaborate with PM HBCT on medical equipment for the future treatment vehicle variant. PM will test and evaluate the shock and litter isolation system for potential addition to Ground Ambulance and Air Ambulance Medical Equipment Sets (MES). Continue to transition to Force Provider by fielding a Force Provider CSH. PM will fully test the new 2-sided ISO shelter under the Joint shelter Program and finalize acquisition strategy in coordination with Program Manager's Force Provider program. PM will</p>			-	-	3.003

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 832: <i>Field Medical Systems Engineering Development</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
continue to develop Medical Evacuation Vehicles in coordination with Program Executive Office Combat Service Support vehicle developers.			
<b>Accomplishments/Planned Programs Subtotals</b>	15.104	17.791	14.807

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

Develop in-house or industrial prototypes in government-managed programs to meet military and regulatory requirements for production and fielding.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 832: <i>Field Medical Systems Engineering Development</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1Million individually	Various	Various:Various	20.127	1.429		0.418		-		0.418	Continuing	Continuing	Continuing
<b>Subtotal</b>			20.127	1.429		0.418		-		0.418			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Rotary Valve Pressure Swing Adsorption oxygen Generator	Various	Sequal Technologies, Inc.:;Various	3.497	-		-		-		-	Continuing	Continuing	Continuing
Hypertonic Saline Dextran	Various	National Institutes of Health, National Heart, Lung and Blood Institute (NHLBI):;Various	4.800	5.500		-		-		-	Continuing	Continuing	Continuing
Freeze-dried Human Plasma	Various	HemCon Medical Technologies, Inc.:;Tigard OR	10.405	0.500		5.796		-		5.796	Continuing	Continuing	Continuing
Extended Life Red Blood Cell Product	Various	Hemerus Medical, LLC.:;Various	1.895	0.500		-		-		-	Continuing	Continuing	Continuing
Virtual Imaging	Various	Virtual Imaging:;various	1.450	-		-		-		-	Continuing	Continuing	Continuing
No product/contract costs greater than \$1M individually	Various	Various:;various	1.260	2.000		-		-		-	Continuing	Continuing	Continuing
Cryopreserved Platelets	Various	Multiple DoD activities and Dartmouth Hitchcock Med Ctr:;North Potomac, MD	-	-		7.757		-		7.757	Continuing	Continuing	Continuing
<b>Subtotal</b>			23.307	8.500		13.553		-		13.553			

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 832: <i>Field Medical Systems Engineering Development</i>
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<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Regulatory Support	Various	Clinical Research Management, Inc.: Various	2.757	1.400		-		-		-	Continuing	Continuing	Continuing
No product/contract costs greater than \$1 Million individually	Various	Various: Various	1.788	2.354		0.418		-		0.418	Continuing	Continuing	Continuing
<b>Subtotal</b>			4.545	3.754		0.418		-		0.418			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1 Million individually	Various	Various: Various	3.417	4.108		0.418		-		0.418	Continuing	Continuing	Continuing
<b>Subtotal</b>			3.417	4.108		0.418		-		0.418			

Project Cost Totals	Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
	51.396	17.791		14.807		-		14.807			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 832: <i>Field Medical Systems Engineering Development</i>

	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
(1) Ceramic Oxygen Gen Sys (MS-C)			■																									
(6) Ultrasonic Brain Imager (MS-C)	■																											
Total Intravenous Anesthesia (TIVA) (MS-C)											■																	
Burn Resuscitation Decision Device (MS-C)									■																			
Wireless Medical Monitoring (MS-C)											■																	
Plasma Knife (MS-C)									■																			

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 832: <i>Field Medical Systems Engineering Development</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
(1) Ceramic Oxygen Gen Sys (MS-C)	3	2010	3	2010
(6) Ultrasonic Brain Imager (MS-C)	1	2010	1	2010
Total Intravenous Anesthesia (TIVA) (MS-C)	4	2012	4	2012
Burn Resuscitation Decision Device (MS-C)	1	2012	1	2012
Wireless Medical Monitoring (MS-C)	3	2012	3	2012
Plasma Knife (MS-C)	1	2012	1	2012

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 849: <i>INFEC DIS DRUG/VACC ED</i>
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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
849: <i>INFEC DIS DRUG/VACC ED</i>	13.193	12.227	8.487	-	8.487	13.631	14.728	15.131	15.178	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This project funds development of candidate medical countermeasures for militarily relevant infectious diseases. These products fall within four major areas: vaccines, drugs, diagnostic kits/devices, and insect control measures to limit exposure and disease transmission. It funds research that supports conclusive human clinical trials for large-scale human efficacy testing, expanded human safety clinical trials, long-term animal studies, and related manufacturing tests. This work, which is jointly performed by military laboratories, civilian contracted pharmaceutical firms and foreign research partners, is directed toward the prevention of disease, early diagnosis, and speeding recovery once diagnosed. Medical products approved for human use must successfully complete a series of clinical trials that are required and regulated by the U.S. Food and Drug Administration (FDA). FDA approval is a mandatory obligation for all military products placed into the hands of medical providers or service members for human use. Development priority is based upon four major factors: (1) the extent of the disease within the Combatant Commands' theater of operations, (2) the clinical severity of the disease, (3) the technical maturity of the proposed solution, and (4) the affordability of the solution (development, production, and sustainment). Malaria, dysentery, hepatitis, and dengue diseases (a severe debilitating disease transmitted by mosquitoes), which are found in Africa Command, Central Command, European Command, Southern Command, and Pacific Command areas are at the top of the infectious diseases requirements list.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> FY 10 Malaria Drug/ Vaccine Engineering Development</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> This project funds in FY 10 development of candidate medical countermeasures for militarily relevant infectious diseases.</p> <p><b>FY 2010 Accomplishments:</b> Conducted clinical trials, developmental testing, and reviews of malarial/antimalarial vaccines, drugs, diagnostics and insect repellents. For Tafenoquine, conducted data analysis and prepared a final report on the small human challenge clinical trial, and began pre-trial activities for a large-scale safety/efficacy human clinical trial (treatment indication) in a malaria endemic country.</p> <p><b>FY 2011 Plans:</b> Will conduct clinical trials, developmental testing, and reviews of malarial/antimalarial vaccines, drugs, diagnostics and insect repellents. For Tafenoquine, will complete pre-trial activities for a large-scale safety/efficacy human clinical trial (treatment indication) in a malaria endemic country.</p>	6.018 0	4.568 0	-
<p><b>Title:</b> FY 10 Infectious Disease Drug and Vaccine Engineering Development</p> <p style="text-align: right;"><b>Articles:</b></p>	7.175 0	7.659 0	8.487

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 849: <i>INFEC DIS DRUG/VACC ED</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
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<p><b>Description:</b> FY 10 funding for research and development efforts described below.</p> <p><b>FY 2010 Accomplishments:</b> Topical Antileishmanial Cream [Leishmaniasis is a skin-based disease caused by a parasite and transmitted by sand flies], continued subject enrollment/follow-up in the Tunisia large scale (&gt; 300 subjects) human safety/efficacy trial and began pretrial activities of the second large scale human safety/efficacy trial in Central/South America, and completed study start of three small scale (&lt;35 subjects) pharmacokinetic (drug metabolism) human trials in France, Peru and Panama. For Pentostam (intravenous drug treatment of skin lesions caused by the Leishmania parasite), monitored progress of industry partner's FDA licensure submission efforts. Since industry partner has chosen not to submit for FDA Licensure, continued a human treatment protocol in the U.S. For Dengue Tetravalent Vaccine [Dengue is a severe debilitating disease caused by a virus and transmitted by a mosquito], completed subject follow-up and began data analysis on the expanded human safety and immunity trial in Puerto Rico, prepared the study report on the human safety and immune response trial (adults) in the U.S., prepared the study reports (infant, children and adult) on the expanded human safety and immune response trial in Thailand, and completed pre-trial activities for the expanded safety and efficacy trial in children in Thailand. For Hepatitis E vaccine, continued maintenance of study blood specimens kept under cold storage and monitoring of industry partner's Hepatitis E vaccine development effort.</p> <p><b>FY 2011 Plans:</b> In FY11, for Topical Antileishmanial Cream, analyze the data and prepare the final report on the Tunisia large scale human safety/efficacy trial, continued pretrial activities for enrollment in the second large scale (&gt; 300 subjects) human safety/efficacy trial in Central/South America, and will analyze the data and prepare the final report for the three small scale (&lt;35 subjects) pharmacokinetic (drug metabolism) human trials in France, Peru and Panama. For Pentostam, will continue a human treatment protocol in the U.S. For DTV vaccine, will complete the study report on the expanded human safety and immunity trial in Puerto Rico and begin the expanded safety and efficacy trial in children in Thailand. For Hepatitis E vaccine will continue maintenance of study blood specimens kept under cold storage and monitoring of industry partner's Hepatitis E vaccine development effort.</p> <p><b>FY 2012 Plans:</b> Will conduct Clinical trials, developmental testing, and reviews of malarial/antimalarial vaccines, drugs, diagnostics and insect repellents. Will down-select from candidate anti-malaria drugs (e.g. Tafenoquine and other drugs) to prepare for clinical trial activities for a safety/efficacy human clinical trial (treatment indication) in a malaria endemic country. Will conduct clinical trials, developmental testing, and appropriate reviews of grouped vaccines, drugs, and diagnostics (Leishmaniasis (a skin-based disease caused by a parasite and transmitted by sand flies), Dengue (a severe debilitating disease caused by a virus and transmitted by a mosquito), and other viral diseases: For Topical Antileishmanial Cream, begin the clinical study report on the Tunisia large scale human safety/efficacy trial, begin enrollment efforts in the second large scale (&gt; 300 subjects) human safety/efficacy trial in Central/South America. For Dengue Tetravalent Vaccine (DTV) begin study close out activities for expanded</p>			
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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 849: <i>INFEC DIS DRUG/VACC ED</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
safety and efficacy trial in children in Thailand; begin a new DTV large scale (> 300 subjects) human trial in Thailand and Philippines to expand safety data and demonstrate efficacy in children/adults.			
<b>Accomplishments/Planned Programs Subtotals</b>	13.193	12.227	8.487

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

Test and evaluate in-house and commercially developed products in government-managed trials to meet FDA requirements and Environmental Protection Agency registration.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 849: <i>INFEC DIS DRUG/VACC ED</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
No product/contract costs greater than \$1M individually	Various	Various:Various	8.115	2.008		1.931		-		1.931	Continuing	Continuing	Continuing
<b>Subtotal</b>			8.115	2.008		1.931		-		1.931			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
No product/contract costs greater than \$1M individually	Various	Various:Various	15.268	3.116		3.171		-		3.171	Continuing	Continuing	Continuing
<b>Subtotal</b>			15.268	3.116		3.171		-		3.171			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
No product/contract costs greater than \$1M individually	Various	Various:Various	6.097	2.492		1.000		-		1.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			6.097	2.492		1.000		-		1.000			

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
No product/contract costs greater than \$1M individually	Various	Various:Various	22.231	4.611		2.385		-		2.385	Continuing	Continuing	Continuing
<b>Subtotal</b>			22.231	4.611		2.385		-		2.385			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 849: <i>INFEC DIS DRUG/VACC ED</i>
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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
<b>Project Cost Totals</b>	51.711	12.227	8.487	-	8.487			

**Remarks**

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 849: <i>INFEC DIS DRUG/VACC ED</i>
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	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
Dengue Tetravalent Vaccine (CDR)																												
Dengue Tetravalent Vaccine Phase 3 Expanded Safety Study																												
Dengue Tetravalent Vaccine (MS-C)																												
Malaria Prophylaxis (MS-C)																												
Paromomycin/Gentamicin Topical Antileishmanial Cream (CDR)																												
Paromomycin/Gentamicin Topical Antileishmanial Cream Phase 3 Expa																												
Paromomycin/Gentamicin Topical Antileishmanial Cream MS-C																												
Paromomycin/Gentamicin Topical Antileishmanial Cream NDA																												
Paromomycin/Gentamicin Topical Antileishmanial Cream LRIP																												
Paromomycin/Gentamicin Topical Antileishmanial Cream F/D																												
Leishmania Rapid Diagnostic Device MS-C																												
Leishmania Rapid Diagnostic Device FDA Approval																												
Leishmania Rapid Diagnostic Device Fielding/Delivery																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> 849: <i>INFEC DIS DRUG/VACC ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Dengue Tetravalent Vaccine (CDR)	3	2011	4	2015
Dengue Tetravalent Vaccine Phase 3 Expanded Safety Study	3	2011	4	2016
Dengue Tetravalent Vaccine (MS-C)	3	2016	3	2016
Malaria Prophylaxis (MS-C)	4	2016	4	2016
Paromomycin/Gentamicin Topical Antileishmanial Cream (CDR)	4	2011	4	2013
Paromomycin/Gentamicin Topical Antileishmanial Cream Phase 3 Expa	2	2011	1	2013
Paromomycin/Gentamicin Topical Antileishmanial Cream MS-C	2	2014	2	2014
Paromomycin/Gentamicin Topical Antileishmanial Cream NDA	3	2014	3	2014
Paromomycin/Gentamicin Topical Antileishmanial Cream LRIP	4	2014	3	2015
Paromomycin/Gentamicin Topical Antileishmanial Cream F/D	4	2014	4	2014
Leishmania Rapid Diagnostic Device MS-C	4	2012	4	2012
Leishmania Rapid Diagnostic Device FDA Approval	1	2013	1	2013
Leishmania Rapid Diagnostic Device Fielding/Delivery	2	2013	4	2016

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> A11: <i>LSTAT MEDICAL TECHNOLOGY (CA)</i>
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COST (\$ in Millions)	FY 2010		FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		FY 2016		Cost To Complete	Total Cost
A11: <i>LSTAT MEDICAL TECHNOLOGY (CA)</i>	0.800	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000	0.800
Quantity of RDT&E Articles																

**A. Mission Description and Budget Item Justification**

The LSTAT is a life support piece of combat medical equipment. It is a litter with imbedded life support equipment, which is capable of sustaining an injured soldier for an extended period of time. This equipment will allow a soldier to be transported while maintaining all medical surveillance and diagnostics continually intact.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> LSTAT Medical Technology	0.800	-	-
<b>Articles:</b>	0		
<b>Description:</b> This is a Congressional Interest Item.			
<b>FY 2010 Accomplishments:</b> Advanced Product development research was conducted on the LSTAT.			
<b>Accomplishments/Planned Programs Subtotals</b>	0.800	-	-

**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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> A11: <i>LSTAT MEDICAL TECHNOLOGY (CA)</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
No product/contract cost greater than \$1M individually	SS/LH	IMS Systems:Signal Hill, CA	4.471	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			4.471	-		-		-		-			
			<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			4.471	-		-		-		-			

Remarks

**UNCLASSIFIED**

**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>				<b>PROJECT</b> CS5: <i>MED MATERIEL/MED BIO DEFENSE INITIATIVES (CA)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
CS5: <i>MED MATERIEL/MED BIO DEFENSE INITIATIVES (CA)</i>	4.179	-	-	-	-	-	-	-	-	0.000	4.179
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Congressional Special Interest funding for medical materiel/medical biological defense initiatives - Engineering Development.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Army Portable Oxygen Concentration System	1.190	-	-
<b>Articles:</b>	0		
<b>Description:</b> This is a Congressional Interest Item.			
<b>FY 2010 Accomplishments:</b> Conducted advanced development research in Army Portable Oxygen Concentration System			
<b>Title:</b> Military applications for Medical Grade Chitosan	2.989	-	-
<b>Articles:</b>	0		
<b>Description:</b> Congressional Interest Item.			
<b>FY 2010 Accomplishments:</b> Conducted advanced development research project to conduct military applications for Medical Grade Chitosan			
<b>Accomplishments/Planned Programs Subtotals</b>	4.179	-	-

**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.



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	<b>PROJECT</b> VS8: <i>MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - END DEV</i>
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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
VS8: <i>MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - END DEV</i>	-	-	-	-	-	1.573	0.934	0.748	0.372	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

No FY12 Funding for this project

**B. Accomplishments/Planned Programs (\$ in Millions)**

N/A

**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.

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	89.064	95.577	87.426	-	87.426	65.155	47.418	30.442	45.094	Continuing	Continuing
016: <i>Close Combat Capabilities ENG DEV</i>	57.112	59.305	0.012	-	0.012	0.012	0.012	0.013	0.013	Continuing	Continuing
415: <i>MINE NEUTRAL/DETECTION</i>	31.952	36.272	78.446	-	78.446	51.185	32.527	23.542	45.081	Continuing	Continuing
434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>	-	-	8.968	-	8.968	13.958	14.879	6.887	-	0.000	44.692

**Note**

Change Summary Explanation:

FY 2012: Increase of \$30.020 million for HUSKY mine detection system development and Explosive Hazard Pre-Detonation (EHP) Roller capability. Funding was transferred from Ground Standoff Mine Detection System (GSTAMIDS) Block 1, and Handheld Standoff Minefield Detection System (HSTAMIDS).

**A. Mission Description and Budget Item Justification**

This program element (PE) provides for System Development and Demonstration of networked munitions and countermines systems. This PE implements the National Landmine Policy to develop alternatives to the non-self-destructing anti-vehicle and anti-personnel landmine systems.

Project 016, Close Combat Capabilities Engineering Development, provides for the development of the anti vehicle mine replacement, Scorpion (previously the Intelligent Munitions System (IMS)) supports the current force in accordance with the landmine policy.

Project 415, Mine Neutralization/Detection provides for development of next generation standoff detection capability programs such as the Airborne Counter Explosive Reconnaissance and Targeting System (ACERTS), Ground Vehicle Sub Surface Sensor System (GVS4), and the Autonomous Mine Detection System (AMDS). It also supports development of training devices for Military Working Dogs involved in mine/IED detection. Explosive Hazard Roller capability to neutralize/detonate a broad spectrum of improvised explosive hazards while on the move, to support the route clearance mission.

Project 434, Anti-Personnel Landmine Alternatives - Develop Spider Networked Munitions (NM) Increment 2 capabilities to provide an improved NM Controller and the ability to employ and control fielded Army common Anti-Personnel (AP) and Anti-Vehicle (AV) lethal and non-lethal munitions and effects. The Spider Increment 2 program is the recipient of the transferred anti-vehicle landmine alternative mission from the Intelligent Munitions System called Scorpion program. Scorpion is being closed out due to affordability. Spider Increment 2 will build on the existing Spider system and develop the capability to initiate existing anti-vehicle munitions from the enhanced Spider Controller.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	72.380	95.577	30.460	-	30.460
Current President's Budget	89.064	95.577	87.426	-	87.426
Total Adjustments	16.684	-	56.966	-	56.966
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	19.002	-			
• SBIR/STTR Transfer	-2.318	-			
• Adjustments to Budget Years	-	-	56.966	-	56.966

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 016: <i>Close Combat Capabilities ENG DEV</i>
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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
016: <i>Close Combat Capabilities ENG DEV</i>	57.112	59.305	0.012	-	0.012	0.012	0.012	0.013	0.013	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Intelligent Munitions System (IMS) Scorpion is an anti-vehicular weapons system that provides highly responsive terrain-shaping and protection capabilities to the unit commander. Trained operators remotely control ground-emplaced munitions via a portable control station out to distances of 1.5 kilometers. The commander integrates IMS Scorpion into his scheme of maneuver and fires in order to attack the enemy's freedom of maneuver while maintaining full friendly freedom of maneuver. He directs the emplacement of the munitions on the ground in building block fashion to achieve the desired effects against mounted threats ranging from single light wheeled vehicles to large armored formations. IMS Scorpion is a full spectrum weapons system effective in offensive, defensive, and stability operations. IMS Scorpion supports the National Landmine Policy by serving as a far superior alternative to the non-self-destructing anti-vehicular mines being removed from the U.S Inventory by 31 December 2010. The Department directed the closeout of the Scorpion program in FY2011 due to affordability. A more cost effective anti-vehicular capability will be developed under a Spider Increment II program starting in FY12.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Complete IMS/Scorpion Increment-I System Development.</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> This is the main effort to develop the Scorpion - Intelligent Munition System.</p> <p><b>FY 2010 Accomplishments:</b> Completed software builds. Conducted system integration tests. Conducted successful live fire tests.</p> <p><b>FY 2011 Plans:</b> Complete hardware and software integration.</p>	4.130 0	2.584 0	-
<p><b>Title:</b> Hardware fabrication to support Government Qualification Testing</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> FY10-FY11 Hardware Fabrication to Support Government Qualification Testing.</p> <p><b>FY 2010 Accomplishments:</b> Conducted Contractor Manufacturing Prove-Out (MPO) and Test Prove-Out (TPO). Fabricated system hardware for FY10 Tropics Testing, Panama, and for Penetration and Behind-Armor Debris testing</p> <p><b>FY 2011 Plans:</b></p>	21.854 0	28.426 0	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 016: <i>Close Combat Capabilities ENG DEV</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Refine MPO/TPO, and fabricate system hardware for FY11 Government Qualification tests. <b>Title:</b> IMS/Scorpion Increment-I modeling and simulation. <b>Description:</b> Continue to conduct IMS/Scorpion Increment-I modeling and simulation. <b>FY 2010 Accomplishments:</b> Continued Verification and Validation (V&V) of Scorpion models. Conducted end-to-end System Analysis. Updated algorithms for ground sensors and for warhead. <b>FY 2011 Plans:</b> Completed Verification and Validation (V&V) of Scorpion models.		3.212 0	0.537 0	-
<b>Articles:</b>				
Conduct IMS/Scorpion Increment-I system Contractor Development Testing. <b>Title:</b> Conduct IMS/Scorpion Increment-I System contractor development testing. <b>Description:</b> Conduct IMS/Scorpion Increment-I System contractor development testing. <b>FY 2010 Accomplishments:</b> Completed contractor risk reduction testing. Conducted Field Integration Tests. Initiated and completed the following: Reliability, Environmental, Highly Accelerated Life testing, and Dispensing Module software testing.		11.716 0	-	-
<b>Articles:</b>				
Conduct IMS/Scorpion Increment-I Government Development and Operational Testing. <b>Title:</b> Conduct IMS/Scorpion Inc-I Government Development and Operational Testing. <b>Description:</b> Conduct IMS/Scorpion Inc-I Government Development and Operational Testing. <b>FY 2010 Accomplishments:</b> Initiated Government Qualification Testing. Conducted Tropics Testing (Panama), and Behind-Armor Debris and Penetration Testing. <b>FY 2011 Plans:</b> Conduct operational testing: Limited User Test.		10.545 0	24.581 0	-
<b>Articles:</b>				
Work with PEO-STRI to develop an IMS Training Device <b>Title:</b> Work with PEO-STRI to develop an IMS Training Device <b>Description:</b> Develop IMS training device with PEO-STRI.		5.655 0	3.177 0	0.012
<b>Articles:</b>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 016: <i>Close Combat Capabilities ENG DEV</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
<p><b><i>FY 2010 Accomplishments:</i></b> Completed XM1101 Trainer Critical Design Review.</p> <p><b><i>FY 2011 Plans:</i></b> Conduct Logistics Demonstration and User Jury.</p> <p><b><i>FY 2012 Plans:</i></b> Conduct Logistics Demonstration and User Jury</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	57.112	59.305	0.012

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PAA IMS (E96900): <i>Intelligent Munitions System (IMS)</i>	2.674	10.246								0.000	12.920
• OPA2 IMS (B55503): <i>(IMS) Remote Control Unit</i>		6.603								0.000	6.603

**D. Acquisition Strategy**

The IMS Scorpion was being developed as an evolutionary acquisition program utilizing an incremental approach. This strategy addressed all IMS Scorpion capabilities in the requirements document. The first increment would have supported National Landmine Policy and provided full spectrum weapons system effectiveness in offensive, defensive, and stability operations. In June 2006, a competitive Engineering and Manufacturing Development (EMD) Contract was awarded to Textron Defense Systems of Wilmington, MA. This contract will be closed out September 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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 016: <i>Close Combat Capabilities ENG DEV</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
IMS	MIPR	PM CCS:Picatinny Arsenal, NJ	9.661	2.000		-		-		-	Continuing	Continuing	Continuing
IMS	SS/FP	Robbins-Goia:Alexandria, VA	3.303	-		-		-		-	Continuing	Continuing	Continuing
IMS	SS/FP	BRTRC:Alexandria, VA	2.524	0.600		-		-		-	Continuing	Continuing	Continuing
IMS TSM Spt	MIPR	MTS:Alexandria, VA	0.805	-		-		-		-	Continuing	Continuing	Continuing
LCCE	SS/FP	Tecolote:Ft Monmouth, NJ	0.152	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			16.445	2.600		-		-		-			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Scorpion System Development & Demonstration	SS/CPIF	Textron Defense Systems:,Wilmington, MA	249.655	30.104		-		-		-	Continuing	Continuing	Continuing
Scorpion - MITRE provide C4 support	SS/FP	MITRE:McLean, VA	5.196	0.500		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			254.851	30.604		-		-		-			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
IMS Engineering Support	MIPR	ARDEC:Picatinny Arsenal, NJ	33.107	5.400		-		-		-	Continuing	Continuing	Continuing
Modeling and Simulation	MIPR	NVESD:Ft Belvoir, VA	1.550	0.500		-		-		-	Continuing	Continuing	Continuing
C4ISR and IA	MIPR	CECOM:Ft Monmouth, NJ	1.049	0.200		-		-		-	Continuing	Continuing	Continuing
IMS Engineering Support	MIPR	Various:Various	8.733	0.795		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 016: <i>Close Combat Capabilities ENG DEV</i>
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<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Simple Key Loader (SKL)	MIPR	PEO C3T:Ft Monmouth, N	0.700	-		-		-		-	Continuing	Continuing	Continuing
PEO STRI	MIPR	PEO STRI:Orlando, FL	0.270	0.250		0.012		-		0.012	Continuing	Continuing	Continuing
IMS - PM HMS	MIPR	PM HMS:Ft Monmouth, NJ	4.144	-		-		-		-	Continuing	Continuing	Continuing
Human Engineering	MIPR	ARL HRED:Aberdeen, MD	-	-		-		-		-	Continuing	Continuing	0.000
<b>Subtotal</b>			49.553	7.145		0.012		-		0.012			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SLAD, AMSAA, AEC, DTC, ERDEC, CRTC, TRTC, NTS, FLW	MIPR	SLAD, AMSAA, AEC, DTC, ERDEC, CRTC, TRTC, NTS, FLW:Various	5.439	5.280		-		-		-	Continuing	Continuing	Continuing
DT-G & Live Fire	MIPR	Yuma Proving Grounds:Yuma, AZ	2.915	3.550		-		-		-	Continuing	Continuing	Continuing
Risk Reduction, Environmental	MIPR	White Sands Missile Range:White Sands, NM	1.860	0.950		-		-		-	Continuing	Continuing	Continuing
Operational Test	MIPR	OTC:Ft Hood, TX	0.842	2.400		-		-		-	Continuing	Continuing	Continuing
Live Fire, Limited User Test	MIPR	TMO:Huntsville, AL	-	5.656		-		-		-	Continuing	Continuing	Continuing
Arena Frag Testing	MIPR	ARDEC:Picatinny, NJ	-	1.120		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			11.056	18.956		-		-		-			

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>		331.905	59.305	0.012	0.012			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			PROJECT			
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)		PE 0604808A: Landmine Warfare/Barrier - Eng Dev			016: Close Combat Capabilities ENG DEV			
	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>				<b>PROJECT</b> 415: <i>MINE NEUTRAL/DETECTION</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
415: <i>MINE NEUTRAL/DETECTION</i>	31.952	36.272	78.446	-	78.446	51.185	32.527	23.542	45.081	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This Project provides for Engineering Manufacturing and Development (EMD) for the next generation of capabilities to detect, identify and neutralize explosive hazards such as Improvised Explosive Devices (IEDs) and landmines. These capabilities are a Family of Systems (FOS) encompassing handheld, vehicle mounted, small robotic mounted, aerial platform mounted and area clearance systems operating in manned, remotely controlled, semi-autonomous or fully autonomous modes. Continued development of this FOS is necessary to support Route Clearance Platoons located both within Engineer Companies, and Brigade Combat Teams.

The Husky Mine Detection System (HMDS) provides state of the art detection (ground penetrating radar) of surface laid and shallow buried explosive hazards (IEDs and landmines), deep buried cache detection, and semi-autonomous operation in support of route clearance missions. HMDS is a mission equipment package mounted on Husky route clearance vehicles and is located within Route Clearance Platoons.

The Vehicle Optical Sensor System (VOSS) provides a telescoping, gyro-stabilized, high-resolution, triple sensor (daylight, night-vision, and thermal-imaging) surveillance system to optically detect from standoff distances: explosive hazards (IEDs and landmines) and their trigger sources. VOSS is mounted on Medium Mine Protected Vehicles (MMPV) and the Joint EOD Rapid Response Vehicle (JERRV) located within Route Clearance Platoons and EOD Companies.

The Airborne Counter Explosive Reconnaissance and Targeting System (ACERTS) uses Multi-Spectral Imaging (MSI) and visible/Near Infrared sensors mounted on manned or unmanned aerial vehicles to detect and locate explosive hazards, IEDs and other obstacles that impede maneuver forces.

The Ground Vehicle Sub Surface Sensor System (GVS4) is a payload with detection and neutralization equipment mounted and integrated on manned or unmanned platforms to support Army Heavy and Infantry BCTs. This package may include downward looking, forward looking and side-looking radars, articulating crane arms with digging attachments and standoff optical and thermal viewing capabilities.

The Military Working Dogs will fund development of training devices and a worldwide deployable kennel for transporting/housing of the animals involved in explosive hazard detection.

The Area Mine Proofing System (AMPS) will provide improved capabilities for area clearance of explosive hazards including remote control kits for the medium mine clearing flails that integrates a proofing mechanism with a prime mover.

Explosive Hazard Roller ((EHP) capability to neutralize/detonate a broad spectrum of improvised explosive hazards while on the move, to support route clearance mission.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng</i> <i>Dev</i>	<b>PROJECT</b> 415: <i>MINE NEUTRAL/DETECTION</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> ACERTS Initiate Support to Flight Integration & Test  <b>Description:</b> FY 10-11: ACERTS Initiate Support to Flight Integration & Test  <b>FY 2010 Accomplishments:</b> FY 2010 ACERTS Initiate Support to Flight Integration & Test  <b>FY 2011 Plans:</b> FY 2011 ACERTS Retroactive Contract Rate		<b>Articles:</b> 2.200 0	9.777 0	-
<b>Title:</b> ACERTS Alogorithm Development  <b>Description:</b> ACERTS Initiate Algorithm Detection Enhancement Development  <b>FY 2010 Accomplishments:</b> ACERTS Initiate Algorithm Detection Enhancement Development  <b>FY 2011 Plans:</b> ACERTS Initiate Algorithm Detection Enhancement Development		<b>Articles:</b> 3.900 0	1.661 0	-
<b>Title:</b> ACERTS Development  <b>Description:</b> FY10-11: ACERTS - Initiate Algorithm False Alarm Reduction Development  <b>FY 2010 Accomplishments:</b> FY10-11: ACERTS - Initiate Algorithm False Alarm Reduction Development  <b>FY 2011 Plans:</b> FY10-11: ACERTS - Initiate Algorithm False Alarm Reduction Development		<b>Articles:</b> 4.012 0	0.500 0	-
<b>Title:</b> ACERTS Detection  <b>Description:</b> FY10-11: ACERTS - Initiate Change Detection Algorithm Development  <b>FY 2010 Accomplishments:</b>		<b>Articles:</b> 3.014 0	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011										
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng</i> <i>Dev</i>		<b>PROJECT</b> 415: <i>MINE NEUTRAL/DETECTION</i>								
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2010</b>								
				<b>FY 2011</b>								
				<b>FY 2012</b>								
FY10-11: ACERTS - Initiate Change Detection Algorithm Development												
<b>Title:</b> ACERTS Workstation												
<b>Articles:</b>												
<table border="0" style="width: 100%;"> <tr> <td style="width: 75%;"></td> <td align="right">1.055</td> <td align="center">-</td> <td align="center">-</td> </tr> <tr> <td></td> <td align="right">0</td> <td></td> <td></td> </tr> </table>						1.055	-	-		0		
	1.055	-	-									
	0											
<b>Description:</b> FY10-11: ACERTS - Initiate Next Generation Workstation (NGWS)												
<b>FY 2010 Accomplishments:</b> Initiate Next Generation Workstation (NGWS)												
<b>Title:</b> GVS4 Development												
<b>Articles:</b>												
<table border="0" style="width: 100%;"> <tr> <td style="width: 75%;"></td> <td align="right">11.044</td> <td align="right">15.667</td> <td align="center">-</td> </tr> <tr> <td></td> <td align="right">0</td> <td align="right">0</td> <td></td> </tr> </table>						11.044	15.667	-		0	0	
	11.044	15.667	-									
	0	0										
<b>Description:</b> GVS4 Product Development												
<b>FY 2010 Accomplishments:</b> GVS4 Product Development												
<b>FY 2011 Plans:</b> Retroactive Contract Rate Adjustment												
<b>Title:</b> GVS4 Support												
<b>Articles:</b>												
<table border="0" style="width: 100%;"> <tr> <td style="width: 75%;"></td> <td align="right">4.067</td> <td align="right">4.731</td> <td align="center">-</td> </tr> <tr> <td></td> <td align="right">0</td> <td align="right">0</td> <td></td> </tr> </table>						4.067	4.731	-		0	0	
	4.067	4.731	-									
	0	0										
<b>Description:</b> GVS4 Program Support												
<b>FY 2010 Accomplishments:</b> GVS4 Program Support												
<b>FY 2011 Plans:</b> GVS4 Program Support												
<b>Title:</b> GVS4 Testing and Evaluation												
<b>Articles:</b>												
<table border="0" style="width: 100%;"> <tr> <td style="width: 75%;"></td> <td align="right">1.030</td> <td align="right">0.605</td> <td align="center">-</td> </tr> <tr> <td></td> <td align="right">0</td> <td align="right">0</td> <td></td> </tr> </table>						1.030	0.605	-		0	0	
	1.030	0.605	-									
	0	0										
<b>Description:</b> FY 2010- 2011 GVS4 Testing and Evaluation												
<b>FY 2010 Accomplishments:</b>												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng</i> <i>Dev</i>	<b>PROJECT</b> 415: <i>MINE NEUTRAL/DETECTION</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
FY 2010 GVS4 Test and Evaluation <b>FY 2011 Plans:</b> FY 2011 GVS4 Test and Evaluation				
<b>Title:</b> GVS4 Program Management  <b>Description:</b> FY 2010 - 2011 GVS4 Program Management  <b>FY 2010 Accomplishments:</b> FY 2010 GVS4 Program Management <b>FY 2011 Plans:</b> FY 2011 GVS4 Program Management		<b>Articles:</b> 1.630 0	1.631 0	-
<b>Title:</b> Military Working Dog Kit Development  <b>Description:</b> FY 2011 Military Working Dog Kit Development  <b>FY 2011 Plans:</b> FY 2011 Military Working Dog Kit Development <b>FY 2012 Plans:</b> FY 2012 Military Working Dog Kit Development		<b>Articles:</b> -	1.300 0	1.260
<b>Title:</b> Military Working Dog Program Management  <b>Description:</b> FY 2011 Military Working Dog Program Management  <b>FY 2011 Plans:</b> FY 2011 Military Working Dog Program Management <b>FY 2012 Plans:</b> FY 2012 Military Working Dog Program Management		<b>Articles:</b> -	0.250 0	0.250
<b>Title:</b> Military Working Dog Contractor Support		<b>Articles:</b> -	0.150 0	0.150

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011	
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			
		<b>FY 2010</b>	<b>FY 2011</b>
<b>Description:</b> FY2011: Military Working Dog Contractor Support			
<b>FY 2011 Plans:</b> FY2011: Military Working Dog Contractor Support			
<b>FY 2012 Plans:</b> FY2012: Military Working Dog Contractor Support			
<b>Title:</b> HMDS Contract Award		-	-
<b>Description:</b> FY 2012 HMDS EMD Contract Award			38.223
<b>FY 2012 Plans:</b> HMDS Source Selection and Contract Award			
<b>Title:</b> VOSS MDD & Milestone C		-	-
<b>Description:</b> VOSS MDD & Milestone C Preparation			4.360
<b>FY 2012 Plans:</b> VOSS MDD & Milestone C			
<b>Title:</b> EHP		-	-
<b>Description:</b> FY 2012: EHP Roller Technology Insertion Contract Award			21.120
<b>FY 2012 Plans:</b> EHP Roller Technology Insertion Contract Award			
<b>Title:</b> RCIS		-	-
<b>Description:</b> FY 2012: RCIS MDD, MS C Preparation			5.364
<b>FY 2012 Plans:</b> RCIS MDD, MS C Preparation			
<b>Title:</b> AMPS MDD and MS B Preparation		-	-
<b>Description:</b> FY 2012: AMPS MDD and MS B Preparation			7.719
<b>FY 2012 Plans:</b>			

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 415: <i>MINE NEUTRAL/DETECTION</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
AMPS MDD and MS B Preparation			
<b>Accomplishments/Planned Programs Subtotals</b>	31.952	36.272	78.446

**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 0603619A, Project 606: <i>Countermines/Barrier Advanced Dev</i>	29.399	15.596	35.383		35.383		26.067	29.219	26.504	Continuing	Continuing
• R68102: <i>GSTAMIDS</i>	318.968	35.002	20.678		20.678		31.810	26.442	28.250	Continuing	Continuing
• S11500: <i>ACERTS</i>	0.199									Continuing	Continuing
• MA7700: <i>Countermines Equipment, Less than \$5 Million</i>	4.008	3.655	7.352		7.352		7.613	7.261	6.500	Continuing	Continuing

**D. Acquisition Strategy**

The ACERTS competitively selected Prime System contractor was awarded Cost Plus Incentive Fee (CPIF) System Development and Demonstration (SDD) in FY03 after MDA Milestone B approval. GSV4 entered the SDD Phase in June 2004 with MDA approval of MS B and competitively awarded a SDD Cost Plus Fixed Fee (CPFF) contract. AMDS, HMDS, VOSS, RCIS, AMPS and MWD will all be competitively solicited and contract awards projected in FY 2012-2014. EHP Rollers technology insertion effort is intended to meet the Explosive Hazards Pre-detonation KSA and KPP 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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 415: <i>MINE NEUTRAL/DETECTION</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management	Various	PM-CCS:Picatinny Arsenal, NJ	5.010	1.617		3.472		-		3.472	Continuing	Continuing	0.000
Program Management Contractor Support	PO	USFALCON:Fairfax, VA	8.374	1.600		2.010		-		2.010	Continuing	Continuing	0.000
Program Management Contractor Support	PO	TBD:TBD	-	-		1.106		-		1.106	Continuing	Continuing	0.000
<b>Subtotal</b>			13.384	3.217		6.588		-		6.588			0.000

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
GSTAMIDS (GSV4)	C/CPFF	BAE Systems:Austin, TX	89.643	15.982		-		-		-	Continuing	Continuing	Continuing
ACERTS	C/CPFF	Northrop Grumman:Northrop Grumman	82.480	4.500		-		-		-	Continuing	Continuing	Continuing
MWD	TBD	TBD:TBD	-	1.300		-		-		-	Continuing	Continuing	Continuing
HMDS	TBD	TBD:TBD	-	-		31.123		-		31.123	Continuing	Continuing	Continuing
EHP Roller	TBD	TBD:TBD	-	-		17.120		-		17.120	Continuing	Continuing	Continuing
RCIS	TBD	TBD:TBD	-	-		4.675		-		4.675	Continuing	Continuing	Continuing
AMPS	TBD	TBD:TBD	-	-		6.017		-		6.017	Continuing	Continuing	Continuing
<b>Subtotal</b>			172.123	21.782		58.935		-		58.935			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
GSTAMIDS (GSV4)	MIPR	Various OGAs:Various OGAs	5.253	1.651		-		-		-	Continuing	Continuing	0.000

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 415: <i>MINE NEUTRAL/DETECTION</i>
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<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GSTAMIDS (GSV4) Engineering Support	MIPR	NVESD/CECOM:Fort Belvoir, VA	8.634	2.705		-		-		-	Continuing	Continuing	0.000
GSTAMIDS (GSV4) Support	PO	Various Contractors:Various Contractors	1.645	0.375		-		-		-	Continuing	Continuing	0.000
ACERTS Engineering Support	MIPR	NVESD/CECOM:Fort Belvoir, VA	6.687	1.887		-		-		-	Continuing	Continuing	0.000
ACERTS (Change Detection)	MIPR	NVESD/CECOM:Fort Belvoir, VA	-	2.000		-		-		-	Continuing	Continuing	0.000
ACERTS Support	Various	Various Contractors:Various Contractors	0.903	1.500		-		-		-	Continuing	Continuing	0.000
HMDS	MIPR	NVESD/CECOM:Fort Belvoir, VA	-	-		2.600		-		2.600	Continuing	Continuing	0.000
EHP Roller	MIPR	ARDEC:Picatinny Arsenal, NJ	-	-		2.500		-		2.500	Continuing	Continuing	0.000
VOSS	MIPR	NVESD/CECOM:Fort Belvoir, VA	-	-		3.690		-		3.690	Continuing	Continuing	0.000
RCIS	MIPR	Various OGAs:Various OGAs	-	-		0.350		-		0.350	Continuing	Continuing	0.000
AMPS	MIPR	Various OGAs:Various OGAs	-	-		0.772		-		0.772	Continuing	Continuing	0.000
<b>Subtotal</b>			23.122	10.118		9.912		-		9.912			0.000

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GSV4 Test Support	MIPR	ATEC:Alexandria, VA	2.277	0.605		-		-		-	Continuing	Continuing	0.000
ACERTS	MIPR	ATEC:Alexandria, VA	5.224	0.500		-		-		-	Continuing	Continuing	0.000
MWD	MIPR	ATEC:Alexandria, VA	-	0.050		-		-		-	0.000	0.050	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT
2040: Research, Development, Test & Evaluation, Army PE 0604808A: Landmine Warfare/Barrier - Eng 415: MINE NEUTRAL/DETECTION
BA 5: Development & Demonstration (SDD) Dev

Table with columns: Cost Category Item, Contract Method & Type, Performing Activity & Location, Total Prior Years Cost, FY 2011 Cost, FY 2011 Award Date, FY 2012 Base Cost, FY 2012 Base Award Date, FY 2012 OCO Cost, FY 2012 OCO Award Date, FY 2012 Total Cost, Cost To Complete, Total Cost, Target Value of Contract. Includes rows for HMDS, EHP Roller, RCIS, AMPS, and a Subtotal row.

Summary table row with columns: Total Prior Years Cost, FY 2011, FY 2012 Base, FY 2012 OCO, FY 2012 Total, Cost To Complete, Total Cost, Target Value of Contract. Includes a Project Cost Totals row.

Remarks

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 415: <i>MINE NEUTRAL/DETECTION</i>
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	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
Contracting Testing				■																								
GSV4 Retroactive Rate Adjustment				■	■	■	■	■																				
ACERTS Retroactive Rate Adjustment				■	■	■	■	■																				
HMDS Material Development Decision (MDD)				■																								
HMDS Milestone C																	■											
HMDS Low Rate Initial Production (LRIP)																						■						
HMDS Full Rate Production (FRP) Decision																										■		
EHP Roller Material Development Decision (MDD)							■																					
EHP Roller Milestone C																												
EHP Roller Low Rate Initial Production (LRIP)																												
EHP Roller Full Rate Production (FRP) Decision																												
VOSS Material Development Decision (MDD)																												
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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
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	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
Milestone B																												
Critical Design Review																												
AMDS Milestone C																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng</i> Dev	<b>PROJECT</b> 415: <i>MINE NEUTRAL/DETECTION</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Contracting Testing	4	2010	4	2010
GSV4 Retroactive Rate Adjustment	4	2010	3	2011
ACERTS Retroactive Rate Adjustment	4	2010	3	2011
HMDS Material Development Decision (MDD)	1	2011	1	2011
HMDS Milestone C	3	2014	3	2014
HMDS Low Rate Initial Production (LRIP)	1	2015	1	2015
HMDS Full Rate Production (FRP) Decision	1	2016	1	2016
EHP Roller Material Development Decision (MDD)	2	2011	2	2011
EHP Roller Milestone C	3	2013	3	2013
EHP Roller Low Rate Initial Production (LRIP)	3	2013	3	2014
EHP Roller Full Rate Production (FRP) Decision	2	2014	2	2014
VOSS Material Development Decision (MDD)	4	2011	4	2011
VOSS Milestone C	2	2013	2	2013
VOSS Low Rate Initial Production (LRIP)	3	2013	4	2013
VOSS Full Rate Production (FRP) Decision	1	2014	1	2014
RCIS Material Development Decision (MDD)	1	2011	1	2011
RCIS Milestone C	1	2012	1	2012
RCIS Low Rate Initial Production (LRIP)	2	2012	4	2013
RCIS Full Rate Production (FRP) Decision	4	2013	4	2013
AMPS Milestone C	3	2013	3	2013
AMPS Low Rate Initial Production (LRIP)	4	2013	1	2014
AMPS Full Rate Production (FRP) Decision	4	2014	1	2015

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
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Events	Start		End	
	Quarter	Year	Quarter	Year
Milestone B	3	2012	3	2012
Critical Design Review	1	2014	1	2014
AMDS Milestone C	3	2015	3	2015

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>				<b>PROJECT</b> 434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>	-	-	8.968	-	8.968	13.958	14.879	6.887	-	0.000	44.692
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Develop Spider Networked Munitions (NM) Increment 2 capabilities to provide an improved NM Controller and the ability to employ and control fielded Army common Anti-Personnel (AP) and Anti-Vehicle (AV) lethal and non-lethal munitions and effects. The Spider Increment 2 program is the recipient of the transferred anti-vehicle landmine alternative mission from the Intelligent Munitions System called Scorpion program. Scorpion is being closed out due to affordability. Spider Increment 2 will build on the existing Spider system and develop the capability to initiate existing anti-vehicle munitions from the enhanced Spider Controller.

Develop a field-deployable munitions control capability that provides initiation capability of legacy AP and AV lethal and non-lethal munitions against the current threat, and allows for control of either COTS/GOTS and/or future AV munitions development to utilize this controller.

The Spider is a hand emplaced, remotely controlled, anti-personnel (Man-In-The-Loop) and anti-vehicle munition system. The system is made up of 4 subsystems: Remote Control Station (the system command and control station), Repeater (a communication link to the munitions that provides extended range), and Munition Control Units (delivers anti-personnel & anti-vehicle effects). Missions include force protection, shaping the battlefield, provide warning, delay enemy forces and attrit enemy forces. The Spider is designed to mitigate the indiscriminate engagement of the lethal mechanism. A Soldier/Marine makes a conscious decision to engage a target with the lethal and/or a non-lethal mechanism. The envisioned obstacle can be either a permanent obstacle or a temporary obstacle intended to be reused in other locations, such as forward airbases.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Controller & Interface Box Development - Contract	-	-	5.750
<b>Description:</b> NM Increment 2 Controller and ability to employ/control AP & AV			
<b>FY 2012 Plans:</b> FY12 Controller & Interface Box Development			
<b>Title:</b> Engineering Support	-	-	2.718
<b>Description:</b> Perform engineering support.			
<b>FY 2012 Plans:</b>			

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2010	FY 2011	FY 2012
Provide Spider Networked Munitions (NM) Increment 2 engineering support.			
<b>Title:</b> PM & Support	-	-	0.500
<b>Description:</b> Program Management and support			
<b>FY 2012 Plans:</b> Program Management and support Spider Networked Munitions (NM) Increment 2.			
<b>Accomplishments/Planned Programs Subtotals</b>	-	-	8.968

**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
• PAA E91700: <i>PAA Spider Basic Program</i>	48.213	24.383	43.123		43.123					0.000	129.836
• OPA2 B55501: <i>OPA2 Spider - APLA Remote Control Unit</i>	21.753	8.127	36.217		36.217		4.473	6.493	6.720	0.000	114.629

**D. Acquisition Strategy**  
Full and open competition will be considered for the Spider Increment 2 Networked Munitions Controller and Interface Box for the Engineering Manufacturing Development (EMD) efforts of this program. Conduct a detailed assessment that identifies the recommended path forward for the Spider Increment 2 Networked Munitions controller, software architecture, operating system, and the recommended safety approach. Develop a field-deployable munitions control capability that provides initiation capability of legacy AV munitions against the current threat, and allows for control of either COTS/GOTS and/or future AV munitions development to utilize this controller.

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



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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider - Program Mgmt	Various	PM-CCS:Picatinny Arsenal, NJ	2.922	-		0.500		-		0.500	Continuing	Continuing	0.000
<b>Subtotal</b>			2.922	-		0.500		-		0.500			0.000

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider SDD	C/CPIF	Alliant Tech Systems / TEXTRON:Plymouth, MN/Wilmington, MA	1.432	-		-		-		-	Continuing	Continuing	0.000
Spider EMD	C/CPIF	TBD:TBD	-	-		5.500		-		5.500	0.000	5.500	0.000
Mitre provide C4 support	MIPR	Mitre:McLean, VA	0.100	-		0.250		-		0.250	Continuing	Continuing	0.000
<b>Subtotal</b>			1.532	-		5.750		-		5.750			0.000

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider - Eng support	MIPR	TACOM/ ARDEC:Warren, MI/ Picatinny Arsenal, NJ	12.957	-		1.500		-		1.500	Continuing	Continuing	0.000
Spider - Eng support	MIPR	Various:Various	5.262	-		1.018		-		1.018	Continuing	Continuing	0.000
Spider - Eng support	Various	BRTRC, CORBETT:Various	2.352	-		0.200		-		0.200	Continuing	Continuing	0.000
<b>Subtotal</b>			20.571	-		2.718		-		2.718			0.000

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>
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<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider -Test and Evaluation	TBD	Army Evaluation Center:FT Benning, GA/YUMA, AZ	10.406	-		-		-		-	Continuing	Continuing	0.000
<b>Subtotal</b>			10.406	-		-		-		-			0.000

**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
<b>Project Cost Totals</b>	35.431	-	8.968	-	8.968			0.000

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>

	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
Control Station & MCB Development																												
Contractor / Government DT																												
LUT																												
PVT																												
Initial Operational Test																												
MS C/ LRIP Decision																												
Full Rate Production Decision																												
Initial Operational Capability																												

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	<b>PROJECT</b> 434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Control Station & MCB Development	2	2012	3	2014
Contractor / Government DT	4	2013	2	2014
LUT	2	2014	2	2014
PVT	4	2014	4	2014
Initial Operational Test	1	2015	1	2015
MS C/ LRIP Decision	3	2014	3	2014
Full Rate Production Decision	3	2015	3	2015
Initial Operational Capability	4	2015	4	2015

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				PE 0604814A: <i>Artillery Munitions - EMD</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	40.856	26.371	42.627	-	42.627	4.299	2.347	0.025	0.027	Continuing	Continuing
708: <i>XM982 PROJECTILE</i>	40.856	26.371	42.627	-	42.627	4.299	2.347	0.025	0.027	Continuing	Continuing

**Note**

Change Summary Explanation:

FY 2012: Increase of \$34.673 million is attributed to new estimate for Increment Ib execution based on actual costs from the Increments Ia program. The majority of this funding is necessary to support required Operational Testing of Increment Ib and increased from original estimates based on the actual costs of the Increment Ia IOT&E and the new requirement to conduct a Limited User Test to support a Milestone C decision. Other drivers were an extension of the Increment Ib development effort that led to a very successful down select in 4QFY10 and the requirement to provide an out of cycle update to Advanced Field Artillery Tactical Data Systems (AFATDS) in support of Increment Ib fielding in FY13.

**A. Mission Description and Budget Item Justification**

Excalibur provides improved fire support through a Precision Guided Extended Range family of munitions with greatly increased accuracy and significantly reduces collateral damage in most urban environments. The Excalibur is interoperable with the M777A2 Lightweight 155mm howitzer (LW155), and the M109A6 (Paladin) howitzer. Excalibur will provide a 33% range increase over current Rocket Assisted Projectiles, with a 10 meter accuracy (Circular Error Probable) at all ranges. Excalibur is an international program, teamed with the Kingdom of Sweden (KoS), who contributes resources towards the development in accordance with an established Project Agreement.

The Excalibur program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible, and to deliver advanced capabilities at lower costs as technology matures. Increment Ia-1 has been fielded to units in Iraq and Afghanistan in response to urgent need requests in support of Operation Iraqi Freedom (as of September 2010 re-named to Operation New Dawn) and Operation Enduring Freedom. Production deliveries continue to support the Warfighters. Increment Ia-2 will be delivered in FY11 and will greatly increase range to LW155 and Paladin. Increment Ib will provide further performance improvements while significantly lowering unit costs.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604814A: <i>Artillery Munitions - EMD</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	42.230	26.371	7.954	-	7.954
Current President's Budget	40.856	26.371	42.627	-	42.627
Total Adjustments	-1.374	-	34.673	-	34.673
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.374	-			
• Adjustments to Budget Years	-	-	34.673	-	34.673

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604814A: <i>Artillery Munitions - EMD</i>	<b>PROJECT</b> 708: <i>XM982 PROJECTILE</i>
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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
708: <i>XM982 PROJECTILE</i>	40.856	26.371	42.627	-	42.627	4.299	2.347	0.025	0.027	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Excalibur provides improved fire support through a Precision Guided Extended Range family of munitions with greatly increased accuracy and significantly reduces collateral damage in most urban environments. The Excalibur is interoperable with the M777A2 Lightweight 155mm howitzer (LW155), and the M109A6 (Paladin) howitzer. Excalibur will provide a 33% range increase over current Rocket Assisted Projectiles, with a 10 meter accuracy (Circular Error Probable) at all ranges. Excalibur is an international program, teamed with the Kingdom of Sweden (KoS), who contributes resources towards the development in accordance with an established Project Agreement.

The Excalibur program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible, and to deliver advanced capabilities at lower costs as technology matures. Increment Ia-1 has been fielded to units in Iraq and Afghanistan in response to urgent need requests in support of Operation Iraqi Freedom (as of September 2010 re-named to Operation New Dawn) and Operation Enduring Freedom. Production deliveries continue to support the Warfighters. Increment Ia-2 will be delivered in FY11 and will greatly increase range to LW155 and Paladin. Increment Ib will provide further performance improvements while significantly lowering unit costs.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Advanced Field Artillery Tactical Data Systems (AFATDS)</p> <p align="right"><b>Articles:</b></p>	0.122 0	0.500 0	3.000
<p><b>Description:</b> Engineering support for Excalibur platform integration to include development and qualification of the Enhanced Platform Integration Kit and Portable Inductive Artillery Fuze Setter (EPIAFS), Advanced Field Artillery Tactical Data Systems (AFATDS), and digital howitzer integration.</p> <p><b>FY 2010 Accomplishments:</b> Advanced Field Artillery Tactical Data Systems (AFATDS)</p> <p><b>FY 2011 Plans:</b> Advanced Field Artillery Tactical Data Systems (AFATDS)</p> <p><b>FY 2012 Plans:</b> Advanced Field Artillery Tactical Data Systems (AFATDS)</p>			
<p><b>Title:</b> Conduct Initial Operational Test &amp; Evaluation (IOT&amp;E) efforts for Increment Ia.</p> <p align="right"><b>Articles:</b></p>	4.371 0	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604814A: <i>Artillery Munitions - EMD</i>	<b>PROJECT</b> 708: <i>XM982 PROJECTILE</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Description:</b> Conduct Initial Operational Test & Evaluation (IOT&E) efforts for Increment Ia.				
<b>FY 2010 Accomplishments:</b> Conduct Initial Operational Test & Evaluation (IOT&E) efforts for Increment Ia.				
<b>Title:</b> Increment Ib development effort.		35.069	20.771	28.305
		<b>Articles:</b> 0	0	
<b>Description:</b> Increment Ib development effort.				
<b>FY 2010 Accomplishments:</b> Initiate and implement Increment Ib development effort to include detailed design, reliability growth, and procure test hardware for developmental testing.				
<b>FY 2011 Plans:</b> Continuation of Increment Ib development effort to include detailed design, reliability growth, design refinement, perform Critical Design Review (CDR), and procuring test hardware for the developmental testing of Increment Ib.				
<b>FY 2012 Plans:</b> Continuation of Increment Ib development effort, complete detailed design, design refinement, procure test hardware for developmental testing and to complete qualification testing to support transition into production of Increment Ib.				
<b>Title:</b> Support and conduct developmental and qualification testing for Increment Ib.		1.294	5.100	4.072
		<b>Articles:</b> 0	0	
<b>Description:</b> Support and conduct developmental and qualification testing for Increment Ib.				
<b>FY 2010 Accomplishments:</b> Support and conduct developmental and qualification testing for Increment 1b.				
<b>FY 2011 Plans:</b> Support and conduct developmental and qualification testing for Increment Ib.				
<b>FY 2012 Plans:</b> Support and conduct developmental and qualification testing for Increment Ib.				
<b>Title:</b> Conduct Initial Operational Test & Evaluation (IOT&E) efforts for Increment Ib.		-	-	7.250
<b>Description:</b> Conduct Initial Operational Test & Evaluation (IOT&E) efforts for Increment Ib.				



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604814A: <i>Artillery Munitions - EMD</i>	<b>PROJECT</b> 708: <i>XM982 PROJECTILE</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b><i>FY 2012 Plans:</i></b> Conduct Initial Operational Test & Evaluation (IOT&E) efforts for Increment Ib.			
<b>Accomplishments/Planned Programs Subtotals</b>	40.856	26.371	42.627

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Procurement Ammunition Army: <i>Procurement Ammunition Army: Proj 155mm Extended Range: XM982-U Excalibur: E80103</i>	112.855	62.114	69.074		69.074		67.009			0.000	419.964
• Other Procurement Army 2: <i>Other Procurement Army ( OPA2): Enhanced Portable Inductive Fuze Setter (EPIAFS): AD3260</i>		3.074								0.000	3.074

**D. Acquisition Strategy**

Excalibur is a family of Precision Guided Extended Range Munitions. In 1997, a competitive source selection awarded an Engineering and Manufacturing Development (EMD) contract for the initial increment, with options for Low Rate Initial Production (LRIP) quantities. In coordination with the Army Acquisition Executive, the Army implemented an incremental development approach that provided for an early fielding capability in FY07 in response to an Urgent Needs Statement in support of Operation Iraqi Freedom (as of September 2010 re-named to Operation New Dawn) and Operation Enduring Freedom. Increment Ib was solicited as a full and open competition and awarded to two contractors. The Increment Ib strategy was to conduct a demonstration phase followed by a shoot off and down select to a single contractor for qualification and production. The shoot off was completed in July 2010 followed by the downselect decision on 25 August 2010 to support Phase II development and qualification.

The Army reviewed the Excalibur program as part of a Precision Fires Capability Portfolio Review (CPR) and concluded that the Army Procurement Objective quantity to be delivered for operational use should be reduced from 30,000 projectiles to 6,264. On April 22, 2010 the Army Acquisition Executive chaired an annual Configuration Steering Board where he accepted the CPR assessment and recommendation to reduce the projectile quantity to 6,264. The significant quantity reduction resulted in unit cost growth that exceeds the critical statutory Acquisition Program Baseline thresholds. Pursuant to section 2433a of title 10, United States Code, the Under Secretary of Defense (Acquisition, Technology and Logistics) (USD(AT&L)) conducted a review of the Excalibur program. On January 10, 2011 the USD(AT&L) certified with respect to the restructured Excalibur program that:

- a. the continuation of the program is essential to the national security;
- b. there are no alternatives to the program which will provide acceptable capability to meet the joint military requirement at less cost;

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0604814A: <i>Artillery Munitions - EMD</i>	708: <i>XM982 PROJECTILE</i>

- c. the new estimates of the program acquisition unit cost or procurement unit cost have been determined by the Director of Cost Assessment and Program Evaluation to be reasonable;
- d. the program is a higher priority than programs whose funding must be reduced to accommodate the growth in cost of the program; and
- e. the management structure for the program is adequate to manage and control program acquisition unit cost or procurement unit cost.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604814A: <i>Artillery Munitions - EMD</i>	<b>PROJECT</b> 708: <i>XM982 PROJECTILE</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Excalibur Increment Ia Development	C/CPIF	Raytheon Missile System:Tucson, AZ	428.187	-		-		-		-	Continuing	Continuing	Continuing
Fee on Excalibur Development Contract	C/CPIF	Raytheon Missile System:Tucson, AZ	35.379	-		-		-		-	Continuing	Continuing	Continuing
TCM Merger Assessment	SS/FP	Bofors Defence, Karlskoga:Sweden	14.430	-		-		-		-	Continuing	Continuing	Continuing
Platform Integration-Systems Contractor	MIPR	ARES:Annapolis, MD	0.840	-		-		-		-	Continuing	Continuing	Continuing
Platform Integration/Fire Control - AFATDS	SS/CPIF	Raytheon AFATDS:Fort Wayne, IN	5.045	0.500		3.000		-		3.000	Continuing	Continuing	Continuing
Misc Support Contracts	Various	Various:Various	3.090	0.100		0.200		-		0.200	Continuing	Continuing	Continuing
Platform Integration Firing Tables Development	MIPR	ARDEC, Firing Tables Branch Picatinny, NJ and:Aberdeen, MD	2.124	-		-		-		-	Continuing	Continuing	Continuing
Platform Integration LW155 M777A2	C/CPIF	BAE:Burlington, VT	11.989	-		-		-		-	Continuing	Continuing	Continuing
Increment Ib Development	C/CPIF	Raytheon Missile System:Tucson, AZ	48.882	18.996		21.804		-		21.804	Continuing	Continuing	Continuing
SS-SFM Test Projectiles	C/FFP	Various:Varoius	10.815	-		-		-		-	Continuing	Continuing	Continuing
Govt Support Platform Integration Development	MIPR	ARDEC:Picatinny, NJ	6.775	-		-		-		-	Continuing	Continuing	Continuing
Platform Integration & EPIAFS Software Development	MIPR	Navy, Surface Warfare Center:MD	0.230	-		-		-		-	Continuing	Continuing	Continuing
Follow on Precision Artillery risk reduction	C/CPFF	ARDEC:Picatinny, NJ	5.049	-		-		-		-	Continuing	Continuing	Continuing
ARDEC fuze technology maturation (DOTC)	SS/FP	ARDEC:Picatinny, NJ	3.872	-		-		-		-	Continuing	Continuing	Continuing
Advanced Cargo Projectile Technology	MIPR	DMEA, McClellan:CA	2.390	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			579.097	19.596		25.004		-		25.004			

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604814A: <i>Artillery Munitions - EMD</i>	<b>PROJECT</b> 708: <i>XM982 PROJECTILE</i>
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<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Program Management	PO	PM Excalibur:Picatinny, NJ	25.873	0.500		0.751		-		0.751	Continuing	Continuing	Continuing
Government TCM Support	MIPR	ARDEC:Picatinny, NJ	0.910	-		-		-		-	Continuing	Continuing	Continuing
Government Support- Ft Sill	MIPR	Ft. Sill:OK	3.524	0.075		0.100		-		0.100	Continuing	Continuing	Continuing
Government Support- Excalibur XM982	MIPR	ARDEC:Picatinny, NJ	58.833	1.000		5.000		-		5.000	Continuing	Continuing	Continuing
Paladin Platform Integration	MIPR	PM Paladin:Picatinny, NJ	0.930	-		-		-		-	Continuing	Continuing	Continuing
Modeling and Structural Development	MIPR	Army Research Labs:Adelphi, MD	9.034	-		-		-		-	Continuing	Continuing	Continuing
Milestone Support	C/FP	Camber:Alexandria, VA	1.673	-		0.050		-		0.050	Continuing	Continuing	Continuing
Government Support Platform Integration	MIPR	ARDEC:Picatinny, NJ	6.241	-		-		-		-	Continuing	Continuing	Continuing
Technical Spt Contract for Platform Integration	C/FP	Camber:Dallas, TX	0.821	-		-		-		-	Continuing	Continuing	Continuing
Fire Control development support	MIPR	Fort Monmouth, NJ and:Fort Sill, OK	1.008	-		-		-		-	Continuing	Continuing	Continuing
Government Engineering Support for Precision Artillery Risk Reduction	MIPR	ARDEC:Picatinny, NJ	2.750	-		-		-		-	Continuing	Continuing	Continuing
Miscellaneous Support	Various	Various:Various	3.750	0.100		0.400		-		0.400	Continuing	Continuing	Continuing
Platform Integration Software Support	MIPR	Navy Surface Warfare Center:MD	0.390	-		-		-		-	Continuing	Continuing	Continuing
PM CAS SS-SFM	PO	PM CAS:Picatinny, NJ	0.700	-		-		-		-	Continuing	Continuing	Continuing
Government Support - SS-SFM	MIPR	ARDEC:Picatinny, NJ	1.625	-		-		-		-	Continuing	Continuing	Continuing
Increment 1a Engineering Services	C/CPFF	DRS:Eatontown, NJ	12.850	-		-		-		-	Continuing	Continuing	Continuing
Increment 1a Engineering Services	MIPR	DMEA:McClellan, CA	4.778	-		-		-		-	Continuing	Continuing	Continuing
Engineering Services for Increment 1a-2	SS/CPFF	ARDEC:Picatinny, NJ	-	-		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604814A: <i>Artillery Munitions - EMD</i>	<b>PROJECT</b> 708: <i>XM982 PROJECTILE</i>
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<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Support-Advanced Cargo Projectile Technology	MIPR	ARDEC:Picatinny, NJ	0.353	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			136.043	1.675		6.301		-		6.301			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TECOM Test Range	MIPR	Yuma Proving Grounds:Yuma, AZ	19.843	0.200		3.150		-		3.150	Continuing	Continuing	Continuing
Test Instrumentation and Analysis	MIPR	Army Research Labs:Adelphi, MD	3.377	0.200		0.250		-		0.250	Continuing	Continuing	Continuing
Telemetry Support	SS/FFP	Physical Science Laboratories (PSL):Las Cruces, NM	2.746	0.200		0.200		-		0.200	Continuing	Continuing	Continuing
Telemetry Support	MIPR	ARDEC:Picatinny, NJ	17.561	0.100		0.100		-		0.100	Continuing	Continuing	Continuing
Telemetry Cryptographic Support & Anti-Jam Support	MIPR	Ft. Huachuca:AZ	0.743	0.085		0.102		-		0.102	Continuing	Continuing	Continuing
Tri-Service Software Assessment	MIPR	OSD:Washington, DC	0.061	-		-		-		-	Continuing	Continuing	Continuing
Target Replacement, Definition, Maintenance and Repair and Threat Assessment	MIPR	Target Management Office:Huntsville, AL	1.301	-		0.050		-		0.050	Continuing	Continuing	Continuing
Operational Test Support & AEC	MIPR	A TEC:Alexandria, VA	9.024	0.095		0.120		-		0.120	Continuing	Continuing	Continuing
ARDEC Testing	MIPR	ARDEC:Picatinny, NJ	2.458	0.050		0.100		-		0.100	Continuing	Continuing	Continuing
Test Gun Equipment	MIPR	Watervliet Arsenal:NY	3.972	-		-		-		-	Continuing	Continuing	Continuing
SS-SFM Testing	MIPR	Yuma Proving Grounds:Yuma, AZ	2.300	-		-		-		-	Continuing	Continuing	Continuing
TECOM Test Range	MIPR		6.366	4.170		7.000		-		7.000	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604814A: <i>Artillery Munitions - EMD</i>	<b>PROJECT</b> 708: <i>XM982 PROJECTILE</i>
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<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
		White Sands Missile Range:NM												
Live Fire Test and Evaluation	MIPR	ARL:Aberdeen, MD	0.697	-		-		-		-	Continuing	Continuing	Continuing	
Operational Test Support	MIPR	Ft. Sill:OK	3.144	-		0.250		-		0.250	Continuing	Continuing	Continuing	
Test Hardware	SS/CPFF	SAVIT:Parsippany, NJ	0.450	-		-		-		-	Continuing	Continuing	Continuing	
<b>Subtotal</b>			74.043	5.100		11.322		-		11.322				
			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract	
<b>Project Cost Totals</b>			789.183	26.371		42.627		-		42.627				

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604814A: <i>Artillery Munitions - EMD</i>	<b>PROJECT</b> 708: <i>XM982 PROJECTILE</i>

	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
Increment Ia-2 Prod. Deliveries																												
Increment Ia-2 IOT&E	■																											
Increment Ia-2 IOC							■																					
Increment Ib Downselect Decision			■																									
Increment Ib Milestone C											■																	
Increment Ib Production Award											■																	
Increment Ib Production Deliveries																												
Preparation & Execution of Increment Ib IOT&E												■																
Increment Ib First Article Testing															■													
Increment Ib IOC																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604814A: <i>Artillery Munitions - EMD</i>	<b>PROJECT</b> 708: <i>XM982 PROJECTILE</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Increment Ia-2 Prod. Deliveries	2	2011	1	2013
Increment Ia-2 IOT&E	1	2010	1	2010
Increment Ia-2 IOC	3	2011	3	2011
Increment Ib Downselect Decision	3	2010	3	2010
Increment Ib Milestone C	2	2012	2	2012
Increment Ib Production Award	2	2012	2	2012
Increment Ib Production Deliveries	2	2013	1	2016
Preparation & Execution of Increment Ib IOT&E	3	2012	4	2012
Increment Ib First Article Testing	2	2013	2	2013
Increment Ib IOC	1	2014	1	2014



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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604817A: <i>Combat Identification</i>
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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	7.740	29.884	-	-	-	-	-	-	-	Continuing	Continuing
482: <i>Ground Combat Identification</i>	7.740	29.884	-	-	-	-	-	-	-	Continuing	Continuing

**Note**

Program Summary Explanation: FY09, FY10 and FY11 funding realigned to higher priority requirements.

**A. Mission Description and Budget Item Justification**

Combat Identification (CID) is a family of systems to maximize overall combat effectiveness by minimizing and mitigating incidents of fratricide and maximizing the situational understanding of the trigger puller across a broad spectrum of Joint and Coalition combat operations. This is accomplished by the identification of friends, enemies/foes, and neutrals in the Joint and Coalition battle space. Based on program prioritization from the Deputy Secretary of Defense and the Deputy's Advisory Working Group (DAWG), the Joint Cooperative Target Identification-Ground (JCTI-G) efforts have been refocused to address fratricide incidents involving Fires-on-Dismounts (FoD) and Air to Ground (A-G) fires. This is a Joint effort with the United States Marine Corps that will be equitably allocated in support of Fires-onDismount development. This program has been designated Special Interest by the Defense Acquisition Executive.

FY11 supports JCTI-G program efforts for FoD and A-G. These efforts assume a Materiel Development Decision (MDD) and initiation of an Analysis of Alternatives (AoA) in 2QFY10 that results in a Materiel Solution decision by the end of 4QFY10. The results of the AoA will be used to adjust the program schedule as required and inform the Army funding resource requirements for FY13. Milestone (MS) A decisions for entry into Technology Development acquisition phase for both FoD and A-G efforts are assumed to occur in 4QFY11. Efforts will focus the execution of the MS decision process to include program and acquisition document preparation. Also, efforts will include technical and acquisition planning for contract solicitation such as requirements analyses and the generation of an Acquisition Requirements Package. In addition, funding in FY11 will continue with the technical maturation efforts associated with the FoD requirement.

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604817A: <i>Combat Identification</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	10.018	29.884	15.041	-	15.041
Current President's Budget	7.740	29.884	-	-	-
Total Adjustments	-2.278	-	-15.041	-	-15.041
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-2.278	-	-15.041	-	-15.041

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604817A: <i>Combat Identification</i>	<b>PROJECT</b> 482: <i>Ground Combat Identification</i>
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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
482: <i>Ground Combat Identification</i>	7.740	29.884	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Combat Identification (CID) is a family of systems to maximize overall the combat effectiveness of forces by minimizing and mitigating incidents of fratricide and maximizing the situational understanding of the trigger puller across the broad spectrum of Joint and Coalition combat operations. This is accomplished by the identification of friends, enemies/foes and neutrals in the Joint and Coalition battle space. Based on program prioritization direction from the Deputy Secretary of Defense and the Deputy's Advisory Working Group (DAWG), the Joint Cooperative Target Identification - Ground (JCTI-G) efforts have been refocused to address fratricide incidents involving Fires-on-Dismounts (FoD) and Air to Ground (A-G) fires. The FoD is a Joint effort with the United States Marine Corps. In accordance with an Army/Marine Corps MOA, funding for FoD systems development will be equitably shared between the two services. This program has been designated Special Interest by the Defense Acquisition Executive.

FY12 supports JCTI-G program efforts for FoD and A-G. With the approval of the JCTI-G Analysis of Alternatives (AoA) guidance, the scope AoA resulted is a two phased approach with the effort completing approximately six months later than originally planned. The correspondingly effect was to shift most program milestones to the right. Phase 1 will be complete by end of 4QFY10 and Phase 2 complete by the end of April 2011 resulting in a Materiel Solution recommendation. Milestone (MS) A decisions for entry into Technology Development (TD) acquisition phase for both FoD and A-G will occur in 1QFY12. FY12 efforts will include the continued staffing of the Project and Product Joint Program Offices. The efforts will finalize the program and acquisition documentation required for the MS A decision. Systems engineering efforts during FY12 will include development of the systems and technical architectures along with the requirements analysis to produce a System Performance Based Specification. The program will prepare the necessary technical and acquisition documentation for the generation of an Acquisition Requirements Package to allow the solicitation of multiple TD contracts. In addition, FY12 will continue with the technical maturation efforts associated with the FoD requirement.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Alternatives of Analysis (AOA) Conduct</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Alternatives of Analysis (AOA) Conduct</p> <p><b>FY 2010 Accomplishments:</b> Alternatives of Analysis (AOA) Conduct</p>	0.460 0	- -	- -
<p><b>Title:</b> Preparation for JCTI-G, Milestone (MS) A</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Preparation for JCTI-G, Milestone (MS) A</p>	2.000 0	10.000 0	- -

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604817A: <i>Combat Identification</i>	<b>PROJECT</b> 482: <i>Ground Combat Identification</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b><i>FY 2010 Accomplishments:</i></b> Preparation for JCTI-G, Milestone (MS) A				
<b><i>FY 2011 Plans:</i></b> Preparation for JCTI-G, Milestone (MS) A				
<b><i>Title:</i></b> Fires on Dismounts (FOD) Maturation		5.000	14.500	-
<b><i>Description:</i></b> Fires on Dismounts Maturation		0	0	
<b><i>FY 2010 Accomplishments:</i></b> Fires on Dismounts Maturation				
<b><i>FY 2011 Plans:</i></b> Fires on Dismounts Maturation				
<b><i>Title:</i></b> Soldier Non Cooperative Target Identification		-	5.384	-
<b><i>Description:</i></b> Soldier Non Cooperative Target Identification			0	
<b><i>FY 2011 Plans:</i></b> Soldier Non Cooperative Target Identification				
<b><i>Title:</i></b> SBIR/STTR		0.280	-	-
<b><i>Description:</i></b> SBIR/STTR		0		
<b><i>FY 2010 Accomplishments:</i></b> SBIR/STTR				
<b>Accomplishments/Planned Programs Subtotals</b>		7.740	29.884	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604817A: <i>Combat Identification</i>	<b>PROJECT</b> 482: <i>Ground Combat Identification</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 11309: <i>RDTE, USMC MCPC</i>		20.374	21.531		21.531		14.968	14.999		Continuing	Continuing

**D. Acquisition Strategy**

Modified in accordance with the direction received from the Deputy's (Secretary of Defense) Advisory Working Group (DAWG) meeting on 22 Sep 2009. The Joint Cooperative Target Identification Ground (JCTI-G) program has been refocused to prioritize efforts to address fratricide incidents involving Fires-on-Dismounts (FoD) as the first program increment and Air-to-Ground (A-G) as second increment. The JCTI-G FoD increment is a Joint Army-Marine Corps development effort led by the Army that was codified in a 14 Jan 2010 Memorandum of Understanding between the Vice Chief of Staff of the Army and the Assistant Commandant of the Marine Corps. The JCTI-G Material Development Decision (MDD) Acquisition Decision Memorandum (ADM) was signed by the Defense Acquisition Executive, Dr. Ashton Carter on 23 Jun 2010. The MDD ADM authorized the program's entry into the Materiel Solution Analysis (MSA) Phase and commencement of an Analysis of Alternatives (AoA). The two phased AoA is expected to be completed by Apr 2011 resulting in program and materiel solution recommendations. The A-G increment is expected to include all service representation. The A-G service lead and product office structure will be further informed by the results of the AoA in FY11. The program Milestone (MS) A decision and entry into the Technology Development (TD) phase is expected in FY12. The MS A will determine the appropriate acquisition entry point for A-G increment. The MS A will be followed by the release of the FoD Acquisition Requirements Package to solicit and competitively award multiple TD contracts in FY12. Two (or more) TD cost-plus type contracts will be awarded to competing teams to develop system (or key system elements) prototypes for demonstrating in a relevant environment and conduct or a Preliminary Design Review (PDR) prior to MS B. A successful MS B along with an approved Capability Development Document (CDD) and Acquisition Strategy will be the criteria supporting a MS B and entry into Engineering & Manufacturing Development (EMD) Phase. The result of EMD will be a baseline system configuration for production. This strategy will require the support of other Military Services and Government Agencies.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604817A: <i>Combat Identification</i>	<b>PROJECT</b> 482: <i>Ground Combat Identification</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management	Various	PM NavSys/PM TMS:various	8.778	1.524		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			8.778	1.524		-		-		-			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
B-Kit Development	Various	TRW:various	69.765	-		-		-		-	Continuing	Continuing	Continuing
A-Kit Development (Abrams)	Various	GDLS:various	10.909	-		-		-		-	Continuing	Continuing	Continuing
A-Kit Development (Bradley)	Various	UDLP:various	3.364	-		-		-		-	Continuing	Continuing	Continuing
A-Kit Development (Various)	Various	E&S, TRW, UDLP, AM General, Raytheon.:various	5.836	-		-		-		-	Continuing	Continuing	Continuing
Air-to-Ground Efforts	Various	I2WD:various	2.206	-		-		-		-	Continuing	Continuing	Continuing
Air-to-Ground Solution Efforts	Various	Sandia National Labs/DOE:various	0.550	-		-		-		-	Continuing	Continuing	Continuing
Combat Identification International Efforts	Various	Raytheon:various	0.415	-		-		-		-	Continuing	Continuing	Continuing
BTID Cost Reduction Efforts	Various	Raytheon:various	6.745	-		-		-		-	Continuing	Continuing	Continuing
RF Tags Program Efforts	Various	I2WD:various	2.023	-		-		-		-	Continuing	Continuing	Continuing
RF Tag Prototypes	Various	BAE:various	0.800	-		-		-		-	Continuing	Continuing	Continuing
JCTI-G, MS B Documentation	Various	CE LCMC/Support Contractors:various	0.500	-		-		-		-	Continuing	Continuing	Continuing
JCTI-G, Risk Reduction	Various	Raytheon:various	0.297	-		-		-		-	Continuing	Continuing	Continuing
JCTI-G, Risk Reduction	Various	SRC:various	0.570	-		-		-		-	Continuing	Continuing	Continuing
JCTI-G, Risk Reduction	Various	BAE:various	1.310	-		-		-		-	Continuing	Continuing	Continuing
AOA Conduct	Various	TRADOC:various	-	-		-		-		-	Continuing	Continuing	Continuing
Soldier Non Cooperative Target Identification	Various	TBD:TBD	-	5.384		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604817A: <i>Combat Identification</i>	<b>PROJECT</b> 482: <i>Ground Combat Identification</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Air-to-Ground MS B Preparation	Various	CE LCMC:various	1.000	-		-		-		-	Continuing	Continuing	Continuing
Fires on Dismounts Technical Maturation	Various	CERDEC:various	-	14.500		-		-		-	Continuing	Continuing	Continuing
Technology Development, Prototyping, Contracts	Various	TBD:TBD	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			106.290	19.884		-		-		-			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	Various	CE LCMC, I2WD:various	9.328	1.686		-		-		-	Continuing	Continuing	Continuing
System Eng/Tech Assistance	Various	Lockheed Martin R4,:Eatontown, NJ	10.574	3.790		-		-		-	Continuing	Continuing	Continuing
Test Planning	Various	CERDEC:Various	1.687	1.250		-		-		-	Continuing	Continuing	Continuing
Technical Support	Various	Sandia National Laboratories/ IDA:Various	0.570	1.750		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			22.159	8.476		-		-		-			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Test, Log Demo, SCD, IOTE	Various	ATEC:various	3.513	-		-		-		-	Continuing	Continuing	Continuing
Limited User Test	Various	ATEC:various	0.673	-		-		-		-	Continuing	Continuing	Continuing
ASCIET	Various	Misc.:various	6.651	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			10.837	-		-		-		-			

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2012 Army</b>							<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604817A: <i>Combat Identification</i>			<b>PROJECT</b> 482: <i>Ground Combat Identification</i>			
	<b>Total Prior Years Cost</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>	148.064	29.884	-	-	-				

**Remarks**



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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army	<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604817A: <i>Combat Identification</i>
<b>PROJECT</b> 482: <i>Ground Combat Identification</i>	

	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																												
JCTI-G Materiel Solution Phase																												
JCTI-G Fires on Dismount Maturation																												
JCTI-G Request for Proposal Prep																												
JCTI-G Milestone A																												
JCTI-G Source Selection																												
JCTI-G Technology Development																												
JCTI-G Milestone B																												
JCTI-G Engineering & Manufacturing Development																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604817A: <i>Combat Identification</i>	<b>PROJECT</b> 482: <i>Ground Combat Identification</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Matériel Development Decision	2	2010	2	2010
JCTI-G Matériel Solution Phase	2	2010	4	2011
JCTI-G Fires on Dismount Maturation	4	2010	3	2012
JCTI-G Request for Proposal Prep	2	2011	1	2012
JCTI-G Milestone A	4	2011	4	2011
JCTI-G Source Selection	1	2012	3	2012
JCTI-G Technology Development	3	2012	3	2014
JCTI-G Milestone B	4	2014	4	2014
JCTI-G Engineering & Manufacturing Development	4	2014	4	2016

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>
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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	72.820	60.970	123.935	-	123.935	36.095	44.532	37.427	34.807	Continuing	Continuing
323: <i>COMMON HARDWARE SYSTEMS</i>	11.718	18.295	7.918	-	7.918	7.926	17.613	6.676	4.235	Continuing	Continuing
334: <i>COMMON SOFTWARE</i>	16.120	12.735	74.744	-	74.744	0.002	0.002	0.002	0.002	Continuing	Continuing
C15: <i>MOUNTED BATTLE COMMAND ON-THE-MOVE (MBCOTM)</i>	0.304	-	-	-	-	-	-	-	-	0.000	0.304
C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>	16.258	17.720	12.897	-	12.897	12.960	11.783	15.729	15.628	Continuing	Continuing
C34: <i>ARMY TAC C2 SYS ENG</i>	28.420	12.220	15.193	-	15.193	15.207	15.134	15.020	14.942	Continuing	Continuing
JN1: <i>JOINT NETWORK NODE (JNN) TESTING</i>	-	-	13.183	-	13.183	-	-	-	-	0.000	13.183

**Note**

Change Summary Explanation: FY 2012: Funds realigned to support Joint Network Node (JNN) Testing for Increment 1b technical insertion to Increment 1a for the Operational Test and funds added to Common Software (CS) for technical evaluation of previously developed software capabilities for integration into the computing environments of the Army Common Operating Environment architecture to include appropriate Mounted and Mobile Computing environments.

**A. Mission Description and Budget Item Justification**

The umbrella program to exploit automation technology for the conduct of combat operations is the Army Tactical Command and Control System (ATCCS) program which is a component of the Army Battle Command System (ABCS). The ATCCS program provides automation in the five battlefield functional areas (BFAs) with the following specific systems: (1) Maneuver Control System (MCS); (2) Effects and Fires Command and Control Systems (EFCCS); (3) All Source Analysis System (ASAS) for Intelligence/Electronic Warfare; (4) Forward Area Air Defense Command, Control and Intelligence System (FAADC2I); and (5) Battle Command Sustainment Support System (BCS3). To provide an overall technically sound, cost effective, and operationally responsive approach, the design and development of ATCCS must be accomplished on a total systems basis. The ATCCS Engineering Program, known as the Technical Management Division (TMD (formerly Systems Engineering and Integration (SE&I))), provides the required overall systems engineering to assure integrated Army Tactical Command and Control and the utilization of common hardware and software throughout the five ATCCS nodal systems. TMD efforts will focus on "Systems of Systems" engineering and integration for evolution of the network (Warfighter Information Network-Tactical, Joint Tactical Radio System) and associated services (Unified Battle Command, Joint Battle Command-Platform, Net-Enabled Command Capability, Network Service Center) with increased emphasis on immediate Warfighter needs as well as leveraging emerging technologies. This program element also includes the Central Technical Support Facility (CTSF) which is the Army's single strategic facility responsible for executing System of System Interoperability checkout, testing, physical system integration and configuration management of the Army's Land WarNet Baseline. The Common

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>
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Hardware Systems (CHS) and the Common Software (CS) projects provide state of the art common products to customers to meet their developmental and fielding needs. The Joint Network Node (JNN) ( WIN-T Increment 1) is intended to replace legacy Mobile Subscriber Equipments (MSE) while moving the Army to a unified Everything Over Internet Protocol (EOIP) Communications System. JNN Testing is the Increment 1b Technical Insertion to Increment 1a for Operational Test, which will be conducted in FY 2012 in conjunction with the Increment 2 Initial Operational Test and Evaluation. These systems support the Legacy to Objective transition path.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	79.448	60.970	36.863	-	36.863
Current President's Budget	72.820	60.970	123.935	-	123.935
Total Adjustments	-6.628	-	87.072	-	87.072
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-1.765			
• Adjustments to Budget Years	-6.628	-	87.072	-	87.072
• Other Adjustments 1	-	1.765	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army								<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>				<b>PROJECT</b> 323: <i>COMMON HARDWARE SYSTEMS</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
323: <i>COMMON HARDWARE SYSTEMS</i>	11.718	18.295	7.918	-	7.918	7.926	17.613	6.676	4.235	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Common Hardware Systems (CHS) program provides state-of-the-art, fully qualified, interoperable, compatible, deployable, and survivable hardware and computer networking equipment for command, control, and communications at all echelons of command for the United States Army and other Department of Defense (DoD) services. CHS also provides worldwide repair, maintenance, logistics, and technical support through strategically located contractor-operated Regional Support Centers (RSC) for tactical military units and management of a comprehensive 5-year warranty and 72-hour turnaround for repairs.

FY2012 funds allow CHS to continue to manage the acquisition and delivery of CHS equipment, technology insertion and common standardized testing in support of customer requirements.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b>Title:</b> Acquisition management and delivery of CHS equipment in support of customer requirements</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Management of the acquisition and delivery of CHS equipment in support of customer requirements</p> <p><b>FY 2011 Plans:</b> Continue management of the acquisition and delivery of CHS equipment in support of customer requirements</p> <p><b>FY 2012 Plans:</b> Will continue the management of the acquisition and delivery of CHS equipment in support of customer requirements</p>	6.274 0	6.595 0	7.118
<p><b>Title:</b> CHS equipment testing efforts</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b></p>	0.200 0	0.200 0	0.300

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 323: <i>COMMON HARDWARE SYSTEMS</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
Supported CHS customer testing efforts <b>FY 2011 Plans:</b> Will continue to Support CHS customer testing efforts <b>FY 2012 Plans:</b> Future CHS customer testing efforts			
<b>Title:</b> CHS technology insertion  <b>Description:</b> Funding is provided for the following effort  <b>FY 2010 Accomplishments:</b> CHS technology insertion  <b>FY 2012 Plans:</b> Continue CHS technology insertion	<b>Articles:</b> 0.244 0	-	0.500
<b>Title:</b> Non Recurring Engineering (NRE) Costs for New CHS-4 Products  <b>Description:</b> Funding is provided for the following effort  <b>FY 2010 Accomplishments:</b> Design, development and testing (NRE Costs) for New CHS-4 Products  <b>FY 2011 Plans:</b> Continue with the design, development and testing (NRE Costs) for New CHS-4 Products	<b>Articles:</b> 5.000 0	11.500 0	-
<b>Accomplishments/Planned Programs Subtotals</b>	11.718	18.295	7.918

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

The overall goal is to improve interoperability and compatibility and lower life cycle costs by standardizing battlefield command and control automation and other warfighting systems (net centric, etc) through centralized buys of modified/ruggedized non-developmental items. This project provides a coherent migration strategy for acquisition warfighting systems through the use of technology insertion.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 323: <i>COMMON HARDWARE SYSTEMS</i>

CHS also conducts common environmental and developmental testing of hardware items thereby reducing the testing requirements for individual Project Managers. An Indefinite Delivery/Indefinite Quantity firm fixed priced, full and open competition contract was awarded to General Dynamics in May 2003, for ruggedization and production.

In FY11, CHS will select, evaluate and award, on a best value basis, the follow-on CHS-4 contract via full and open competition. The period of performance will be for 5 years.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 323: <i>COMMON HARDWARE SYSTEMS</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Support Costs	C/FP	Various:Various	61.150	3.543		3.657		-		3.657	Continuing	Continuing	Continuing
Product Development	C/FP	Various:Various	72.036	3.052		3.461		-		3.461	Continuing	Continuing	Continuing
GDC4S/CHS-3 Non-Recurring Engineering	C/FP	General Dynamics:Taunton, MA	17.500	-		-		-		-	Continuing	Continuing	Continuing
CHS-4 Non-Recurring Engineering	C/FP	Various:Various	-	11.500		-		-		-	Continuing	Continuing	Continuing
Technology Insertion	C/FP	Various:Various	14.112	-		0.500		-		0.500	Continuing	Continuing	Continuing
<b>Subtotal</b>			164.798	18.095		7.618		-		7.618			

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
CHS Test Activities	Various	Other Government Activities:various	1.954	0.200		0.300		-		0.300	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.954	0.200		0.300		-		0.300			

	<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>		<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>		166.752	18.295		7.918		-		7.918			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 323: <i>COMMON HARDWARE SYSTEMS</i>

	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
CHS-4 Contract Award																												
CHS-4 V1/V1+ Hardware Deliveries																												
CHS-4 V2/V3 Hardware Deliveries																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 323: <i>COMMON HARDWARE SYSTEMS</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CHS-4 Contract Award	1	2011	1	2011
CHS-4 V1/V1+ Hardware Deliveries	2	2011	2	2016
CHS-4 V2/V3 Hardware Deliveries	2	2011	2	2016

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 334: <i>COMMON SOFTWARE</i>
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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
334: <i>COMMON SOFTWARE</i>	16.120	12.735	74.744	-	74.744	0.002	0.002	0.002	0.002	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Not applicable for this item.

**A. Mission Description and Budget Item Justification**

Project 334 Common Software (CS): Common Software is the program through which the Army procures, develops, integrates and tests common software products and/or components used for communication between Army Battle Command Systems (ABCS), Joint and coalition Command and Control (C2) applications. The CS project provides state-of-the-art software technologies and functionality that is used by numerous Army Battle Command Systems (ABCS) and joint systems to eliminate the need for service independent development and duplication of effort. The CS project also manages and performs technology demonstrations of emerging technologies for future use by Army C2 systems. The CS program is a cornerstone in the Army's digitization efforts.

FY12 funding supports on-going development of common software solutions and the technical evaluation of previously developed software capabilities for integration into the computing environments of the Army Common Operating Environment (COE) architecture to include appropriate Mounted and Mobile Computing environments. Efforts will include assessment of software maturity and readiness, development/modification of software as necessary to integrate, integration with common computing environments, and validation.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> ABCS common software enterprise infrastructure development in support of Army and Joint Services requirements.	10.808	9.242	8.965
<b>Articles:</b>	0	0	
<b>Description:</b> Funding is provided for the following effort			
<b>FY 2010 Accomplishments:</b> Worked the development, acquisition management and delivery of the ABCS common software enterprise infrastructure in support of Army and Joint Services requirements.			
<b>FY 2011 Plans:</b> Continuing the development, acquisition management and delivery of the ABCS common software enterprise infrastructure in support of Army and Joint Services requirements.			
<b>FY 2012 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 334: <i>COMMON SOFTWARE</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Will continue the development, acquisition management and delivery of the ABCS common software enterprise infrastructure in support of Army and Joint Services requirements.				
<b>Title:</b> Joint and Coalition interoperability efforts.				
<b>Articles:</b>		2.361 0	1.313 0	1.353
<b>Description:</b> Funding is provided for the following effort				
<b>FY 2010 Accomplishments:</b> Served as the executive agent and provided software for interoperability of Joint and Coalition efforts.				
<b>FY 2011 Plans:</b> Serving as the executive agent and providing software for interoperability of Joint and Coalition efforts.				
<b>FY 2012 Plans:</b> Will continue to serve as the executive agent and provide software for interoperability of Joint and Coalition efforts.				
<b>Title:</b> Battle Command (BC) systems common architecture products.				
<b>Articles:</b>		2.951 0	2.180 0	2.245
<b>Description:</b> Funding is provided for the following effort				
<b>FY 2010 Accomplishments:</b> Worked the development of the System of System (SOS) architecture for Battle Command (BC) systems.				
<b>FY 2011 Plans:</b> Continuing to develop the System of System (SOS) architecture for Battle Command (BC) systems.				
<b>FY 2012 Plans:</b> Will continue to develop the System of System (SOS) architecture for Battle Command (BC) systems.				
<b>Title:</b> Integration of previously developed mission command capabilities and common software solutions into the Army Common Operating Environment (COE).		-	-	62.181
<b>Description:</b> Funding is provided for the following effort				
<b>FY 2012 Plans:</b> Technical evaluation of previously developed software capabilities for integration with the computing environments of the Army Common Operating Environment (COE) architecture to include appropriate Mounted and Mobile Computing environments. Efforts				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 334: <i>COMMON SOFTWARE</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
will include assessment of software maturity and readiness, development/modification of software as necessary to integrate, integration with common computing environments, and validation.			
<b>Accomplishments/Planned Programs Subtotals</b>	16.120	12.735	74.744

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

In accordance with the United States Army Training and Doctrine Command (TRADOC) requirements document approved in 2008, entitled Battle Command Essential Capability, software capability will be developed in 2-year increments as capability sets designed to Collaborate, Collapse and Converge Battle Command products. The product development funded under this R-Form is an integral part of the ABCS, a system of systems and will be accomplished primarily under a Project Manager, Battle Command (PM BC) system of systems contract approach which consists of multiple prime contracts awarded from a single solicitation that will require each specific development task be competed among primes whenever possible. This strategy is designed to optimize opportunity for improved interoperability among the systems, to capture the benefits of competition 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.

The overall acquisition goal of the Common Software program is the improvement of life cycle costs by providing common products that are used horizontally across programs avoiding duplication of efforts by Army and Joint programs.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 334: <i>COMMON SOFTWARE</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Management	Various	PM Battle Command:Various	6.998	0.725		0.747		-		0.747	Continuing	Continuing	0.000
<b>Subtotal</b>			6.998	0.725		0.747		-		0.747			0.000

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support of CS Lab, Data Access	Various	CECOM:various	1.853	-		-		-		-	Continuing	Continuing	0.000
Engineering/Software Development	Various	Various Contractors / Various Locations:Various	97.899	8.045		7.721		-		7.721	Continuing	Continuing	0.000
ABCS System Engineering & Integration	Various	PEO C3T:Various	0.210	-		-		-		-	Continuing	Continuing	0.000
ABCS/Army System Engineering & Integration	Various	Various Contractors / Various Locations:Various	2.858	0.850		0.816		-		0.816	Continuing	Continuing	0.000
Battle Command System of Systems Architecture Development	Various	Various Contractors / Various Locations:Various	8.797	1.480		1.421		-		1.421	Continuing	Continuing	0.000
Digital System Engineers	Various	Mantech:various	14.400	-		-		-		-	Continuing	Continuing	0.000
3D Display Technology	Various	Concurrent Technology Corp.,:various	9.083	-		-		-		-	Continuing	Continuing	0.000
IDM-T Engineering Support	Various	GSA Contractors:various	2.000	-		-		-		-	Continuing	Continuing	0.000
DISA Support for COE	Various	DISA:various	1.486	-		-		-		-	Continuing	Continuing	0.000
Evaluation, modification, validation and integration of developed SW	Various	Various:Various	-	-		62.181		-		62.181	Continuing	Continuing	0.000
<b>Subtotal</b>			138.586	10.375		72.139		-		72.139			0.000

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 334: <i>COMMON SOFTWARE</i>

	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

Common Software Capability Set 13-14 Development	[REDACTED]																											
Assess previously developed SW, modification, validation & integration	[REDACTED]																											



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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> 334: <i>COMMON SOFTWARE</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Common Software Capability Set 13-14 Development	2	2010	1	2012
Assess previously developed SW, modification, validation & integration	4	2011	3	2012

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>				<b>PROJECT</b> C15: <i>MOUNTED BATTLE COMMAND ON-THE-MOVE (MBCOTM)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
C15: <i>MOUNTED BATTLE COMMAND ON-THE-MOVE (MBCOTM)</i>	0.304	-	-	-	-	-	-	-	-	0.000	0.304
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Mounted Battle Command On The Move System (MBCOTM) is a Command, Control, Computers, Communications, Intelligence (C4I) mission equipment package (B Kit) integrated onto Bradley, Stryker and Mine Resistant Ambush Protected (MRAP) platforms which allows commanders to move to the decisive point on the battlefield. The focus of MBCOTM is to facilitate commander execution of net centric operations versus command post centric operations. MBCOTM provides the battlefield Commander situational awareness in the form of a digital common operational picture, enabling a Commander to maintain situational understanding while On The Move and when physically separated from the fixed Command Post performing Battlefield circulation. MBCOTM supports the mission area command and control by integrating network and SATCOM enablers to include components resident in the WIN-T Increment 2 architecture, as well as a number of Battelfield Automated Systems including Command Post of the Future (CPoF).

MBCOTM program is being terminated as a result of competing fiscal priorities during the development of the FY 2011 President's Budget. The termination plan has been signed by Program Executive Office for Command, Control and Communications - Tactical (PEO C3T) and is currently at Headquarters, Department of the Army (HQ DA).

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> System Development/Tech Upgrades	0.304	-	-
<b>Articles:</b>	0		
<b>Description:</b> Funding is provided for the following effort			
<b>FY 2010 Accomplishments:</b> FY 2010 funding for the system development/tech upgrades is primarily test support.			
<b>Accomplishments/Planned Programs Subtotals</b>	0.304	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C15: <i>MOUNTED BATTLE COMMAND ON-THE-MOVE (MBCOTM)</i>

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

The CAMC2 contract was awarded to Lockheed Martin on 08 Feb 08 and subsequently terminated for convenience on 22 Jul 08. The MBCOTM FY09 RDT&E is primarily for MRAP and Stryker A-Kit design/development, complete level III drawing packages, platform test and log product development. The FY10 effort was primarily test purposes.

**E. Performance Metrics**

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSIF)</i>
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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
C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSIF)</i>	16.258	17.720	12.897	-	12.897	12.960	11.783	15.729	15.628	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Project C29 - Centralized Technical Support Facility: The Central Technical Support Facility (CTSIF) located at FT Hood, Texas, is the Army's premier test, integration, and certification facility for interoperability and net-worthiness. It is the Army's strategic facility responsible for conducting system engineering associated with integrating Army Battle Command System (ABCS) Weapon System architectures into a System of Systems, performing Army Interoperability Certification (AIC) testing and configuration management for all operational and tactical level applications (individual systems, System of Systems, and families of systems) prior to fielding. The CTSIF provides validated test data to the Department of the Army and Joint agencies to validate interoperability and net-worthiness certifications. The current expansion of the distributed test environment of the CTSIF will be accomplished through the Federation of Net-centric Sites (FaNS) construct. This FaNS construct addresses distributed integration development and testing using the core infrastructure of the CTSIF to harness AMC, Army, and Joint expertise/resources. Through these federated resources, the CTSIF will execute interoperability development and certification testing of the Warfighter and Business mission areas, to include Brigade Combat Team Modernization spin-outs, as they digitize and become part of the Army's LandWarNet.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Army Interoperability Certification (AIC) Testing	3.865	2.150	6.735
<b>Articles:</b>	0	0	
<b>Description:</b> Conduct Army Interoperability Certification testing/planning/procedures/ reporting, interoperability baseline testing, simulation/stimulation validation and distributed testing. Manage the set-up, configuration, integration, and operations and maintenance of the LandWarNet systems on the test floors as the CIO/G-6's Test Agent for Program Managers of LandWarNet systems that need to deliver software updates for fielding to the Warfighter. Report the results of Army Interoperability Certification Tests to the CIO/G-6, PM, and TRADOC to support updates to the G-3 managed baseline.			
<b>FY 2010 Accomplishments:</b> Conducted SWB 2+ Tri-Annual testing and CS 11-12 Certification testing; conducted backward compatibility testing for previous baselines. Provided support to AETF/FFID.			
<b>FY 2011 Plans:</b> Continue SWB2+ Tri-Annual testing, conduct CS 11-12 Tri-Annual testing, and CS 13-14 baseline AIC test planning, test case development, test floor architecture set-up, test tools, and test execution; tests include the Joint Capabilities Release (JCR), Joint Battle Command Platform (JCB-P), Joint AGILE Fire and the Distributed Common Ground System-Mobile Basic, new systems. Coordinate with PEO C3T Crypto Network Initialization and test the go-to-war Data Products. Incorporate Host Based Security			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSf)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>System in the test architecture for AIC testing to meet Army tactical deployment IAW G-3 fielding. Support CIO/G-6 and TRADOC in developing new test methodology to assess interoperability as systems transition to the implementation of the Common Operating Environment (COE). Update test tools to collect data in support of the COE. Serve as the Army component in Joint and Coalition testing to support the Joint Interoperability Test Command in development of tactics, techniques, and procedures. Become the hub for Network Integration testing by facilitating distributed testing in a system of system architecture.</p> <p><b>FY 2012 Plans:</b> Assumption: SWB1 is no longer fielded; testing of SWB1 is no longer required; SWB2 is fielded in limited quantities. Continue CS 11-12 Tri-Annual test planning, test case development, test floor architecture set-up, test tools, and test execution; conduct CS 13-14 testing/evaluation and certification; begin CS 15-16 test planning. Continue JCR, JBC-P, and JT AGILE Fire tests; continue to coordinate with PEO C3T Crypto Network Initialization and test the go-to-war Data Products. Support CIO/G-6 and TRADOC in developing new test methodology to assess interoperability as systems transition to the implementation of the Common Operating Environment (COE). Update test tools to collect data in support of the COE. Serve as the Army component in Joint and Coalition testing to support the Joint Interoperability Test Command in development of tactics, techniques, and procedures. Become the hub for Network Integration testing by facilitating distributed testing in a system of system architecture.</p>				
<p><b>Title:</b> System of Systems Integration(SoSI)/Enterprise Integration and Validation Infrastructure (EIVI)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Continue systems engineering of foundation/data products, software validation/verification, network engineering, integration labs, information assurance.</p> <p><b>FY 2010 Accomplishments:</b> Supported material developer for Battle Command Marshall/Capability Set 11/12 integration. Provided support for C4ISR on the move event, SOSCOE, GMR, CENTRIXS, and Korea cross domain solution. Identified and incorporated software tools to monitor software performance and assist in issue resolution. Provided 326 data product validations. Provided 87 software patch validations. Provided network support for integration and test floors. Provided network support to 29 unit exercises at NTC( Ft Irwin), JRTC (Ft Polk), JMRC (Germany).</p> <p><b>FY 2011 Plans:</b> Support to material developer for CS 13-14 integration. Support to backward compatibility testing between SWB2 and CS 11-12. Identify and incorporate software tools to monitor performance and assist in issue resolution. Integrate and implement HBSS technology. Conduct integration and testing of Afghan Mission Network providing configuration, architecture design, and test case generation; extend integration and test architectures to include Program of Record (POR) and non-POR radio communications devices to provide MatDev testing in realistic environments; use DREN to provide CTSF test support to PEO-I and WSMR for</p>		2.225 0	4.702 0	3.540

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>sensor and platform level for validation of end-to-end communications and interoperability, platform through Army Corps to Joint/Coalition. Data product and software patch validation; network support for integration and test floors; network support to fielded units upon request.</p> <p><b>FY 2012 Plans:</b> Support to material developer for CS 13-14 integration and testing. Support to backward compatibility testing between CS 11-12 and CS 13-14. Identify and incorporate software tools to monitor performance and assist in issue resolution. Integrate and implement HBSS technology. Conduct integration and testing of Afghan Mission Network providing configuration, architecture design, and test case generation; extend integration and test architectures to include Program of Record (POR) and non-POR radio communications devices to provide MatDev testing in realistic environments; use DREN to provide CTSF test support to PEO-I and WSMR for sensor and platform level for validation of end-to-end communications and interoperability, platform through Army Corps to Joint/Coalition. Data product and software patch validation; network support for integration and test floors; network support to fielded units upon request.</p>				
<p><b>Title:</b> Facilities, Site Operations and Maintenance</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Maintain 250,000 square foot facility, with 41,305 square feet dedicated to Army Integration Certification (AIC) testing and systems engineering.</p> <p><b>FY 2010 Accomplishments:</b> Continued to provide infrastructure support for 250,000 square foot facility and 41,305 square feet dedicated to AIC testing floors and integration labs.</p> <p><b>FY 2011 Plans:</b> Continue to provide infrastructure support for 250,000 square foot facility and 41,305 square feet dedicated to AIC testing floors and integration labs. FY12 and beyond, this effort will be apportioned and allocated to mission areas AIC Test, EIVI, CM and Program Office.</p>		3.559 0	4.148 0	-
<p><b>Title:</b> Management Operations/Program Office</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Provide management operations consisting of programming and executing funds, personnel, contracts, and identifying reimbursable tests and allocating/collecting appropriate funds.</p> <p><b>FY 2010 Accomplishments:</b></p>		2.558 0	2.599 0	1.416

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>Programed and executed funds/manpower/contracting requirements; tracked testing schedule, prepared/coordinated/tracked reimbursements for tests. CS 11-12, SWB 1+, and SWB 2 AIC testing. HBSS, C4ISR OTM, Joint, Coalition, and AGILE Fire Integration. Field Support Coordination for unit training and exercises.</p> <p><b>FY 2011 Plans:</b> Program and execute funds/manpower/contracting requirements; track testing schedule, prepare/coordinate/track reimbursements for tests; SWB2 Tri-Annual testing; CS 11-12 AIC testing; CS 13-14, Joint, Coalition, AETF/WSMR, SOSCOE, and future systems integration; field support coordination for unit training and exercises.</p> <p><b>FY 2012 Plans:</b> Program and execute funds/manpower/contracting requirements; track testing schedule, prepare/coordinate/track reimbursements for tests; CS 11-12 Tri-Annual; CS 13-14 AIC testing; Joint, Coalition, AETF/WSMR, SOSCOE, and future systems integration; field support coordination for unit training and exercises.</p>				
<p><b>Title:</b> Configuration Management</p> <p><b>Description:</b> Verify configuration, prior to test, of Program/Product Manager delivered software; control configuration during Program Manager tests of approved Warfighter baselines; maintain configuration integrity of certification test environment; maintain configuration management of certification baselines for HQ/DA CIO/G6 and the LandWarNet/Battle Command baseline for HQ/DA G3/5/7; disseminate approved software to deployed/deploying units.</p> <p><b>FY 2010 Accomplishments:</b> Verified software configurations prior to test, controlled configurations during test, and maintained baselines for HQDA CIO/G6 and LandWarNet/BC baselines for HQDA G3/5/7; disseminated software to deployed/deploying units; initiated enhancements to Configuration Management Tracking Tool Version 3 (CMTSv3) to incorporate ASA (ALT), CTSF, G3 Baseline tracking for Army Interoperability Certification of Systems Under Test; began updating tool for automation of Army Interoperable Fielded Baseline (CE)and Army LandWarNet/Battle Command Baseline (OE) output reports; enhanced MATDEV/PM/SO output support report; began to integrate Micro Stag Reporting Tool into CMTSv3.</p> <p><b>FY 2011 Plans:</b> Verify software configurations prior to test, control configurations during test, and maintain baselines for HQ/DA CIO g6 and LandWarNet/BC baselines for HQ/DA G3/5/7; disseminate software to deploying/deployed units. Initiate enhancements to Configuration Management Tracking Tool Version 3 (CMTSv3) to incorporate ASA(ALT), CTSF, G3 baseline tracking for Army Interoperability Certification of Systems Under Test; continue updating tool for automation of Army Interoperable Fielded Baseline</p>		<p><b>Articles:</b></p> <p>1.321 0</p>	<p>1.342 0</p>	<p>1.206</p>

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>(CE) and Army LandWarNet/BC Baseline (OE) output reports; enhance MATDEV/PM/SO output support report; continue to integrate Micro Stag Reporting Tool into CMTSv3.</p> <p><b>FY 2012 Plans:</b> Verify software configurations prior to test, control certification during test, and maintain baselines for HQ/DA CIO/G6 and LandWarNet baselines for HQ/DA G3/5/7; sustain Configuration Management Tracking Tool Version 3 (CMTSv3) to incorporate CTSF Baseline tracking for Army Interoperability Certification of Systems Under test.</p>				
<p><b>Title:</b> Information Technology (IT) Infrastructure</p> <p><b>Description:</b> Provide unique IT infrastructure networks connections to include DISN, SIPRNET, NIPRNET, GUARDNET to support internal and distributed AIC testing.</p> <p><b>FY 2010 Accomplishments:</b> Provided unique IT infrastructure network connections to include NIPRNET, SIPRNET, DREN, SDREN, CFBLNet, CENTRIXS and internal testing network infrastructure to support internal and external AIC, early integration testing and PM support. Provided upgraded VIOP capabilities to the Campus. Continued software development for mission applications to include Business Intelligence Tools, Resource loaded scheduling, and test gathering tools. Provided data management/backup support for all core mission data. Provided life cycle management of hardware assets. Provided Information Assurance compliance for the Campus.</p> <p><b>FY 2011 Plans:</b> Provide unique network configurations and support for the CTSF COOP facility. Provide unique IT infrastructure network connections to include NIPRNET, SIPRNET, DREN, SDREN, CFBLNet, CENTRIXS and internal testing network infrastructure to support internal and external AIC, early integration testing and PM support. Provide accreditation and certification support for the testing facility in order to maintain an Authority to Connect, including CFBLNet. Continue support of DoD 8570.1-M to maintain a trained and certified workforce. Continue software development for mission applications to include Business Intelligence Tools, resource loaded scheduling, test gathering tools and Army software baseline tools. Provide data management/backup support for all core mission data. Provide life cycle management of hardware assets. Provide Information Assurance compliance for the Campus. FY12 and beyond, this effort will be apportioned and allocated to mission areas AIC Test, EIVI, CM and Program Office.</p>		<p>2.107</p> <p align="right"><b>Articles:</b></p> <p align="right">0</p>	<p>2.146</p> <p align="right">0</p>	-
<p><b>Title:</b> Logistics Support</p>		<p>0.623</p> <p align="right"><b>Articles:</b></p> <p align="right">0</p>	<p>0.633</p> <p align="right">0</p>	-



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b>Description:</b> Received/controlled/distributed/tracked Program/Product Manager (PM) test assets; maintained/repaired/replaced/upgraded test floor; procured test equipment.</p> <p><b>FY 2010 Accomplishments:</b> Receive/control/distribute/track Program/Product Manager (PM) test assets; maintain/repair/replace/upgrade test floor; procure test equipment.</p> <p><b>FY 2011 Plans:</b> Receive/control/distribute/track Program/Product Manager (PM) test assets; maintain/repair/replace/upgrade test floor; procure test equipment. FY12 and beyond, this effort will be apportioned and allocated to mission areas AIC Test, EIVI, CM and Program Office.</p>				
<b>Accomplishments/Planned Programs Subtotals</b>		16.258	17.720	12.897
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>D. Acquisition Strategy</b>				
<p>Execute system of systems interoperability integration and testing through the use of Government and Systems Engineering and Technical Analysis (SETA) contract personnel experienced in product development and interoperability testing. Integration and testing occurs in a cyclical fashion, with an expectation of an annual Software Block/Capability Set test followed with cyclical test events (Tri-Annual Tests) to ensure integrity of software baselines to the Warfighter. Enterprise Integration and Validation engineering provides strategic integration of software into a system of systems/family of systems environment to support interoperability testing. Establish and maintain Configuration Management and version control of the Army's Interoperable Battle Command LandWarNet Baseline. Further expand distributed integration and testing capability using local assets and leveraging other federated test facilities to create synergy and realize efficiencies.</p>				
<b>E. Performance Metrics</b>				
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.				

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
MITRE Corp (System of System Integration & Validation)	FFRDC	SoS Integration:Fort Hood, TX/Eatontown, NJ	9.662	1.755		1.884		-		1.884	Continuing	Continuing	Continuing
CACI (JB Mgt)	C/CPAF	SoS Integration:Fort Hood, TX	2.026	1.785		-		-		-	Continuing	Continuing	0.000
CECOM R2	C/CPFF	Enterprise Integration & Validation Infrastructure:Fort Hood, TX	-	-		0.736		-		0.736	Continuing	Continuing	Continuing
CECOM/SEC Matrix	MIPR	CM and IT/IA:Fort Hood, TX	-	0.420		-		-		-	Continuing	Continuing	0.000
In-House	Allot	Sos Integration:Fort Hood, TX	-	0.272		1.160		-		1.160	Continuing	Continuing	Continuing
<b>Subtotal</b>			11.688	4.232		3.780		-		3.780			

**Remarks**

In March 2011, the CACI(JB Mgmt) contract for System of Systems Integration will transition to CECOM R2 G3 contract vehicle.  
 NOTE: Line for CACI (JB Mgt) above, FY11 Cost, 1785 and Award Date, 3Q must be re-entered. Data was lost when the line was inadvertently deleted. Unable to reconstruct due to FY11 Lock. Addition of 1785 will then balance FY Total at 17,720.

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
CECOM Matrix	MIPR	Test, Configuration Management, IT Support:Fort Hood, TX/Aberdeen Proving Grounds, MD	1.619	0.304		0.311		-		0.311	Continuing	Continuing	Continuing
In-House Support	Allot	Management Operations, Logistics Support:Fort Hood, TX	2.688	1.818		1.355		-		1.355	Continuing	Continuing	Continuing
Supplies/Equipment	C/UCA		-	-		0.298		-		0.298	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>
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<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Test, EIVI, CM and Program Office Support:Fort Hood, TX/Aberdeen Proving Ground, MD											
<b>Subtotal</b>			4.307	2.122			1.964			-		1.964	

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ELECTRONIC PROVING GROUNDS (EPG)/ManTech (Test)	C/CPAF	Test:Fort Hood, TX	17.122	1.254		-		-		-	Continuing	Continuing	0.000
CAMBER (Test/Config Mgmt/Operations)	C/CPAF	Test, Configuration Management, Operations:Fort Hood, TX	5.884	2.197		-		-		-	Continuing	Continuing	0.000
CSC/MANTECH (Direct Labor)	C/CPFF	Facilities, Site Operations, Maintenance:Fort Hood, TX	3.350	3.772		-		-		-	Continuing	Continuing	0.000
CSC (Test/System Engineering)	C/CPAF	Test:Fort Hood, TX	2.018	1.748		-		-		-	0.000	3.766	0.000
ILEX (Test/Config Mgmt)	C/CPAF	Test, Configuration Management:Fort Hood, TX	0.608	0.518		-		-		-	0.000	1.126	0.000
CECOM R2	C/CPFF	Test, Configuration Management:Fort Hood, TX	-	-		1.471		-		1.471	Continuing	Continuing	Continuing
CECOM S3	C/CPFF	Facilities, Maintenance, Security:Fort Hood, TX	-	-		1.965		-		1.965	Continuing	Continuing	Continuing
Instrumentation	C/UCA		-	-		0.801		-		0.801	0.000	0.801	0.000

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>
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Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Test Equipment Infrastructure:Fort Hood, TX											
EPG Matrix	MIPR	Test:Fort Hood, TX	-	0.907		1.510		-		1.510	Continuing	Continuing	Continuing
ISSA	MIPR	Test:Fort Hood, TX	1.085	0.720		0.838		-		0.838	Continuing	Continuing	Continuing
In-House Support	Allot	Test:Fort Hood, TX	-	0.250		0.568		-		0.568	Continuing	Continuing	Continuing
<b>Subtotal</b>			30.067	11.366		7.153		-		7.153			

**Remarks**  
In March 2011, EPG/ManTech, Camber, CSC, and ILEX contracts will transition to CECOM R2 contract and will provide Test and Configuration Management functions. Also in March 2011, CSC/ManTech contract will transition to CECOM S3 and will provide Site Support/Facilities, Maintenance, and Security functions.

	Total Prior Years Cost	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	46.062	17.720	12.897	-	12.897			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>

	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
Capability Set 13-14																												
--FBCB2 JCR 1.2 (NOC Specific)																												
--FBCB2 JCR 1.3																												
--JBCP 1.0																												
--WINT-T Inc 1b																												
--WIN-T Inc 2																												
--WIN-T Inc 3																												
--WIN-T Inc 4																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Capability Set 13-14	1	2011	3	2015
--FBCB2 JCR 1.2 (NOC Specific)	3	2010	2	2013
--FBCB2 JCR 1.3	2	2011	2	2012
--JBCP 1.0	2	2011	3	2012
--WINT-T Inc 1b	1	2010	3	2010
--WIN-T Inc 2	1	2011	2	2011
--WIN-T Inc 3	3	2012	1	2013
--WIN-T Inc 4	3	2013	2	2014

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C34: <i>ARMY TAC C2 SYS ENG</i>
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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
C34: <i>ARMY TAC C2 SYS ENG</i>	28.420	12.220	15.193	-	15.193	15.207	15.134	15.020	14.942	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Not applicable for this item.

**A. Mission Description and Budget Item Justification**

Project DC34 - Army Tactical Command and Control Systems (ATCCS) Engineering, which is also referred to as the Technical Management Division (TMD) (formerly Systems Engineering and Integration (SE&I)): Effectively manage the engineering, Enterprise and Integration efforts within the PEO C3T portfolio of technology and across the capability enhancement packages to deliver efficient and effective cross-domain technical solutions. TMD provides SoS test infrastructure and tools, Joint Command and Control (C2) convergence, and SE documentation ensure C3T technical capabilities are defined, engineered, and integrated. Additionally, TMD synchronizes the integration of many HQDA initiatives impacting warfighters across the Army and assesses potential solutions (Program of Record (POR)/non-POR) to add more operational agility and capabilities to the warfight. In FY 2011, this effort supports the operational engagement and technical coordination between Army Expeditionary Task Force (AETF), Unit, PMs, and PEOs to field and integrate all the latest capabilities to the Brigade Combat team; the technical analysis supporting the Army's Common Operating Environment (COE) Assessment and implementation; an integrated test strategy, certification process, and integration efforts across the C3T portfolio of systems; Operational implementation of enterprise framework, tactical HBSS and AD tests/implementations/integration; development of capability set SoS architectures; server consolidation; integration of transport waveforms and development of Command Post and integrated Network Architectures. In FY 2012, this effort supports working Army Network Modernization strategy and implementation to include: network integration; emerging technologies; coordination of network services; current and force integrated C5ISR network/transport architectures; integrated developmental, technical, and operational test schedules/documentation; and the tactical assessment and execution of the enterprise implementation and framework.

Footnote: Decrement was applied against incorrect projects. The data base will be corrected in the next version.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Continue Army Tactical Battle Command and Network Synchronization and Integration Support	0.750	0.760	1.280
<b>Articles:</b>	0	0	
<b>Description:</b> .			
<b>FY 2010 Accomplishments:</b> Ensured synchronization and backwards capability of all Army battle command platforms across all BCT's while deploying upgraded technologies to enhance commander's C2 and warfighter effectiveness.			
<b>FY 2011 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Develop cohesive infrastructure server; service architecture; and operating environment(s) synchronization to support efficiencies through the enterprise and coordinate associated integrated technical support activities across the operational battlefield to support these architectures.  <b>FY 2012 Plans:</b> Continue the support of current force and the development of future force C5ISR across the tactical network to ensure all programs are synchronized and redundancies and overlapping capabilities are reduced.				
<b>Title:</b> Continue Developmental Testing & Integration Testing between PORs and platforms / CPs to execute SoS and Interoperability  <b>Description:</b> .  <b>FY 2010 Accomplishments:</b> Developed CS 11/12 readiness review consisting of an integrated software/hardware delivery from PM BC (BC Marshall) and PM FBCB2 (JCR) which provided for: Global BC data management and Simplification and reduction of system initialization.  <b>FY 2011 Plans:</b> Execute pre-interoperability and risk reduction testing across the ABCS and C2 Army portfolio and provide venue for the developmental test-fix-test environment for CS 15/16 and out.  <b>FY 2012 Plans:</b> Develop strategies and SoS frameworks to extend the current platform capabilities to the dismounted soldier. Develop execution plan for the integration of future Joint/Coalition capability requirements.		3.950 0	0.760 0	1.654
<b>Title:</b> Manages Unit Set Fielding of ABCS  <b>Description:</b> .  <b>FY 2010 Accomplishments:</b> PEO C3T RMD office planned/plans and implemented/implements the Fielding and Training of Battle Command and Networking Capabilities to Army units in the Army Force Generation Process. C3T RMD synchronized and continues to synchronize these efforts across the Army's tactical information technology spectrum for approximately 80-100 brigade sized elements per year through either initial training and fielding, or as an upgrade during the reset process.  <b>FY 2011 Plans:</b>		1.400 0	1.050 0	-



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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>PEO C3T RMD office plans and implements the Fielding and Training of Battle Command and Networking Capabilities to Army units in the Army Force Generation Process. C3T RMD will synchronize these efforts across the Army's tactical information technology spectrum for approximately 80-100 brigade sized elements per year through either initial training and fielding, or as an upgrade during the reset process.</p> <p><b>Title:</b> Continue Tactical Network Engineering</p> <p><b>Description:</b> .</p> <p><b>FY 2010 Accomplishments:</b> Planned and executed the Combined Enterprise Regional Information Exchange System (CENTRIXS)-ISAF(CXI) network at the request of CENTCOM J6 Theater Network Engineering (TNE) and J6 Strategic Projects Office (SPO).Migrated PEO systems to CENTRIX; Provided CX-I network enclaves; assisted with CX-I Information Assurance IP, and routing strategies; designed Afghan Mission Network(AMN) Full Motion Video ingestion and distribution architecture; and Implemented CX-I High-Demand and Large File distribution capability.</p> <p><b>FY 2011 Plans:</b> Validate ability to maneuver battle command services across the Enterprise and support Army Common Operating Environment (s) framework and implementation.</p> <p><b>FY 2012 Plans:</b> Effective engineering strategies to integrate tactical applications for use across the enterprise network .</p>		<p><b>Articles:</b></p> <p>1.300 0</p>	<p>1.000 0</p>	<p>1.243</p>
<p><b>Title:</b> Conduct and Support System Interoperability Engineering and Development of SoS Architectural Products</p> <p><b>Description:</b> .</p> <p><b>FY 2010 Accomplishments:</b> Supported and integrated efforts across the network, Battle Command, and PEO C3T portfolio. Developed SoS architecture for Capability Sets (CS) 11/12 and assessing network performance at Central Training Centers (CTC).</p> <p><b>FY 2011 Plans:</b></p>		<p><b>Articles:</b></p> <p>2.701 0</p>	<p>0.340 0</p>	<p>2.790</p>

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C34: <i>ARMY TAC C2 SYS ENG</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Develop internal PEO C3T data collection reduction and analysis capability to assist in identifying potential network issues early in the systems development of new technologies. Develop a single documented process for SoS architectures for CS 13/14 and beyond. <b>FY 2012 Plans:</b> Continue to support the assessment of Emerging Technologies, identification of critical integrated test points, developmental testing at integration points, architectural data process/tool kits , and transition of Network capabilities to the warfighter.				
<b>Title:</b> Continue Exploring State of the Art Technology Insertion in Support of the ABCS Program and Army Networks <b>Description:</b> . <b>FY 2010 Accomplishments:</b> PEO C3T validated the experimental victory architecture on the STRYKER platform and delivered the Experimental Architecture Document and Victory Standards Development Plan. It completed 25+ change proposals by the Standards Body released in 0.5 Experimental Specification and with PM MRAP, developed both the validation plan to implement the 0.5 Experimental Specification on the MRAP Platform and the out-brief to the Standards Body at the quarterly Face to Face Meeting. <b>FY 2011 Plans:</b> Complete development, documentation and validation of the the Proposed1.0 Standards (the initial deployable product) and corresponding architectures and develop an execution plan for two independent implementations of the Proposed 1.0 Standards . Finalize the governance structure for VICTORY by the senior leaders and support various vehicle programs converging towards VICTORY compatibility and compliance. Continue Standards Body to further refine the proposed standards document.		<b>Articles:</b> 3.000 0	2.000 0	-
<b>Title:</b> Continue Development and Implementation of Tactical Information Assurance <b>Description:</b> . <b>FY 2010 Accomplishments:</b> The IA Team supports the Security Data and Log Management (SDLM) working group lead under the Army Office of Information Assurance, and Compliance (OIA&C). The objective of the working group is to provide requirements, architecture, and technical solutions for Army incident response, log management, security event rollup, and archiving. Leads bi-weekly meetings to address ongoing architectural and political issues relative to the Host Based Security System (HBSS) effort; leads the development of HBSS policies; and provides input to the execution of the NETCOM HBSS tactical pilot. Participant in the Army PKI working		<b>Articles:</b> 0.500 0	0.320 0	0.600

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>		<b>PROJECT</b> C34: <i>ARMY TAC C2 SYS ENG</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>group to formulate tactical implementation and to articulate requirements of PEO C3T programs and supports ongoing information assurance efforts and architecture development.</p> <p><b>FY 2011 Plans:</b> Continue to support the Security Data and Log Management (SDLM) working group lead under the Army Office of Information Assurance, and Compliance (OIA&amp;C) by providing requirements, architecture, and technical solutions for Army incident response, log management, security event rollup, and archiving. Manage and execute HBSS Pilot test for the Army and develop execution and implementation of HBSS for the Army.</p> <p><b>FY 2012 Plans:</b> Continue to support the Security Data and Log Management (SDLM) working group lead under the Army Office of Information Assurance, and Compliance (OIA&amp;C) by providing requirements, architecture, and technical solutions for Army incident response, log management, security event rollup, and archiving. Aid in the documentation of future Army Security and Data Log Management requirements. Participation in Phase IIb and III of the Tactical PKI Pilot. Coordinate with PM offices for the implementation of PK Enablement.</p>						
<p><b>Title:</b> Continue System of Systems Development</p> <p><b>Description:</b> .</p> <p><b>FY 2010 Accomplishments:</b> Facilitates the SoS E&amp;I synchronization between PEO C3T programs and external entities and stakeholders such as TRADOC, FORSCOM, ASA (ALT), COCOMS, NETCOM, CIO-G6, G2, G3/5/7 and other DoD Agencies for all system of system issues and ONS. The Tier 3 SEIPT will also act as an adjudication board of emerging and existing requirements to assist, identify, and eliminate redundancies and conflicting requirements. Supports Key PEO C3T Initiatives (e.g. CS 13/14) and specific PM Configuration requirements and standardization. Provides technical oversight for theatre originated missions that involve multiple PM systems, coordinating with external entities as required. Documents the PEO C3T SoS architecture from the transport and aerial layer through the application layer and provide quarterly updates to this documentation.</p> <p><b>FY 2011 Plans:</b> Assure the PEO C3T SoS technical capabilities delivered in support of the Army Capability Set Management Process and in support of current operations (OEF-focused) are defined, engineered, and integrated within the PEO and across the Army Enterprise. Provide Army SoS engineering on major HQDA capability initiatives that impact the tactical warfighter. Assess potential C3 solutions to break down functional stove-pipes, accommodate non-POR opportunities, and add a new level of</p>				2.983 0	3.000 0	4.967

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C34: <i>ARMY TAC C2 SYS ENG</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
operational agility in support of the warfighter. Deliberate SoS Engineering and Integration; Current Ops SoS Engineering and Integration; Enterprise SoS Engineering; Rapid Technology Insertion; PEO C3T Strategic Initiatives. <b>FY 2012 Plans:</b> Continue to effectively manage overall Systems of Systems (SoS) Engineering, Enterprise, and Integration efforts for the PEO C3T portfolio of technology and capability enhancement programs.				
<b>Title:</b> System of Systems Engineering and Integration Evolution of the Network  <b>Description:</b> .  <b>FY 2010 Accomplishments:</b> Deliver technical support for SoS Engineering and Integration of PEO C3T capabilities with Joint/Coalition partners in the OND/OEF theatre architectures.  <b>FY 2011 Plans:</b> Engage and influence G3 on CS development, G6 on Line Of Efforts, ASAALT SoS SE on cross-Army capability engineering, and PEO Integration on formation-specific technical integration. Based on CS 11/12 lessons learned, revise and implement cross-PEO SoS Engineering and Integration processes for CS 13/14 to assure successful development, integration, test, and fielding.  <b>FY 2012 Plans:</b> Develop streamlined processes to support ASA(ALT) SoS SE group, VE, and Lean Six Sigma across all PEO C3T capabilities to include Joint/Coalition partners and the current fight.		<b>Articles:</b> 5.277 0	2.990 0	2.659
<b>Title:</b> Initiate Wireless Network after Next (WNaN)Technology Experimentation  <b>Description:</b> The WNaN program is developing an advanced wireless radio platform based on commercial components and adaptive network technologies that enable WNaN to self-form adaptive ad-hoc networks. WNaN 4 channel hand-held radio is designed for company level application, with focus on fire teams (Rifleman).  <b>FY 2010 Accomplishments:</b> PEO C3T SPO has began its coordinated efforts to implement Army field trials and user evaluation; this information will used to develop report to VCSA with transition and acquisition recommendations (est. March 11). PEO C3T SPO preliminary analysis of WNaN at Ft Devens indicates that the WNaN Radio was able to support 50+ nodes while maintaining a substantial traffic load (with peak periods of several hundreds of Kilobits per second); support voice communication with 90% or greater completion rate majority of the time. Team is working with CERDEC, NSA, CIO/G6, DARPA and vendors to develop and implement a TYPE II		<b>Articles:</b> 6.559 0	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C34: <i>ARMY TAC C2 SYS ENG</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
WNaN Radio for delivery by FEB 11. NSA provided the TYPE II requirements that WNaN must meet. July 2010 PEO C3T field assessment at Ft Devens; first Army field assessment at radio. August 2010 WNaN IPT Decision Point 1 (Go/No Go for Army field experiment. Decision by Army IPT chaired by ASA (ALT). Decision based on results of PEO C3T and EPG integration test results.Army Field Experiment as designated in MOA. Conducted at Ft Benning utilizing Army EXFOR (Company Slice), Experiment conducted by Maneuver Battle Lab and supported by PEO C3T, (Sep10) Completion of Internal WNaN evaluation report (Feb 11); PEO C3T Army Staff Briefings and report to VCSA (March 11).			
<b>Accomplishments/Planned Programs Subtotals</b>	28.420	12.220	15.193

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

This project provides the technical and programmatic disciplines required for systems engineering and integration, experimentation, acquisition management, testing, interoperability, support to fielding and sustainment to ensure an interoperable and affordable Army Tactical Command and Control Systems (ATCCS). Fiscal Year 2011 will focus on "Systems of Systems" System Engineering and Integration for the tactical network with increased emphasis on immediate Warfighter needs as well as leveraging emerging technologies, through the G3 LandWarNet Capability Set Development and Integration. Fiscal Year 2012 will focus on working the Army Network Modernization strategy and implementation to include: emerging technologies; coordination of network services; current and force integrated C5ISR network/transport architectures; integrated developmental, technical, and operational test schedules/documentation; and the tactical assessment and execution of the enterprise framework.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> C34: <i>ARMY TAC C2 SYS ENG</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Emerging Technologies	SS/FP	Northrop Grumman:Fort Monmouth, NJ/Fort Hood, TX	16.277	0.774		0.797		-		0.797	Continuing	Continuing	Continuing
IDA	SS/FP	IDA:Fort Monmouth, NJ	1.724	-		-		-		-	Continuing	Continuing	Continuing
CSC	SS/FP	Fort Monmouth, NJ/Fort Hood, TX:APG	43.780	0.940		1.259		-		1.259	Continuing	Continuing	Continuing
(Direct Labor)	SS/FP	MANTECH:Fort Monmouth, NJ/Fort Hood, TX	6.496	-		-		-		-	Continuing	Continuing	Continuing
Architecture Integration	C/FP	Sensor Technologies Inc.:various	0.970	1.796		1.850		-		1.850	Continuing	Continuing	Continuing
SYTEX	SS/FP	various:various	0.680	-		-		-		-	Continuing	Continuing	Continuing
(Config Mgt/)	SS/FP	CAMBER:Fort Hood, TX	1.788	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering Support	SS/FP	LOCKHEED MARTIN:Eatontown, NJ	7.278	0.275		0.284		-		0.284	Continuing	Continuing	Continuing
ATSC	SS/FP	various:various	1.850	-		-		-		-	Continuing	Continuing	Continuing
TBD	SS/FP	TBD:TBD	3.500	-		-		-		-	Continuing	Continuing	Continuing
(Labor and Equipment)	SS/FP	GTE:Fort Hood, TX	2.281	-		-		-		-	Continuing	Continuing	Continuing
Misc Contracts	SS/FP	various:various	5.985	-		-		-		-	Continuing	Continuing	Continuing
MITRE	SS/FP	Aberdeen Proving Grounds, MD/Ft Monmouth, NJ/ Eatontown, NJ:APG	59.424	4.822		5.567		-		5.567	Continuing	Continuing	Continuing
TBD	SS/FP	Unixpros:Eatontown, NJ	3.711	-		-		-		-	Continuing	Continuing	Continuing
ROBBINS-GIOIA	SS/FP	various:various	9.986	-		-		-		-	Continuing	Continuing	Continuing
TBD	SS/FP	ITT:Eatontown, NJ	1.070	-		-		-		-	Continuing	Continuing	Continuing
MISCELLANEOUS SUPPORT	SS/FP	various:various	2.551	-		-		-		-	Continuing	Continuing	Continuing
TBD	SS/FP	BOOZ-ALLEN:Eatontown, NJ	1.950	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			171.301	8.607		9.757		-		9.757			

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> JN1: <i>JOINT NETWORK NODE (JNN) TESTING</i>
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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
JN1: <i>JOINT NETWORK NODE (JNN) TESTING</i>	-	-	13.183	-	13.183	-	-	-	-	0.000	13.183
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

WIN-T Inc 1 is key to the Army's Network Modernization program. As the emerging major component of the Army Bridge to Future Networks, Warfighter Information Network - Tactical (WIN-T) Increment 1, formally the Joint Network Node (JNN) Network is intended to replace legacy Mobile Subscriber Equipment (MSE) while moving the Army to a unified Everything Over Internet Protocol (EOIP) Communications System. Increment 1: Networking at-the-Halt-the network is capable of passing unclassified and classified traffic levels, throughout its entire structure, from Home Station Operations center to the furthest forward Battalion Elements. Designed to meet modularity and rapid deployment mandate, the network is also intended to support Joint Communications Requirements and internet applications from Coalition partners and from approved Federal Agencies such as the Federal Emergency Management Agency and Department of Homeland Security.

FY 12: Funding will be used for Operational Test of the Inc 1b technical insertion scheduled to be conducted 3rd quarter FY 12 in conjunction with Inc 2 Initial Operational Test and Evaluation (IOT&E).

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Operational Testing Event	-	-	13.183
<b>Description:</b> Funding is provided for the following effort			
<b>FY 2012 Plans:</b> Operational Testing Event			
<b>Accomplishments/Planned Programs Subtotals</b>	-	-	13.183

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

Joint Network Node (JNN) Network has previously been acquired in substantial quantities as urgent Army directive procurement. The JNN program attained Milestone C on 14 May 2007. The product manager was given verbal approval to proceed, in addition to instruction to await an Acquisition Decision memorandum (ADM) that was to follow finalization of the Warfighter Information Network - Tactical (WIN-T) Nunn-McCurdy hearings. The ADM was issued 5 June 2007 implementing the expected merger of JNN and WIN-T, laying the foundation for the restructured WIN-T program, and directing a number of actions to start the way ahead for the



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	JN1: <i>JOINT NETWORK NODE (JNN)</i> <i>TESTING</i>

combined program. The WIN-T ACAT 1D program now consist of four separately reporting Increments, with JNN re-designated as WIN-T Increment 1. RDT&E funding will be used to test the output of the production.

FY 12: Funding will be used for Operational Test of the Inc 1b technical insertion scheduled to be conducted 3rd quarter FY 12 in conjunction with Inc 2 Initial Operational Test and Evaluation (IOT&E).

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> JN1: <i>JOINT NETWORK NODE (JNN) TESTING</i>
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<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ATEC Testing requirement	Various	TBD:TBD	-	-		13.183		-		13.183	0.000	13.183	0.000
<b>Subtotal</b>			-	-		13.183		-		13.183	0.000	13.183	0.000
<b>Project Cost Totals</b>			-	-		13.183		-		13.183	0.000	13.183	0.000

**Remarks**

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> JN1: <i>JOINT NETWORK NODE (JNN)</i> TESTING
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	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

Operational Test	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> </tr> </table>																												

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604818A: <i>Army Tactical Command &amp; Control Hardware &amp; Software</i>	<b>PROJECT</b> JN1: <i>JOINT NETWORK NODE (JNN)</i> TESTING
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Operational Test	2	2012	2	2012

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604820A: <i>RADAR DEVELOPMENT</i>
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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	-	-	2.890	-	2.890	3.449	1.983	1.968	2.937	Continuing	Continuing
E10: <i>SENTINEL</i>	-	-	2.890	-	2.890	3.449	1.983	1.968	2.937	Continuing	Continuing

**Note**

Increase in FY 12 is for restart of Sentinel Research, Development, Test and Evaluation (RDTE) line to support obsolescence, evolving threat sets, and Counter Rockets, Artillery, and Mortars (CRAM) integration. Sentinel is now scheduled to be in the field until 2030. The RDTE line keeps the Improved Sentinel Radar System viable against the evolving threat set.

**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. The Improved Sentinel system is used with the Forward Area Air Defense Command and Control [FAAD C2] element and is a key component to the Integrated Air and Missile Defense architecture via the Integrated Air and Missile Defense Battle Command System [IBCS] to provide critical air surveillance of the forward areas.

Improved Sentinel [AN/MPQ-64A1] consists of a radar-based sensor with its prime mover/power, Identification Friend or Foe [IFF], and Forward Area Air Defense [FAAD] Command, Control and Intelligence [C2I] interfaces. The radar is deployed in both an air defense role and a force protection role for Counter Rocket, Artillery, and Mortar [CRAM] missions. The sensor is advanced three-dimensional battlefield X-Band air defense phased-array radar with an instrumented range of 75 km. The Improved Sentinel is capable of operating day or night, in adverse weather conditions, in the battlefield environments of dust, smoke, aerosols and enemy countermeasures. It provides 360-degree azimuth coverage for acquisition tracking. The Improved Sentinel contributes to the digital battlefield by automatically detecting, classifying, identifying and reporting targets [cruise missiles, unmanned aerial vehicles, rotary wing and fixed wing aircraft]. Improved Sentinel acquires targets sufficiently forward of the battle area to allow weapons reaction time and allow engagement at optimum ranges. The Improved Sentinel's integrated IFF reduces the potential for fratricide of US and Coalition aircraft.

The Research and Development funding supports Sentinel modernization/upgrades, hardware/software issue resolution, resolution of obsolescence issues, engineering studies, and cost reduction initiatives. The funding for FY12 through FY16 development activities closes the following Sentinel system capability gaps identified by the User: 1] Range Detection gap and 2] Non-Cooperative Target Recognition gap.

Battle Space Improvement addresses the Range Detection gap that currently exists with the Sentinel system. This development effort modifies the radar signal processor algorithms to reduce system processing losses. The modified algorithms will increase target acquisition and tracking range capability by a minimum of 12 percent against the threat set within the instrumented range band. This effort also develops modifications to the radar hardware by adding a common signal processing card to the radar signal processor to provide a common hardware and software processing configuration across the Sentinel radar fleet.

Addresses the Non-Cooperative Target Recognition [NCTR] gap that currently exists with the Sentinel system.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604820A: <i>RADAR DEVELOPMENT</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	2.890	-	2.890
Total Adjustments	-	-	2.890	-	2.890
• Congressional General Reductions					
• Congressional Directed Reductions					
• Congressional Rescissions	-	-			
• Congressional Adds					
• Congressional Directed Transfers					
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	2.890	-	2.890

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604820A: <i>RADAR DEVELOPMENT</i>	<b>PROJECT</b> E10: <i>SENTINEL</i>
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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
E10: <i>SENTINEL</i>	-	-	2.890	-	2.890	3.449	1.983	1.968	2.937	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

This is a new start for the Sentinel RDTE funding line. Last RDTE funding for Sentinel was in FY2008.

**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. The Improved Sentinel system is used with the Forward Area Air Defense Command and Control [FAAD C2] element and is a key component to the Integrated Air and Missile Defense architecture via the Integrated Air and Missile Defense Battle Command System [IBCS] to provide critical air surveillance of the forward areas.

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The Research and Development funding supports Sentinel modernization/upgrades, hardware/software issue resolution, resolution of obsolescence issues, engineering studies, and cost reduction initiatives. The funding for FY12 through FY16 development activities closes the following Sentinel system capability gaps identified by the User: 1] Range Detection gap and 2] Non-Cooperative Target Recognition gap.

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Addresses the Non-Cooperative Target Recognition [NCTR] gap that currently exists with the Sentinel system.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604820A: <i>RADAR DEVELOPMENT</i>	<b>PROJECT</b> E10: <i>SENTINEL</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Product Development <b>Description:</b> Funding is provided for the following effort:  <b>FY 2012 Plans:</b> Modify radar signal processor algorithms and add common signal processing card to radar signal processor. Integrate non-cooperative target recognition technology with Improved Sentinel and tailor signal processing. Perform technical assessments, concept studies, cost reduction, risk reduction, threat analysis, and required documentation.	-	-	2.790
<b>Title:</b> Test & Evaluation <b>Description:</b> Funding is provided for the following effort:  <b>FY 2012 Plans:</b> Plan and test the modified radar signal processor algorithms.	-	-	0.100
<b>Accomplishments/Planned Programs Subtotals</b>	-	-	2.890

<b>C. Other Program Funding Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	570.831	467.139	406.605		406.605					Continuing	Continuing
• PE 0605456A: <i>PAC-3/MSE MISSILE</i>		62.500	88.993		88.993		68.938	63.468	64.215	Continuing	Continuing
• SSN C53101: <i>SSN C53101, MSE Missile</i>			74.953		74.953		532.540	487.049	560.099	Continuing	Continuing
• SSN C53201: <i>SSN C53201, PATRIOT/MEADS GSE</i>											
• PE 0102419A: <i>PE 0102419A, Proj E55, JLENS</i>	317.132	372.493	344.655		344.655		58.124	19.717	19.726	Continuing	Continuing
• SSN BZ0525: <i>SSN BZ0525, JLENS Production</i>							501.459	454.966	416.888	Continuing	Continuing
• PE 0604802A: <i>PE 0604802A, Proj S23, SLAMRAAM</i>	56.441									Continuing	Continuing



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604820A: <i>RADAR DEVELOPMENT</i>	<b>PROJECT</b> E10: <i>SENTINEL</i>
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**C. Other Program Funding Summary (\$ in Millions)**

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0605455A: <i>PE 0605455A, Proj S35 SLAMRAAM</i>		23.700	19.931		19.931					Continuing	Continuing
• SSN C81002: <i>SSN C81002, SLAMRAAM Launcher</i>		116.732								Continuing	Continuing
• SSN C81004: <i>SSN C81004, SLAMRAAM Missile</i>											
• PE 0603305A: <i>PE 0603305A, Proj TR7, Indirect Fire Protection Capability II - Intercept</i>		4.296	21.126		21.126		89.021	92.999	142.738	Continuing	Continuing
• SSN WK5053: <i>SSN WK5053, FAAD GBS</i>		91.467	7.958		7.958					Continuing	Continuing
• PE 0603327A: <i>PE 0603327A, Proj S34, AMD System of System Engineering and Integration</i>	164.719									Continuing	Continuing
• PE 0605457A: <i>PE 0605457A, Proj S40, Army Integrated Air and Missile Defense (AIAMD)</i>		251.124	270.607		270.607		346.341	298.869	275.651	Continuing	Continuing
• SSN BZ5075: <i>SSN BZ5075, Army IAMD Battle Command System (IBCS)</i>							23.587	100.560	256.855	Continuing	Continuing
• PE 0208053: <i>PE 0208053, Proj 635, JOINT TACT GRD STATION-P3I (MIP)</i>	13.189	12.403	27.630		27.630		14.109	7.912	8.039	Continuing	Continuing
• SSN BZ8401: <i>SSN BZ8401, Joint Tactical Ground Station (JTAGS)</i>	6.682	9.279	1.199		1.199		9.740	4.432	4.496	Continuing	Continuing
• PE 0604820A: <i>PE 0604820A, Proj E10, SENTINEL</i>			2.890		2.890		1.983	1.968	2.937	Continuing	Continuing
	25.783		41.657		41.657		48.418	46.613	46.463	Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604820A: <i>RADAR DEVELOPMENT</i>	<b>PROJECT</b> E10: <i>SENTINEL</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• SSN WK5057: <i>SSN WK5057, SENTINEL MODS</i>											

**D. Acquisition Strategy**

Battle Space Improvement: The Sentinel Product Office will contract with Thales Raytheon Systems [TRS] in the 2nd quarter of FY12 to update and modify the radar signal processor algorithms. The updated software will be tested in FY13, documented, and released for installation.

Non-Cooperative Target Recognition (NCTR): The Sentinel Product Office will contract with the Aviation and Missile Command Research and Development Engineering Center [AMRDEC] Prototype Integration Facility [PIF] to develop, test, and integrate the NCTR capability into the Sentinel fleet. The development effort is 57 months and will be initiated with an industry survey via a Request for Information and draft specifications. Follow-on briefings will be held over a two month period followed by a two month verification and validation test. Upon completion of testing, a full and open or limited participant Competitive Acquisition will be conducted, concluding with a contract award for a 42 month development and test effort.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604820A: <i>RADAR DEVELOPMENT</i>	<b>PROJECT</b> E10: <i>SENTINEL</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Improved Sentinel Development	SS/CPFF	Thales Raytheon:Fullerton, CA	11.398	-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon:Fullerton, CA	1.169	-		-		-		-	Continuing	Continuing	0.000
Battle Space Improvement	SS/CPFF	Thales Raytheon & Government:Fullerton, CA / Huntsville, AL	-	-		0.053		-		0.053	Continuing	Continuing	0.000
Non-Cooperative Target Recognition	SS/CR	Thales Raytheon & Government:Fullerton, CA / Huntsville, AL	-	-		0.077		-		0.077	Continuing	Continuing	0.000
<b>Subtotal</b>			12.567	-		0.130		-		0.130			0.000

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Improved Sentinel Development	SS/CPFF	Thales Raytheon:Fullerton, CA	102.729	-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon:Fullerton, CA	20.820	-		-		-		-	Continuing	Continuing	0.000
Battle Space Improvement	SS/CPFF	Thales Raytheon & Government:Fullerton, CA / Huntsville, AL	-	-		1.130		-		1.130	Continuing	Continuing	0.000
Non-Cooperative Target Recognition	SS/CPFF	Thales Raytheon & Government:Fullerton, CA / Huntsville, AL	-	-		1.530		-		1.530	Continuing	Continuing	0.000
<b>Subtotal</b>			123.549	-		2.660		-		2.660			0.000

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604820A: <i>RADAR DEVELOPMENT</i>	<b>PROJECT</b> E10: <i>SENTINEL</i>
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<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Improved Sentinel Development	SS/CPFF	Thales Raytheon:Fullerton, CA	16.930	-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon:Fullerton, CA	0.352	-		-		-		-	Continuing	Continuing	0.000
<b>Subtotal</b>			17.282	-		-		-		-			0.000

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	
Improved Sentinel Mod Development	SS/CPFF	Thales Raytheon:Fullerton CA	34.599	-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon:Fullerton, CA	2.331	-		-		-		-	Continuing	Continuing	0.000
Battle Space Improvement	SS/CPFF	Thales Raytheon & Government:Fullerton, CA / Huntsville, AL	-	-		0.100		-		0.100	Continuing	Continuing	0.000
Non-Cooperative Target Recognition	SS/CPFF	Thales Raytheon & Government:Fullerton, CA / Huntsville, AL	-	-		-		-		-	Continuing	Continuing	0.000
<b>Subtotal</b>			36.930	-		0.100		-		0.100			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
<b>Project Cost Totals</b>		190.328	-	2.890	-	2.890		0.000

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604820A: <i>RADAR DEVELOPMENT</i>	<b>PROJECT</b> E10: <i>SENTINEL</i>

	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

Battle Space Improvement	[REDACTED]																											
Non-Cooperative Target Recognition (NCTR)	[REDACTED]																											

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604820A: <i>RADAR DEVELOPMENT</i>	<b>PROJECT</b> E10: <i>SENTINEL</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Battle Space Improvement	1	2012	3	2013
Non-Cooperative Target Recognition (NCTR)	1	2012	3	2016

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				PE 0604822A: <i>General Fund Enterprise Business System (GFEBs)</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	23.712	13.576	0.794	-	0.794	0.808	0.814	0.789	0.742	Continuing	Continuing
<i>GF5: GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBs)</i>	23.712	13.576	0.794	-	0.794	0.808	0.814	0.789	0.742	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The General Fund Business Enterprise System (GFEBs) is a Major Automated Information System (MAIS) program and is in the developmental phase. It will follow the DoD Business Enterprise Architecture which is aligned to the mandated Federal Enterprise Architecture. GFEBs was implemented to fulfill the needs and comply with the Federal Financial Management Improvement Act (FFMIA), The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Clinger-Cohen Act of 1996 and to fulfill the stated mission of the Assistant Secretary of the Army for Financial Management and Comptroller (ASA(FM&C)). GFEBs will replace financial systems operating in excess of 30 years like the Standard Finance Systems (STANFINS) and other costly feeder systems which do not allow the Department of Defense (DoD) or the U.S. government to achieve an unqualified opinion on its financial statements. GFEBs will become the Department of the Army's new core financial management system for administering its General Fund. GFEBs will be a commercial off-the-shelf (COTS) Enterprise Resource Planning (ERP) system that is certified by the Chief, Financial Officer Council (CFOC) and provides the six core financial functions. GFEBs will allow tactical commanders to make informed decisions on a virtually real time system.

On 1 October 2008, GFEBs Release 1.2 was successfully implemented to the Fort Jackson Garrison, Defense Finance Accounting Service (DFAS) Indianapolis, Indiana and several other organizations. It is a viable and operational system with positive feedback from the field. On 1 April 2009 GFEBs Release 1.3 was successfully implemented to Release 1.2 locations as well as Fort Benning, Fort Stewart, DFAS Rome and several other organizations. Release 1.4 was successfully deployed to Waves 1 & 2 (October 09 and April 10 respectively) in FY10.

FY11 is the last year for development costs for Increment I of the GFEBs financial and asset accounting management system. This final phase of development supports Release 1.4, encompasses the development and testing of Reports, Interfaces, Conversions, Extensions (RICE) objects for Debt Management, Federated, Foreign Military Sales (FMS), Logistics Modernization Program (LMP) and Global Command and Control System, Army (GCSS,A).

FY12 Base development dollars in the amount of \$0.547 million supports the development of Procure to Pay (P2P).

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604822A: <i>General Fund Enterprise Business System (GFEBS)</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	23.777	-	0.547	-	0.547
Current President's Budget	23.712	13.576	0.794	-	0.794
Total Adjustments	-0.065	13.576	0.247	-	0.247
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-0.065	13.576	0.247	-	0.247



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604822A: <i>General Fund Enterprise Business System (GFEBs)</i>	<b>PROJECT</b> GF5: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBs)</i>
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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
GF5: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBs)</i>	23.712	13.576	0.794	-	0.794	0.808	0.814	0.789	0.742	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The General Fund Business Enterprise System (GFEBs) is a Major Automated Information System (MAIS) program and is in the Production & Deployment/ Operations and Support Phase. It will follow the DoD Business Enterprise Architecture which is aligned to the mandated Federal Enterprise Architecture. GFEBs was implemented to fulfill the needs and comply with the Federal Financial Management Improvement Act (FFMIA), The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Clinger-Cohen Act of 1996 and to fulfill the stated mission of the Assistant Secretary of the Army for Financial Management and Comptroller (ASA(FM&C)). GFEBs will replace financial systems operating in excess of 30 years like the Standard Finance Systems (STANFINS) and other costly feeder systems which do not allow the Department of Defense (DoD) or the U.S. government to achieve an unqualified opinion on its financial statements. GFEBs will become the Department of the Army's new core financial management system for administering its General Fund. GFEBs will be a commercial off-the-shelf (COTS) Enterprise Resource Planning (ERP) system that is certified by the Chief, Financial Officer Council (CFOC) and provides the six core financial functions. GFEBs will allow tactical commanders to make informed decisions on a virtually real time system.

On 1 October 2008, GFEBs Release 1.2 was successfully implemented to the Fort Jackson Garrison, Defense Finance Accounting Service (DFAS) Indianapolis, Indiana and several other organizations. It is a viable and operational system with positive feedback from the field. On 1 April 2009 GFEBs Release 1.3 was successfully implemented to Release 1.2 locations as well as Fort Benning, Fort Stewart, DFAS Rome and several other organizations. On 1 October 2009 GFEBs Release 1.4 was successfully implemented encompassing all of Release 1.2/1.3 sites. GFEBs is expected to receive its Full Deployment Decision Review (FDDR) in January 2010 for Release 1.3 deployment.

FY11 Base development dollars in the amount of \$13.576 million supports the development and testing of Report, Interfaces, Conversions, and Extensions (RICE) in support of the remaining Release 1.4 releases. Army has made the determination that RDTE was best suited for ongoing software development costs. OSD revalidated and approved GFEBs funding at Milestone B/C and added additional RDTE development and test requirements from the previous President's Budget submission. The GFEBs Full Deployment Decision Review (FDDR) Army Cost Position (ACP), approved in October 2009, supports this request.

FY12 Base development dollars in the amount of \$0.547 million supports the development of Procure to Pay (P2P).

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Product Development	17.939	13.576	0.794
<b>Articles:</b>	0	0	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604822A: <i>General Fund Enterprise Business System (GFEBS)</i>	<b>PROJECT</b> GF5: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> continue development of Release 1.4 Reports, Interfaces, Conversions, Extensions (RICE) objects.</p> <p><b>FY 2011 Plans:</b> finalize development of Release 1.4 Reports, Interfaces, Conversions, Extensions (RICE) objects for Debt Management, Federated, Foreign Military Sales (FMS), Logistics Modernization Program (LMP) and Global Command and Control Systems, Army (GCSS,A).</p> <p><b>FY 2012 Plans:</b> continue development of the Procure to Pay (P2P) system.</p>				
<p><b>Title:</b> Project Management</p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> continue development of acquisition documentation and support of test and evaluation activities.</p>		2.714 0	-	-
<p><b>Title:</b> Test and Evaluation</p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> support of the Release 1.3 and Release 1.4 Developmental Test and Evaluation. Test activities included funding user test, test agencies labor and travel, and preparation of test environments.</p>		2.844 0	-	-
<p><b>Title:</b> SBIR/STTR</p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Funds for Small Business Innovative Research and Science &amp;Technology Transition</p>		0.215 0	-	-
<b>Accomplishments/Planned Programs Subtotals</b>		23.712	13.576	0.794

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604822A: <i>General Fund Enterprise Business System (GFEBS)</i>	<b>PROJECT</b> GF5: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• BE4168: <i>OPA,</i>	44.762	97.858	23.664		23.664		6.314	2.692	2.706	Continuing	Continuing
• 432612: <i>OMA,</i>	66.245	74.306	61.290		61.290		58.317	53.853		Continuing	Continuing

**D. Acquisition Strategy**

GFEBs is being procured as a performance-based acquisition to encourage innovative and creative solutions and to avoid hampering, dictating, or prescribing how the work must be performed. Therefore, the focus of the Statement of Objectives (SOO) was on "what" the Army is trying to achieve instead of "how" it must be achieved. The use of an SOO is an emerging method that transforms the acquisition process by requiring each of the competing contractors to develop their unique proposed technical approach, work breakdown schedule, project plan and schedule, schedule of deliverable items, performance metrics, performance measurement plan, and quality assurance plan. To achieve its GFEBS project objectives, the Army used an existing Blanket Purchase Agreement (BPA) to select a System Integrator (SI). The contract period of performance is 1 base year with 9 option years. DoD through the Department of the Navy has established enterprise agreements for ERP System Integration Services with five qualified SI(s) that are General Services Administration (GSA) Federal Supply Service (FSS) Schedule holders under the Enterprise Software Initiative (ESI). The Army has selected the SI; all contractor work will be performed under the selected SI's ESI-SI BPA through the award of one task order with several options. Multiple options are anticipated to support each project objective. The products and services described in task orders will be grouped and referenced as Contract Line Item Numbers (CLIN). All CLINs will be awarded on a Fixed Price basis with performance based incentives and disincentives. The task order and all options exercised will be performance based, containing financial incentive and disincentive provisions. Offerors were provided performance based metrics and were required to propose performance incentive and disincentive provisions by CLIN in their Quality Assurance Surveillance Plan (QASP) submitted in response to the Request for Quote (RFQ). The QASP elements were evaluated as part of the evaluation of the Offerors' proposals.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604822A: <i>General Fund Enterprise Business System (GFEBS)</i>	<b>PROJECT</b> GF5: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Concept Exploration	Various	Accenture:Various	26.781	-		-		-		-	Continuing	Continuing	Continuing
Development	Various	Accenture:Various	83.375	13.576		0.794		-		0.794	Continuing	Continuing	Continuing
<b>Subtotal</b>			110.156	13.576		0.794		-		0.794			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	Accenture:Various	137.585	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			137.585	-		-		-		-			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Procurement	Various	Accenture:Various	35.228	-		-		-		-	Continuing	Continuing	Continuing
System Maintenance/Item Management	Various	Accenture:Various	15.794	-		-		-		-	Continuing	Continuing	Continuing
Hardware Maintenance	Various	Accenture:various	1.898	-		-		-		-	Continuing	Continuing	Continuing
Software Maintenance	Various	Accenture:various	17.165	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			70.085	-		-		-		-			

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			317.826	13.576		0.794		-		0.794			

**Remarks**

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>
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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	19.534	24.736	10.358	-	10.358	30.977	41.223	37.431	44.230	Continuing	Continuing
L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>	0.664	5.969	6.975	-	6.975	3.142	-	-	-	0.000	16.750
L87: <i>LONG RANGE COUNTERFIRE RADAR</i>	-	0.084	-	-	-	-	-	-	-	0.000	0.084
L88: <i>ENHANCED AN/TPQ 36</i>	18.870	18.683	3.383	-	3.383	27.835	41.223	37.431	44.230	Continuing	Continuing

**Note**

FY12 funding supports EQ-36 and LCMR development efforts.

**A. Mission Description and Budget Item Justification**

This Program funds design, development and test of primary target acquisition and counterfire radars to automatically detect, locate and classify hostile indirect fire weapons (mortars, artillery, and rockets). This PE directly supports the prioritization, tracking, and locating of targets, and dissemination of that information for simultaneous attack of multiple threats. It provides the Warfighter with continuous and responsive counterfire target acquisition systems for all types and phases of military operations. Project L86, Lightweight Counter Mortar Radar, Version AN/TPQ-50 provides 360 degree coverage and is used to detect, locate and report hostile locations of enemy indirect firing systems. Project L88, Enhanced AN/TPQ-36 (EQ-36), is a highly mobile radar system that will leverage the latest in technology design to accelerate technology infusion and increase range while improving False Alarm Rate, reducing obsolescence and increasing reliability. EQ-36 will provide 90 degree coverage and extended range, with an incremental development to increase detection capability to 360 degrees.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	20.333	24.820	-	-	-
Current President's Budget	19.534	24.736	10.358	-	10.358
Total Adjustments	-0.799	-0.084	10.358	-	10.358
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	10.358	-	10.358
• OMNIBUS Reprogramming	-0.799	-	-	-	-
• Other Adjustments 2	-	-0.084	-	-	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
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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
L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>	0.664	5.969	6.975	-	6.975	3.142	-	-	-	0.000	16.750
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The AN/TPQ-50 (formerly known as AN/TPQ-48(V)3) Lightweight Counter Mortar Radar (LCMR) is a digitally connected, day/night mortar, cannon, and rocket locating system. It is used to detect, locate, and report enemy indirect firing systems and will also provide observed fires from friendly units. AN/TPQ-50 will also be deployed as part of a System of Systems for Counter-Rockets, Artillery, and Mortars (C-RAM). It will provide data to the Forward Area Air Defense Command and Control (FAADC2) node to provide a sense and warn force protection capability for fixed and semi-fixed sites. It will provide 360 degrees of azimuth coverage and cover a range of 500 meters to 10 kilometers. The AN/TPQ-50 will provide twice the detection range and twice the targeting accuracy of the existing AN/TPQ-48(V)2 Quick Reaction Capability (QRC) currently fielded in support of Operation New Dawn(OND) and Operation Enduring Freedom (OEF).

FY12 funds support the development effort and prototype refurbishment of AN/TPQ-50 Program of Record (POR); development testing; and Initial Operational Test and Evaluation (IOT&E).

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Title:</b> Rocket Detection  <b>Articles:</b>	-	2.870 0	-	-	-
<b>Description:</b> Funding is provided for the following effort  <b>FY 2011 Plans:</b> Development effort for 107mm rocket detection in low trajectories to include associated PMO support costs.					
<b>Title:</b> Radar Networking  <b>Articles:</b>	-	1.302 0	-	-	-
<b>Description:</b> Funding is provided for the following effort  <b>FY 2011 Plans:</b> Initial development effort for Radar Networking to include associated Program Management Office (PMO) support costs.					
<b>Title:</b> Test Support  <b>Articles:</b>	0.102 0	1.797 0	2.693	-	2.693

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Developmental Testing and associated PMO support costs.</p> <p><b>FY 2011 Plans:</b> Test activities to support Initial Operational Test &amp; Evaluation (IOT&amp;E) and associated PMO support costs.</p> <p><b>FY 2012 Base Plans:</b> Developmental Testing, Initial Operational Test &amp; Evaluation (IOT&amp;E), and associated PMO support costs.</p>					
<p><b>Title:</b> AN/TPQ-50 Development</p> <p align="right"><b>Articles:</b></p>	0.562 0	-	4.282	-	4.282
<p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Development of the AN/TPQ-50 Program of Record</p> <p><b>FY 2012 Base Plans:</b> Development of the AN/TPQ-50 Program of Record and the refurbishment of prototypes to include associated PMO costs</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	0.664	5.969	6.975	-	6.975

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• SSN: B05201: <i>SSN: B05201</i> <i>Lightweight Counter Mortar Radar</i>	91.303	57.980	33.810	54.100	87.910		65.161	59.359	50.173	Continuing	Continuing

**D. Acquisition Strategy**  
The AN/TPQ-50 Lightweight Counter Mortar Radar (LCMR) is being developed to meet user Capabilities Production Document (CPD) requirements. Acquisition Strategy approval was obtained in May 2006. In September 2006, a sole source development contract was awarded to SRCTec, the developer and producer of the AN/TPQ-48(V)2 QRC LCMR. A Business Case Analysis (BCA) was accomplished in June 2010 which resulted in a Sole Source Acquisition Strategy decision.



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0604823A: <i>FIREFINDER</i>	L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>

Government development testing (DT) and the Limited User Test (LUT) accomplished in FY10 identified limitation in the system that require re-work and additional testing through FY11 into FY12 to prepare for the Initial Operational Test and Evaluation (IOT&E) now scheduled for 3rd 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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management (Contractor)	Various	Various:Various	3.223	0.330		0.110		-		0.110	Continuing	Continuing	Continuing
Program Management	Various	PM Radars:Fort Monmouth NJ/ APG MD	0.884	0.100		0.110		-		0.110	Continuing	Continuing	Continuing
Program Management (Government Matrix)	Various	Various:Various	1.155	0.335		0.110		-		0.110	Continuing	Continuing	Continuing
<b>Subtotal</b>			5.262	0.765		0.330		-		0.330			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Primary Hardware Dev	Various	SRCTec, North:Syracuse, NY	37.697	-		4.182		-		4.182	Continuing	Continuing	Continuing
Systems Engineering Government	Various	CERDEC:Fort Monmouth, NJ	2.964	-		-		-		-	Continuing	Continuing	Continuing
107mm Rockets Detection	Various	SRCTec, North:Syracuse, NY	-	2.219		-		-		-	Continuing	Continuing	Continuing
Extended Range	Various	SRCTec, North:Syracuse, NY	-	-		-		-		-	Continuing	Continuing	Continuing
Radar Networking	Various	SRCTec, North:Syracuse, NY	-	1.188		-		-		-	Continuing	Continuing	Continuing
Common Front End (CFE)	Various	SRCTec, North:Syracuse, NY	-	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering Contractor	Various	Various:Various	4.051	-		-		-		-	Continuing	Continuing	Continuing
Radar Environmental Simulators (RES)	Various	Oakridge National Labs:Oakridge, TN	0.250	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			44.962	3.407		4.182		-		4.182			

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
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<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>				
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
Development Support (Government)	Various	Various:Various	0.774	-		-		-		-	Continuing	Continuing	Continuing	
<b>Subtotal</b>			0.774	-		-		-		-				

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>				
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
Test Support (Contractor)	Various	SRCTec:Syracuse, NY	0.309	-		-		-		-	Continuing	Continuing	Continuing	
Limited User Test	Various	YUMA/WSMR:Arizona/ New Mexico	1.246	-		-		-		-	Continuing	Continuing	Continuing	
Follow-On Test Event (FOTE)	Various	YUMA/WSMR:Arizona/ New Mexico	0.690	-		-		-		-	Continuing	Continuing	Continuing	
Initial Operational Test & Evaluation (IOT&E)	Various	YUMA/WSMR:Arizona/ New Mexico	-	1.297		1.902		-		1.902	Continuing	Continuing	Continuing	
Developmental Test Operational Test (DT/OT)	Various	Yuma/WSMR:Arizona/ New Mexico	3.008	0.500		0.561		-		0.561	Continuing	Continuing	Continuing	
Test Support (Government)	Various	Various:Various	0.692	-		-		-		-	Continuing	Continuing	Continuing	
<b>Subtotal</b>			5.945	1.797		2.463		-		2.463				

	<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>		56.943	5.969		6.975		-	6.975			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army			<b>DATE:</b> February 2011				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>			<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>		

	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
Limited User Test		■																										
Milestone C							■																					
First Unit Equipped (FUE) (AN/TPQ-50)							■																					
Full Rate Production Decision												■																

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Limited User Test	2	2010	2	2010
Milestone C	2	2011	2	2011
First Unit Equipped (FUE) (AN/TPQ-50	1	2011	1	2011
Full Rate Production Decision	4	2012	4	2012

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>				<b>PROJECT</b> L87: <i>LONG RANGE COUNTERFIRE RADAR</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
L87: <i>LONG RANGE COUNTERFIRE RADAR</i>	-	0.084	-	-	-	-	-	-	-	0.000	0.084
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

No work is being done under this project. Funding will be reprogrammed to another project within this Program Element (PE) during the year of execution.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
<b>Title:</b> Program Management	-	0.084	-	-	-
<b>Articles:</b>		0			
<b>Description:</b> Funding for Program Management Support					
<b>FY 2011 Plans:</b> This will fund program management support					
<b>Accomplishments/Planned Programs Subtotals</b>	-	0.084	-	-	-

**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.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L88: <i>ENHANCED AN/TPQ 36</i>
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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
L88: <i>ENHANCED AN/TPQ 36</i>	18.870	18.683	3.383	-	3.383	27.835	41.223	37.431	44.230	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Enhanced AN/TPQ-36 (EQ-36) is a highly mobile radar system designed to classify targets for automatic first-round location of mortar, artillery and rocket enemy fires and to provide observed fires from friendly units. The EQ-36 will provide 90 and 360 degree coverage against the entire threat set. This program will leverage the latest in technology design to provide increased range, reduced crew size, as well as increased reliability, availability, and maintainability. The EQ-36 will provide digital communications and be interoperable with future Battle Command Systems. Increment 2 will provide improved 360 degree capabilities against rocket and artillery with Integrated Fire Protection Capability (IFPC) interoperability and a quick disconnect capability for the 60kw generator.

FY12 funds completion of Limited User Test (LUT), and initiation of Pre-Planned Product Improvement (P3I) development for High Clutter Environment and Low Quadrant Elevation (QE) efforts.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> NRE Development and Test</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort:</p> <p><b>FY 2010 Accomplishments:</b> Primary development and test of four (4) Enhanced AN/TPQ NRE Increment 1 systems, and associated Program Management support to meet the Army's counterfire requirements.</p>	7.868 0	-	-	-	-
<p><b>Title:</b> Increment 2 Development and Test</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort:</p> <p><b>FY 2010 Accomplishments:</b> Continue Increment 2 development, integration, test and test fixes to include associated PMO and support costs.</p> <p><b>FY 2011 Plans:</b></p>	4.594 0	11.557 0	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army			<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>		<b>PROJECT</b> L88: <i>ENHANCED AN/TPQ 36</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Complete Increment 2 development, integration, test and test fixes to include associated PMO and support costs.					
<b>Title:</b> Test Support	6.408	7.126	0.970	-	0.970
	<i>Articles:</i> 0	0			
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2010 Accomplishments:</b> Test activities to include Limited User Test (LUT)/Development Test (DT) and associated PMO support costs.					
<b>FY 2011 Plans:</b> Test activities to include Limited User Test (LUT)/Development Test (DT) and associated PMO support costs.					
<b>FY 2012 Base Plans:</b> Test activities to include Limited User Test (LUT)/Development Test (DT) and associated PMO support costs.					
<b>Title:</b> Low Quadrant Elevation (QE) Shots	-	-	1.364	-	1.364
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2012 Base Plans:</b> Develop new algorithms to detect low QE shots and associated PMO support costs					
<b>Title:</b> High Clutter Environment	-	-	1.049	-	1.049
<b>Description:</b> Funding is provided for the following effort					
<b>FY 2012 Base Plans:</b> Tracking projectiles through a high clutter environment					
<b>Accomplishments/Planned Programs Subtotals</b>	18.870	18.683	3.383	-	3.383

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L88: <i>ENHANCED AN/TPQ 36</i>

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>			<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• B05310: <i>Enhanced AN/TPQ-36</i>	220.065	295.867	227.629	110.548	338.177		499.488	563.854	111.558	Continuing	Continuing

**D. Acquisition Strategy**

The Enhanced AN/TPQ-36 (EQ-36) leverages technology developed in the Multi-Mission Radar Advanced Technology Objective (ATO) program incorporating the latest antenna technology into the EQ-36. In order to field the EQ-36 capability to the Warfighter in the most expeditious manner with the least amount of risk, the EQ-36 will be produced in two increments based on two tiers of technical threshold requirements. Increment 1 capabilities are planned to be fielded as a replacement to the AN/TPQ-36 and AN/TPQ-37 radar systems. Increment 2 capabilities will provide increased performance over Increment 1 and will meet all of the user's threshold requirements. A contract was awarded in 4QFY06 based on full and open competition. A Limited Procurement Milestone C approval was received in July 2008 which supported use of OCO and Base budget funds to meet urgent operational requirements. An option for initial production units was exercised in July 08 in order to support an Operational Needs Statement (ONS). Additional systems were procured in FY10 to support additional theater requirements. An update to the Milestone C approval will be conducted and a follow-on production contract will be competitively awarded in FY11. The system will eventually replace all of the AN/TPQ-36 and AN/TPQ-37 legacy systems in the fleet. FY12 funding will initiate development for Pre-Planned Product Improvements (P3I) for High Clutter Environment and Low Quadrant Elevation efforts.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L88: <i>ENHANCED AN/TPQ 36</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management (Contractor)	TBD	Various:Various	1.982	-		0.139		-		0.139	Continuing	Continuing	Continuing
Program Management (Government)	TBD	Various:Various	0.702	-		0.176		-		0.176	Continuing	Continuing	Continuing
Program Management	TBD	PM NV/RSTA:Fort Monmouth, NJ	2.222	0.270		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			4.906	0.270		0.315		-		0.315			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Primary Hardware Development	SS/FP	Lockheed Martin,:Syracuse, NY	158.892	8.907		-		-		-	Continuing	Continuing	0.000
Ancillary Equipment	TBD	Various:Various	3.571	-		-		-		-	Continuing	Continuing	0.000
Radar Environmental Simulators (RES)	SS/FP	Oakridge National Labs:Oakridge, TN	4.500	-		-		-		-	Continuing	Continuing	0.000
Low QE Shots	SS/FP	Lockheed Martin:Syracuse, NY	-	-		1.049		-		1.049	Continuing	Continuing	0.000
High Clutter Environment	SS/FP	Lockheed Martin:Syracuse, NY	-	-		1.049		-		1.049	Continuing	Continuing	0.000
Systems Engineering (Contractor)	TBD	Various:Various	4.231	0.550		-		-		-	Continuing	Continuing	0.000
Systems Engineering (Government)	Various	Various:Fort Monmouth, NJ	1.367	0.630		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			172.561	10.087		2.098		-		2.098			

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L88: <i>ENHANCED AN/TPQ 36</i>

	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
DT Increment 2	██████████																											
Limited User Test (LUT) #2									██████████																			
First Unit Equipped (FUE) - IP Systems	██████																											
FY09/FY10 QRC Production	████████████████████																											
Milestone C Update					██████																							
Competitive Production Efforts									████████████████████████████████████████																			
Conduct Initial Operation Test and Evaluation (IOT&E)													██████████															
Low QE Shots									████████████████████████████████████████																			
High Clutter Environment									████████████████████████████████████████																			
Future Radar Development Efforts													████████████████████████████████████████████████████████████															

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L88: <i>ENHANCED AN/TPQ 36</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
DT Increment 2	1	2010	2	2011
Limited User Test (LUT) #2	2	2012	3	2012
First Unit Equipped (FUE) - IP Systems	1	2010	1	2010
FY09/FY10 QRC Production	1	2010	2	2012
Milestone C Update	3	2011	3	2011
Competitive Production Efforts	4	2011	3	2015
Conduct Initial Operation Test and Evaluation (IOT&E)	4	2013	1	2014
Low QE Shots	4	2011	3	2014
High Clutter Environment	4	2011	3	2014
Future Radar Development Efforts	4	2012	3	2016

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
2040: <i>Research, Development, Test &amp; Evaluation, Army</i>			PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>								
BA 5: <i>Development &amp; Demonstration (SDD)</i>											
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	20.602	20.886	48.309	-	48.309	60.003	53.434	42.445	26.229	Continuing	Continuing
S56: <i>MOUNTED SOLDIER</i>	19.010	20.886	22.825	-	22.825	15.374	0.724	0.577	0.062	Continuing	Continuing
S65: <i>SOLDIER POWER</i>	1.592	-	-	-	-	-	-	-	-	0.000	1.592
S75: <i>GROUND SOLDIER ENSEMBLE</i>	-	-	25.484	-	25.484	44.629	52.710	41.868	26.167	Continuing	Continuing

**Note**

FY12 - Nett Warrior transitions from 0603827A Soldier Systems Advanced Development to 0604827A Soldier Systems Warrior Dem/Val.

**A. Mission Description and Budget Item Justification**

This program element contains three projects: Project S56 for Mounted Soldier System (MSS), Project S65 for Soldier Power and Project S75 for Nett Warrior (NW), [named in honor of Medal of Honor recipient COL Robert Nett], previously known as Ground Soldier System (GSS). MSS provides an integrated suite of enhancements to the combat vehicle crew member and commander to address identifiable capability gaps in their ability to fight, communicate, and maneuver across the full spectrum of operations. MSS consists of lightweight, modular, and mission tailorable equipment and Command, Control, Communications and Computer (C4) devices worn, carried, or used by mounted crew members in performance of their missions. Congressionally added funding in FY10 for Soldier Power efforts has been applied to the Soldier Power project line. NW provides unparalleled situational awareness and understanding to the dismounted leader allowing for faster and more accurate decisions in the tactical fight. This translates into Soldiers being at the right place, at the right time, with the right equipment making them more effective, more lethal, and more survivable in the execution of their combat mission. The Increment I of the NW program focuses on the development of the situational awareness system, improved navigation, and reduced fratricide through the visualization of friendly forces.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	19.683	20.886	22.905	-	22.905
Current President's Budget	20.602	20.886	48.309	-	48.309
Total Adjustments	0.919	-	25.404	-	25.404
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	0.919	-			
• Other Adjustments 1	-	-	25.404	-	25.404

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	<b>PROJECT</b> S56: <i>MOUNTED SOLDIER</i>
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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
S56: <i>MOUNTED SOLDIER</i>	19.010	20.886	22.825	-	22.825	15.374	0.724	0.577	0.062	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Mounted Soldier System (MSS) provides an integrated suite of enhancements to the combat vehicle crew member and commander to address identified capability gaps in their ability to fight, communicate, and maneuver across the full spectrum of operations. The MSS consists of lightweight, modular, and mission tailorable equipment and Command, Control, Communications and Computer (C4) devices worn, carried, or used by mounted crew members in performance of their missions. Major components include a Combat Vehicle Crewmember Helmet (CVCH) with helmet mounted display, an untethered (wireless) communications system, and a microclimate cooling system. Other integral components include a Mounted Soldier over-garment and cold weather gloves, Chemical/Biological/Radiological/Nuclear (CBRN) protection, multi-threat eye protection, ballistic protection, flash/flame protection, and individual weapon holster. The MSS increases mission effectiveness by improving Command and Control and Situational Awareness while increasing crewmember survivability, endurance, and comfort. MSS enables Mounted Crewman to utilize existing platform sensor, situational awareness, and C4 capabilities in and around their platform, therefore increasing combat effectiveness.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Developmental Engineering, Prototyping, Systems Engineering and Program Management Support</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Developmental Engineering, Prototyping, Systems Engineering and Program Management Support</p> <p><b>FY 2010 Accomplishments:</b> Continued developmental engineering, prototyping, manufacturing, and systems engineering, assessment, contractor testing and program management support for MSS platform integration for use in Heavy and Stryker Brigade Combat Teams.</p> <p><b>FY 2011 Plans:</b> Continue integrating into additional HBCT platforms, including mortar carriers, command post, recovery vehicles, and fire support platforms. Limited User Testing (LUT) of HBCT and SBCT platforms in support of Milestone C.</p> <p><b>FY 2012 Plans:</b> Perform IOTE of mission HBCT and SBCT formations. Correct deficiencies identified during LUT and conduct Preplanned Product Improvement (P3I) to achieve full duplex voice solution. Finish platform integration on any remaining HBCT and SBCT platforms not completed in FY 11. Improve Soldier system engineering and capability integration in the areas of modular body armor and maxillofacial protection.</p>	<p>16.798</p> <p>0</p>	<p>17.443</p> <p>0</p>	<p>16.063</p>
<p><b>Title:</b> Governmental Tests and Evaluation (T&amp;E) Activities</p> <p style="text-align: right;"><b>Articles:</b></p>	<p>1.513</p> <p>0</p>	<p>3.443</p> <p>0</p>	<p>6.762</p>

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	<b>PROJECT</b> S56: <i>MOUNTED SOLDIER</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
<p><b>Description:</b> Funding is provided for the following efforts:</p> <p><b>FY 2010 Accomplishments:</b> Continued Governmental Test and Evaluation (T&amp;E) including Developmental Test, Limited User Test, and Operational Tests.</p> <p><b>FY 2011 Plans:</b> Continue Developmental Tests, Limited User Tests, and Operational Tests.</p> <p><b>FY 2012 Plans:</b> Continue Limited User Test, and Operational Test.</p>			
<p><b>Title:</b> Small Business Innovative Research/Small Business Technology Transfer Programs</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Small Business Innovative Research/Small Business Technology Transfer Programs</p>	0.699 0	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	19.010	20.886	22.825

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• M80600: <i>Mounted Soldier</i>	1.082	38.872	43.419		43.419		149.929	144.110	144.028	Continuing	Continuing

**D. Acquisition Strategy**

The acquisition roadmap is comprised of two increments. Increment I is documented in the approved Mounted Warrior Soldier System (MWSS) Capability Production Document (CPD) and was equipped to the 4/9 IN BN of the 4th SBCT during FY07/08 to provide tethered access to host platform displays, sensors, and sights via a tethered helmet mounted display (HMD) to a limited number of crewmembers. Increment II is documented in the approved Mounted Soldier System (MSS) Capability Development Document (CDD). Increment II (MSS) implements a strategy of time-phased development driven by technology maturity, vehicle availability, and user prioritization. The MSS acquisition approach is centered around vehicle kit development and integration since the planned MSS subsystems are using relatively mature technology. The MSS program takes advantage of components available from other Government agencies, Commercial-Off-the-Shelf (COTS) components and technologies as available, and applies systems engineering and integration of soldier protection equipment, to provide crew members a fully integrated capability.

**E. Performance Metrics**

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



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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/</i> <i>Val</i>	<b>PROJECT</b> S56: <i>MOUNTED SOLDIER</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
PM Soldier Warrior Management/Support of MSS program	MIPR	PM Soldier Warrior;;Ft. Belvoir, VA	7.157	6.349		2.584		-		2.584	Continuing	Continuing	Continuing
SBIR/SBTRR	TBD	N/A:N/A	0.654	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			7.811	6.349		2.584		-		2.584			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Develop and Engineer Mounted Soldier System Wireless Comms	C/FFP	Thales Communications, Inc.:Clarksburg, MD	3.286	1.150		1.734		-		1.734	Continuing	Continuing	Continuing
Develop and Engineer Mounted Soldier System Microclimate Cooling	C/FFP	Carleton Technologies, Inc.:Orchard Park, NY	0.728	0.650		-		-		-	Continuing	Continuing	Continuing
Develop and Engineer Mounted Soldier System Display	C/FFP	Rockwell Collins:Carlsbad, CA	1.152	1.100		-		-		-	Continuing	Continuing	Continuing
Develop and Engineer Mounted Soldier System	MIPR	Various:Various	23.409	0.600		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			28.575	3.500		1.734		-		1.734			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Mounted Soldier Platform Integration	MIPR	PM HBCT, PM SBCT, and others;;Various	19.741	8.000		11.745		-		11.745	Continuing	Continuing	Continuing
<b>Subtotal</b>			19.741	8.000		11.745		-		11.745			

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/</i> <i>Val</i>	<b>PROJECT</b> S56: <i>MOUNTED SOLDIER</i>

	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
MSS Increment II - Milestone C																												
MSS Increment II - LRIP																												
Initial Operational Test and Evaluation (IOTE)																												
MSS Preplanned Product Improvements																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/</i> <i>Val</i>	<b>PROJECT</b> S56: <i>MOUNTED SOLDIER</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MSS Increment II - Milestone C	3	2011	3	2011
MSS Increment II - LRIP	3	2011	2	2012
Initial Operational Test and Evaluation (IOTE)	2	2012	3	2012
MSS Preplanned Product Improvements	1	2013	3	2016

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	<b>PROJECT</b> S65: <i>SOLDIER POWER</i>
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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
S65: <i>SOLDIER POWER</i>	1.592	-	-	-	-	-	-	-	-	0.000	1.592
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Congressionally added FY10 funding continues to support the Defense Acquisition Challenge Program on Soldier Fuel Cells by focusing on solutions that reduce the system weight and complexity, and increase energy density to accomplish the most lightweight and compact power source possible. Soldier Fuel Cells will provide more power in a smaller, lighter weight package compared to batteries thereby lightening the Soldiers' carried load.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Congressional Add	1.592	-	-
<b>Articles:</b>	0		
<b>Description:</b> Funding is provided for the following effort			
<b>FY 2010 Accomplishments:</b> The objective of this effort is to advance the M-25 embedded system stack technology for the next generation of autonomous power system that will have both military utility and commercial viability.			
<b>Accomplishments/Planned Programs Subtotals</b>	1.592	-	-

**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.

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2012 Army</b>											<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/</i> <i>Val</i>				<b>PROJECT</b> S65: <i>SOLDIER POWER</i>					
<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development and System Improvements to M-25 and Acid Alkaline	SS/IDIQ	DuPont Fuel Cells:Wilmington, DE 19880	5.827	-		-		-		-	Continuing	Continuing	0.000
<b>Subtotal</b>			5.827	-		-		-		-			0.000
<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Ground Soldier and Power support	MIPR	ARL, CERDEC, NCI:Various	0.374	-		-		-		-	Continuing	Continuing	0.000
<b>Subtotal</b>			0.374	-		-		-		-			0.000
<b>Project Cost Totals</b>			6.201	-		-		-		-			0.000
<b>Remarks</b>													

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	<b>PROJECT</b> S75: <i>GROUND SOLDIER ENSEMBLE</i>
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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
S75: <i>GROUND SOLDIER ENSEMBLE</i>	-	-	25.484	-	25.484	44.629	52.710	41.868	26.167	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Not applicable for this item.

**A. Mission Description and Budget Item Justification**

The Nett Warrior (NW) program [named in honor of Medal of Honor recipient COL Robert Nett], previously known as Ground Soldier System (GSS), is an integrated dismounted leader situational awareness (SA) system for use during combat operations. The system provides unparalleled situational awareness and understanding to the dismounted leader allowing for faster and more accurate decisions in the tactical fight. This translates into Soldiers being at the right place, at the right time, with the right equipment making them more effective, more lethal, and more survivable in the execution of their combat mission. The Increment I of the Nett Warrior program focuses on the development of the SA system, improved navigation, and reduced fratricide through the visualization of friendly forces. This project funds the following: 1) The initial operational test and evaluation of the Increment I Nett Warrior. 2) The Pre-planned Product Improvement (P3I) to integrate Joint Tactical Radio System (JTRS) Small Form Factor B (SFF-B) when validated and proven. 3) Increment II Nett Warrior will integrate Unified Battle Command and additional capabilities. Note this is the continuation of work performed in PE 0603827A/S49.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Conduct Systems Engineering and Program Management Support for Increment I.	-	-	8.373
<b>Description:</b> Funding is provided for the following effort			
<b>FY 2012 Plans:</b> Conduct Increment I systems engineering, assessment and program management support for Nett Warrior (NW).			
<b>Title:</b> Complete tactical communications engineering and cryptographic update.	-	-	6.600
<b>Description:</b> Funding is provided for the following effort			
<b>FY 2012 Plans:</b> Complete tactical communications engineering and cryptographic update.			
<b>Title:</b> Governmental Test and Evaluation (T&E) Activities	-	-	6.230
<b>Description:</b> Funding is provided for the following effort			

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	<b>PROJECT</b> S75: <i>GROUND SOLDIER ENSEMBLE</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b><i>FY 2012 Plans:</i></b> Conduct Governmental T&E Activities by conducting an Operational Assessment.			
<b><i>Title:</i></b> Integration of Joint Tactical Radio System (JTRS) into Nett Warrior as the secure Network radio. <b><i>Description:</i></b> Funding is provided for the following effort	-	-	0.755
<b><i>FY 2012 Plans:</i></b> Begin integration of JTRS into Nett Warrior as the secure Network radio.			
<b><i>Title:</i></b> NW Increment I initiatives <b><i>Description:</i></b> Funding is provided for size, weight, power reduction initiatives.	-	-	3.526
<b><i>FY 2012 Plans:</i></b> Funding is provided for size, weight, power reduction initiatives.			
<b>Accomplishments/Planned Programs Subtotals</b>	-	-	25.484

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA 3, R80501: <i>OPA 3, R80501, Ground Soldier System</i>	1.803	110.524	184.072		184.072		475.395	458.582	330.635	Continuing	Continuing
• RDT&E, PE 0603827A S49: <i>RDT&amp;E, PE 0603827A S49 - Ground Soldier System (GSS)</i>	55.951	36.093					0.022			0.024	92.110

**D. Acquisition Strategy**

The NW Increment I acquisition concept, which implemented the Office of the Secretary of Defense (OSD) guidance on competition in prototyping, takes the NW program from the approved MS A through the current Technology Development (TD) Phase to a MS C allowing the maximum competition. Following the MS A Decision on February 19, 2009, three contracts were awarded on April 15, 2009 for the TD Phase. The TD Phase consisted of two parts: Part 1 - prototyping, Part 2 - integration/refinement. During Part 1 of TD, three contractors designed and fabricated Contractor Furnished Equipment, integrated Government Furnished Property and tested their systems during contractor and government testing to prove compliance with performance requirements. During Part 2 of TD, the contractors' systems underwent formal ATEC Developmental Testing (DT) to evaluate the ability to achieve technical requirements, and a Limited User Test (LUT) was conducted to gain an operational assessment of operational requirements. Based on the results of the testing and FY11 CRA impacts to Other Procurement Army funding, Nett Warrior will continue development to reduce size, weight and power, conduct an abbreviated operational assessment, and adjust the Milestone C to FY12.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/</i> <i>Val</i>	<b>PROJECT</b> S75: <i>GROUND SOLDIER ENSEMBLE</i>

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	<b>PROJECT</b> S75: <i>GROUND SOLDIER ENSEMBLE</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Soldier Warrior Systems Engineering and program oversight for Increment I	MIPR	PM Soldier Warrior:Ft. Belvoir, VA	-	-		8.373		-		8.373	0.000	8.373	0.000
<b>Subtotal</b>			-	-		8.373		-		8.373	0.000	8.373	0.000

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JTRS Hardware Integration	MIPR	TBD:TBD	-	-		0.755		-		0.755	0.000	0.755	0.000
<b>Subtotal</b>			-	-		0.755		-		0.755	0.000	0.755	0.000

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Nett Warrior Support Increment I	MIPR	Various:Various	-	-		10.126		-		10.126	0.000	10.126	0.000
<b>Subtotal</b>			-	-		10.126		-		10.126	0.000	10.126	0.000

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Testing Organizations	MIPR	A TEC, TTC/YPG/ DTC/EPT/ARL-SLAD, etc.:Various	-	-		6.230		-		6.230	0.000	6.230	0.000
<b>Subtotal</b>			-	-		6.230		-		6.230	0.000	6.230	0.000

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	<b>PROJECT</b> S75: <i>GROUND SOLDIER ENSEMBLE</i>

	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		
Developmental Test (DT) Increment I (PE 0603827A/S49)	██████																													
Limited User Test (LUT) Increment I (PE 0603827A/S49)			██████																											
Operational Assessment Increment I											██████																			
Milestone C Decision Increment I											██████																			
Low Rate Initial Production (LRIP) Increment I											████████████████████																			
Developmental Test (DT) Increment I														████████████████																
Independent Operational Test and Evaluation (IOTE) Increment I															██████															
Full Rate Production (FRP) Decision Increment I																			██████											
P3I (JTRS, SFF-B) Integration/Test											████████████████████																			
Milestone B Increment II															██████															
Engineering & Manufacturing Development Increment II																	████████████████████████████████████████													
Milestone C Increment II																												██████		

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	<b>PROJECT</b> S75: <i>GROUND SOLDIER ENSEMBLE</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Developmental Test (DT) Increment I (PE 0603827A/S49)	2	2010	3	2010
Limited User Test (LUT) Increment I (PE 0603827A/S49)	3	2010	4	2010
Operational Assessment Increment I	1	2012	1	2012
Milestone C Decision Increment I	2	2012	2	2012
Low Rate Initial Production (LRIP) Increment I	2	2012	2	2014
Developmental Test (DT) Increment I	2	2013	4	2013
Independent Operational Test and Evaluation (IOTE) Increment I	4	2013	4	2013
Full Rate Production (FRP) Decision Increment I	2	2014	2	2014
P3I (JTRS, SFF-B) Integration/Test	2	2012	1	2015
Milestone B Increment II	1	2013	1	2013
Engineering & Manufacturing Development Increment II	2	2013	2	2016
Milestone C Increment II	2	2016	2	2016

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604854A: <i>Artillery Systems - EMD</i>
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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	152.935	53.624	120.146	-	120.146	82.995	25.229	24.810	5.283	Continuing	Continuing
509: <i>LIGHTWEIGHT 155M HOWITZER</i>	5.423	-	-	-	-	-	-	-	-	0.000	5.423
516: <i>PALADIN/FAASV</i>	147.512	53.624	120.146	-	120.146	82.995	25.229	24.810	5.283	Continuing	Continuing

**Note**  
Change Summary Explanation: Funding - FY 2011: Funding increase to support the Paladin/FAASV program.

**A. Mission Description and Budget Item Justification**

This program element supports the Joint Light Weight 155mm Howitzer (LW155) and the Paladin/FAASV Improvement programs. Beginning in FY11, only the Paladin/FAASV Improvement program has RDTE funding in this program element.

The Paladin/Field Artillery Ammunition Support Vehicle (FAASV) Integrated Management (PIM) process will provide for the procurement of the approved obsolescence and sustainment modifications to the 155MM Self-Propelled Howitzer and FAASV, increase reliability and maneuverability as well as reduce life cycle costs. These will include leveraging Bradley common components, integrating the engine, transmission, final drives, and suspension. It will also replace obsolete components such as the Dynamic Reference Unit-Hybrid (DRU-H), hydraulics, fatigued hull structures as well as focus on powertrain, power management and electronic sub-systems.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	115.811	53.624	5.362	-	5.362
Current President's Budget	152.935	53.624	120.146	-	120.146
Total Adjustments	37.124	-	114.784	-	114.784
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	-	-	-	-	-
• SBIR/STTR Transfer	0.777	-	-	-	-
• Other Adjustments 1	36.347	-	114.784	-	114.784

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604854A: <i>Artillery Systems - EMD</i>	<b>PROJECT</b> 509: <i>LIGHTWEIGHT 155M HOWITZER</i>
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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
509: <i>LIGHTWEIGHT 155M HOWITZER</i>	5.423	-	-	-	-	-	-	-	-	0.000	5.423
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Lightweight 155mm (LW155) Towed Howitzer, a jointly managed program with the Marine Corps, replaces the M198, 155mm Towed Howitzer. LW155 provides significant strategic and tactical mobility improvements. Project 509 supports Towed Artillery Digitization (TAD) Block II, an upgrade to the digital fire control system for the M777A2 (LW155).

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Title:</b> Matrix Support  <b>Articles:</b>	5.260	-	-	-	-
<b>Description:</b> Funds Matrix Support Software Engineers with ARDEC for TAD Block II Software Development	0				
<b>FY 2010 Accomplishments:</b> Funds Matrix Support Software Engineers with ARDEC for TAD Block II Software Development					
<b>Title:</b> Small Business  <b>Articles:</b>	0.163	-	-	-	-
<b>Description:</b> Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)	0				
<b>FY 2010 Accomplishments:</b> Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)					
<b>Accomplishments/Planned Programs Subtotals</b>	5.423	-	-	-	-

**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
• Towed Howitzer with TAD Prod, BLIN: <i>Procurement, Marine Corps LW155 Towed Howitzer with TAD Prod, BLIN 218500</i>	1,169.203	113.956	5.552	16.000	21.552		6.054	6.271	6.497	0.000	1,329.078

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604854A: <i>Artillery Systems - EMD</i>	<b>PROJECT</b> 509: <i>LIGHTWEIGHT 155M HOWITZER</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Army, LW155 with TAD G01700: <i>Procurement, WTCV, Army, LW155</i> <i>with TAD G01700</i>	157.415	62.000	13.066		13.066					0.000	246.131

**D. Acquisition Strategy**

Towed Artillery Digitization (TAD) is an evolutionary acquisition strategy for the Lightweight 155mm Towed Howitzer (LW155). Block 0 consisted of "glass and iron" optical sights as the weapon's fire control. Block 1 TAD incorporated digitized aiming and pointing which increased accuracy and enabled a battery of howitzers to emplace and engage the enemy within 2 to 3 minutes as opposed to 15 to 20 minutes. Block 1a added the ability for the LW155 Howitzer to fire the XM982 Excalibur Precision Munition. Funding identified above will be used to upgrade to Block 2, which is the objective TAD configuration. The primary benefit of TAD Block 2 will be the addition of mission processing capability at the platform, enabling enhanced responsiveness and flexibility to the battlefield commander. It will also integrate a Muzzle Velocimeter for increased accuracy.

**E. Performance Metrics**

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



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604854A: <i>Artillery Systems - EMD</i>	<b>PROJECT</b> 516: <i>PALADIN/FAASV</i>
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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
516: <i>PALADIN/FAASV</i>	147.512	53.624	120.146	-	120.146	82.995	25.229	24.810	5.283	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Paladin/Field Artillery Ammunition Support Vehicle (FAASV) Integrated Management (PIM) process will provide for the procurement of the approved obsolescence and sustainment modifications to the 155MM Self-Propelled Howitzer and FAASV, increase reliability and maneuverability as well as reduce life cycle costs. These will include leveraging Bradley common components, integrating the engine, transmission, final drives, and suspension. It will also replace obsolete components such as the Dynamic Reference Unit-Hybrid (DRU-H), hydraulics, fatigued hull structures as well as focus on powertrain, power management and electronic sub-systems.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<p><b>Title:</b> Paladin Integrated Management (PIM) Development</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Paladin Integrated Management (PIM) Development for integration of common components into prototype vehicles for testing to increase the reliability and maneuverability as well as reduce life cycle costs.</p> <p><b>FY 2011 Plans:</b> Paladin Integrated Management (PIM) Development for integration of common components into prototype vehicles for testing to increase the reliability and maneuverability as well as reduce life cycle costs.</p> <p><b>FY 2012 Base Plans:</b> Paladin Integrated Management (PIM) Development for integration of common components into prototype vehicles for testing to increase the reliability and maneuverability as well as reduce life cycle costs.</p>	126.150 0	30.223 0	96.146	-	96.146
<p><b>Title:</b> Test and Evaluation</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> Test and Evaluation to include contractor testing and live-fire testing.</p> <p><b>FY 2011 Plans:</b></p>	6.918 0	11.674 0	13.000	-	13.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604854A: <i>Artillery Systems - EMD</i>	<b>PROJECT</b> 516: <i>PALADIN/FAASV</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Test and Evaluation to include contractor testing, government development test, and live-fire testing. <b>FY 2012 Base Plans:</b> Test and Evaluation to include government development test and live-fire testing.					
<b>Title:</b> Program management  <b>Description:</b> Program management  <b>FY 2010 Accomplishments:</b> Program management  <b>FY 2011 Plans:</b> Program management  <b>FY 2012 Base Plans:</b> Program management	14.444 0	11.727 0	11.000	-	11.000
<b>Articles:</b>					
<b>Accomplishments/Planned Programs Subtotals</b>	147.512	53.624	120.146	-	120.146

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• GA0400: <i>Paladin/FAASV</i>	42.608	105.277	46.876		46.876		222.814	247.202	291.164	3,566.716	4,696.023

**D. Acquisition Strategy**

The PIM process is part of the overall Heavy Brigade Combat Team (HBCT) fleet management strategy for the Paladin/Field Artillery Ammunition Support Vehicle (FAASV) to address ongoing obsolescence issues and ensure long term sustainment of these systems. The PIM process leverages both Government and Contractor capabilities in developing a system's level approach to address the obsolescence issues through the integration of proven Bradley common components (power train, suspension and electronics) and Future Combat Systems(FCS) Non-Line of Sight Cannon (NLOS-C) electrical systems technologies into a new chassis. To obtain the best value for the Army, PM Self-Propelled Howitzer System is using the Original Equipment Manufacturer (OEM) as the system integrator for developing and producing these Paladin/FAASV Integrated Management (PIM) vehicles. The PIM process development/integration effort began in FY07 utilizing a System Technical Support (STS) work directive that covered System Functional Review (SFR), Preliminary Design Review (PDR) and Critical Design Review (CDR) system engineering activities and early procurement of key components to support the building of 5 Howitzers/2 FAASVs that will undergo Government Testing in FY11-13. In FY09, the PM Self-Propelled Howitzer System awarded a cost reimbursable R&D contract for the completion of PIM process development efforts and the fabrication, assembly

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0604854A: <i>Artillery Systems - EMD</i>	516: <i>PALADIN/FAASV</i>

and delivery of 7 prototypes (5 Howitzers/2 FAASVs) for Government testing (Development Testing, Limited User Test, and Live Fire). Following a successful MS C decision, PM Self-Propelled Howitzer System will award a contract for the fabrication and delivery of 18 PIM sets (18 Paladins and 18 FAASV's) as part of Low Rate Initial Production (LRIP) of which 5 sets will be used for Initial Operational Test (IOT) testing.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604854A: <i>Artillery Systems - EMD</i>	<b>PROJECT</b> 516: <i>PALADIN/FAASV</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
PMO Support	SS/FP	PM Paladin/ FAASV:Picatinny, NJ/ TACOM	15.996	11.727		11.000		-		11.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			15.996	11.727		11.000		-		11.000			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Component Design and Software Development	SS/FP	Northrop Grumman:Carson, CA	5.027	-		-		-		-	Continuing	Continuing	Continuing
System Integration	SS/FP	BAE Systems:York, PA	4.834	-		-		-		-	Continuing	Continuing	Continuing
Technical Data Package (TDP) Development	SS/FP	Other Gov't Agencies:Various	0.452	-		-		-		-	Continuing	Continuing	Continuing
Software Development & System Integration	SS/FP	TACOM-ARDEC:Picatinny, NJ	10.990	-		-		-		-	Continuing	Continuing	Continuing
PIM Development	SS/FP	BAE Systems:York, PA	102.634	30.223		96.146		-		96.146	Continuing	Continuing	Continuing
Initiate PIM IPT Structure	SS/FP	BAE/Northrop Grumman:Various	1.688	-		-		-		-	Continuing	Continuing	Continuing
Small Business Innovative Research/Small Business Technology Transfer Program	Various	TACOM:Warren, MI	-	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			125.625	30.223		96.146		-		96.146			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
TARDEC	TBD	TBD:TBD	0.367	-		-		-		-	Continuing	Continuing	Continuing
Logistics	Various	TACOM-ACALA,:various	0.229	-		-		-		-	Continuing	Continuing	Continuing

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604854A: <i>Artillery Systems - EMD</i>	<b>PROJECT</b> 516: <i>PALADIN/FAASV</i>

	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
Contractor Testing	██████████																											
Government Development Test					████████████████████																							
Milestone C													████															
Full Up System Live Fire Test																					████████████████████							
IOTE																									████████			

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604854A: <i>Artillery Systems - EMD</i>	<b>PROJECT</b> 516: <i>PALADIN/FAASV</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Contractor Testing	1	2010	4	2010
Government Development Test	2	2011	1	2013
Milestone C	2	2013	2	2013
Full Up System Live Fire Test	3	2015	3	2016
IOTE	2	2016	3	2016

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	570.831	467.139	406.605	-	406.605	397.053	-	-	-	Continuing	Continuing
M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>	570.831	467.139	406.605	-	406.605	397.053	-	-	-	Continuing	Continuing

**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.

Medium Extended Air Defense System (MEADS) is a tri-national co-development program among the United States, Germany, and Italy to replace the U.S. PATRIOT air defense systems, PATRIOT and HAWK systems in Germany, and NIKE Hercules systems in Italy. Participating countries will sign a Memorandum Of Understanding (MOU) for each successive program phase. The NATO MEADS Management Agency (NAMEADSMA) is the North Atlantic Treaty Organization (NATO) contracting authority providing management of the MEADS program on behalf of the participating nations and is responsible for managing the system acquisition. The U.S. and Italy signed the Design and Development (D&D) MOU on September 24, 2004, and September 27, 2004, respectively. The NAMEADSMA awarded the MEADS D&D letter contract to MEADS International Inc. on September 28, 2004, initiating the MEADS D&D phase. The MOU was amended in March 2005 by the U.S. and Italy to allow the German Parliament additional time for their signature decision and on April 22, 2005 Germany signed the MOU. NAMEADSMA awarded a \$3.4 billion D&D definitized contract to MEADS International Inc. on May 31, 2005. Within the PATRIOT/MEADS Combined Aggregate Program there are two synergistic efforts: an international MEADS development effort managed by NAMEADSMA, and a U.S. effort to inject U.S.-specific capability requirements into the MEADS Major End Items (MEIs).

MEADS is designed to provide joint and coalition forces, critical asset and defended area protection against multiple and simultaneous attacks by short to medium range ballistic missiles, cruise missiles, unmanned aerial vehicles and tactical air-to-surface missiles. MEADS is being developed to have a netted and distributed architecture with modular components to increase survivability and flexibility of employment in a number of operational configurations. The objective MEADS Fire Unit, is designed to be scalable and tailorable to operational requirements, will consist of: two Battle Management Command, Control, Communication, Computers and Intelligence (BMC4I) tactical operations center (TOC), enabling distributed system operations and Beyond-Line-of-Site (BLOS) engagements for maximum protection of supported forces by engaging at longer ranges; six near-vertical launchers capable of transporting and launching up to eight missiles; three launcher reloaders; the PAC-3 Missile Segment Enhancement (MSE); an ultra-high frequency (UHF) Surveillance Radar (SR) that provides 360-degree coverage and near-range to long-range detection of low radar cross-section targets; and two X-band Multifunction Fire Control Radars (MFCR) that provide 360-degree coverage and are designed for high-precision handover to the in-flight missile, discrimination capabilities, and short-range target detection and horizon search.

In addition MEADS, is being developed to provide significant improvements in strategic deployability, transportability, mobility and maneuverability. Its substantially reduced lift requirements enable MEADS to be deployed rapidly with essential combat loads via inter/intra-theater land, sea, and airlift anywhere in the world. MEADS is being developed provide Combatant Commanders with an Air Missile Defense (AMD) system with reduced airlift requirements, thus increasing strategic and tactical



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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>
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mobility. Further, its decreased size/weight and ability to conduct rapid march order and system emplacement will enhance maneuverability, thereby providing better AMD protection to maneuvering forces.

The PAC-3 system is continuously being improved via hardware and software changes. The latest missile improvement is the MSE and has been accepted as the baseline missile for MEADS. It is being developed by the U.S. for PATRIOT to meet U.S. operational requirements. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded guidance software, and insensitive munitions improvements. PAC-3 is reported under Program Element 0605456A.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	566.215	467.139	408.012	-	408.012
Current President's Budget	570.831	467.139	406.605	-	406.605
Total Adjustments	4.616	-	-1.407	-	-1.407
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	4.616	-	-1.407	-	-1.407

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	<b>PROJECT</b> M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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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
M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>	570.831	467.139	406.605	-	406.605	397.053	-	-	-	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.

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MEADS is designed to provide joint and coalition forces, critical asset and defended area protection against multiple and simultaneous attacks by short to medium range ballistic missiles, cruise missiles, unmanned aerial vehicles and tactical air-to-surface missiles. MEADS is being developed to have a netted and distributed architecture with modular components to increase survivability and flexibility of employment in a number of operational configurations. The objective MEADS Fire Unit, is designed to be scalable and tailorable to operational requirements, will consist of: two Battle Management Command, Control, Communication, Computers and Intelligence (BMC4I) tactical operations center (TOC), enabling distributed system operations and Beyond-Line-of-Site (BLOS) engagements for maximum protection of supported forces by engaging at longer ranges; six near-vertical launchers capable of transporting and launching up to eight missiles; three launcher reloaders; the PAC-3 Missile Segment Enhancement (MSE); an ultra-high frequency (UHF) Surveillance Radar (SR) that provides 360-degree coverage and near-range to long-range detection of low radar cross-section targets; and two X-band Multifunction Fire Control Radars (MFCR) that provide 360-degree coverage and are designed for high-precision handover to the in-flight missile, discrimination capabilities, and short-range target detection and horizon search.

In addition, MEADS is being developed to provide significant improvements in strategic deployability, transportability, mobility and maneuverability. Its substantially reduced lift requirements enable MEADS to be deployed rapidly with essential combat loads via inter/intra-theater land, sea, and airlift anywhere in the world. MEADS is being developed provide Combatant Commanders with an Air Missile Defense (AMD) system with reduced airlift requirements, thus increasing strategic and tactical

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	<b>PROJECT</b> M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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mobility. Further, its decreased size/weight and ability to conduct rapid march order and system emplacement will enhance maneuverability, thereby providing better AMD protection to maneuvering forces.

The PAC-3 system is continuously being improved via hardware and software changes. The latest missile improvement is the Missile Segment Enhancement (MSE) and has been accepted as the baseline missile for MEADS. It is being developed by the U.S. for PATRIOT to meet U.S. operational requirements. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded software, and insensitive munitions improvements. PAC-3 is reported under Program Element 0605456A.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Medium Extended Air Defense Missile System (MEADS) Design and Development (D&amp;D)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&amp;D) Phase Contract to design, build, test and evaluate the production representative MEADS Hardware.</p> <p><b>FY 2010 Accomplishments:</b> U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&amp;D) Phase Contract to design, build, test and evaluate the production representative MEADS Hardware.</p> <p><b>FY 2011 Plans:</b> Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&amp;D) Phase Contract to design, build, test and evaluate the production representative MEADS Hardware.</p> <p><b>FY 2012 Plans:</b> Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&amp;D) Phase Contract to design, build, test and evaluate the production representative MEADS Hardware.</p>	<p>413.800</p> <p>0</p>	<p>393.542</p> <p>0</p>	<p>340.500</p>
<p><b>Title:</b> MEADS Design and Development Program Integration</p> <p align="right"><b>Articles:</b></p>	<p>59.145</p> <p>0</p>	<p>47.509</p> <p>0</p>	<p>42.511</p>

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	<b>PROJECT</b> M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b>Description:</b> Implement program integration efforts to support transition from PATRIOT to development and fielding of the US MEADS capability.</p> <p><b>FY 2010 Accomplishments:</b> Implement program integration efforts to support transition from PATRIOT to development and fielding of the US MEADS capability. This includes assessment of performance against US Threat and to identify gaps / shortfalls; development and management of US MEADS programs to address unique US requirements; MEADS-IBCS compatibility; development of a US MEADS testbed, US MEADS sensor performance upgrades; PAC-3 CRI compatibility; and US MEADS Production and Fielding efforts (required materiel release certifications, planning for US MEADS IOT&amp;E, and required US logistics facilitization and training efforts).</p> <p><b>FY 2011 Plans:</b> Continue to implement program integration efforts to support transition from PATRIOT to development and fielding of the US MEADS capability. Assessment of performance against US Threat. Identify gaps / shortfalls; development and management of US MEADS programs to address unique US requirements; MEADS-IBCS compatibility; development of a US MEADS testbed, US MEADS sensor performance upgrades; PAC-3 CRI compatibility; and US MEADS Production and Fielding efforts (required materiel release certifications, planning for US MEADS IOT&amp;E, and required US logistics facilitization and training efforts).</p> <p><b>FY 2012 Plans:</b> Continue to implement program integration efforts to support transition from PATRIOT to development and fielding of the US MEADS capability. Assessment of performance against US Threat.</p>				
<p><b>Title:</b> National and International Program Office Support</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Management, support and salaries for the MEADS National and International program offices.</p> <p><b>FY 2010 Accomplishments:</b> Management, support and salaries for the MEADS National and International program offices.</p> <p><b>FY 2011 Plans:</b> Continue management, support and salaries for the MEADS National and International program offices.</p> <p><b>FY 2012 Plans:</b> Continue management, support and salaries for the MEADS National and International program offices.</p>		14.311 0	8.588 0	12.808
<p><b>Title:</b> MEADS US Only Efforts</p> <p align="right"><b>Articles:</b></p>		67.721 0	17.500 0	10.786

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	<b>PROJECT</b> M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
<p><b>Description:</b> US only efforts to support Exciter and Exportable Missile Model</p> <p><b>FY 2010 Accomplishments:</b> Provide US only efforts to support Exciter and Exportable Missile Model.</p> <p><b>FY 2011 Plans:</b> Continue US Exciter support effort and Exportable Missile Model.</p> <p><b>FY 2012 Plans:</b> Continue US Exciter support effort and Exportable Missile Model.</p>			
<p><b>Title:</b> Innovative Research/Small Business</p> <p align="right"><b>Articles:</b></p>	15.854 0	-	-
<p><b>Description:</b> Small Business Innovative Research / Small Business Technology Transfer Program</p> <p><b>FY 2010 Accomplishments:</b> Small Business Innovative Research / Small Business Technology Transfer Programs</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	570.831	467.139	406.605

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0605456A: <i>PE 0605456A Proj PA3, PAC-3/MSE Missile</i>		62.500	83.777		83.777		68.938	63.468	64.215	Continuing	Continuing
• SSN C53101: <i>SSN C53101 MSE Missile</i>			88.993		88.993		532.540	487.049	560.099	Continuing	Continuing
• SSN C53201: <i>SSN C53201 PATRIOT/MEADS GSE</i>											
• PE 0102419A: <i>PE 0102419A Proj E55, JLENS</i>	317.132	372.493	344.655		344.655		58.124	19.717	19.726	Continuing	Continuing
• SSN BZ0525: <i>SSN BZ0525 JLENS Production</i>							501.459	454.966	416.888	Continuing	Continuing
• PE 0604802A: <i>PE 0604802A Proj S23, SLAMRAAM</i>	56.441									Continuing	Continuing
		23.700	18.763		18.763					Continuing	Continuing

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	<b>PROJECT</b> M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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**C. Other Program Funding Summary (\$ in Millions)**

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0605455A: <i>PE 0605455A Proj S35 SLAMRAAM</i>											
• SSN C81002: <i>SSN C81002 SLAMRAAM Launcher</i>		116.732								Continuing	Continuing
• SSN C81004: <i>SSN C81004 SLAMRAAM Missile</i>											
• PE 0603305A: <i>PE 0603305A Proj TR7, Protection Capability II - Intercept</i>		4.296	7.958		7.958		89.021	92.999	142.738	Continuing	Continuing
• SSN WK5053: <i>SSN WK5053 FAAD GBS</i>		91.467	7.958		7.958					Continuing	Continuing
• PE 0603327A: <i>PE 0603327A Proj S34, AMD System of System Engineering and Integration</i>	164.719									Continuing	Continuing
• PE 0605457A: <i>PE 0605457A Proj S40, Army Integrated Air and Missile Defense (AIAMD)</i>		251.124	254.745		254.745		346.341	298.869	275.651	Continuing	Continuing
• SSN BZ5075: <i>SSN BZ5075 Army IAMD Battle Command System (IBCS)</i>							23.587	100.560	256.855	Continuing	Continuing
• PE 0208053: <i>PE 0208053 Proj 635, JOINT TACT GRD STATION-P31 (MIP)</i>	13.189	12.403	27.630		27.630		14.109	7.912	8.039	Continuing	Continuing
• SSN BZ8401: <i>SSN BZ8401 Joint Tactical Ground Station (JTAGS)</i>	6.682	9.279	1.199		1.199		9.740	4.432	4.496	Continuing	Continuing
• PE 0604820A: <i>PE 0604820A Proj E10, SENTINEL</i>			2.721		2.721		1.983	1.968	2.937	Continuing	Continuing

**D. Acquisition Strategy**

On 1 July 2004, the Defense Acquisition Board approved the Acquisition Strategy (AS) for the PATRIOT/MEADS CAP Milestone B. On 6 April 2006, the Lower Tier Project Manager submitted a Program Deviation Report (PDR) to notify the Under Secretary of Defense for Acquisition, Technology, and Logistics, of changes affecting the 6 August 2004, approved PATRIOT/MEADS CAP Acquisition Program Baseline (APB). On 9 February 2006, the Army System Acquisition Review Council

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>

(ASARC) approved establishment of the Integrated Air and Missile Defense (IAMD) Project Office (PO) to lead development efforts for the Army IAMD. On 8 May 2006, the Army established the IAMD PO which will manage the U.S. Army's initiatives to implement the user's operational concept from a System-Centric focus to a Network-Centric, Component-Based (Plug and Fight) architecture. The PATRIOT/MEADS CAP Acquisition Program Baseline and Acquisition Strategy will be modified to reflect these changes.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	<b>PROJECT</b> M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
International Operating	Various	NAMEADSM: Huntsville, AL	21.815	8.588		9.102		-		9.102	Continuing	Continuing	Continuing
Gov't Program Services/Mgmt	Various	Lower Tier Project Office: Huntsville, AL	-	1.500		1.500		-		1.500	Continuing	Continuing	0.000
<b>Subtotal</b>			21.815	10.088		10.602		-		10.602			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Design and Development	Various	NAMEADSM: Huntsville, AL	741.500	388.700		340.500		-		340.500	Continuing	Continuing	Continuing
Missile Segment Enhancement - Lockheed Martin Missiles and Fire Control (LMMFC)	SS/CPIF	LMMFC: Dallas, TX	100.800	-		-		-		-	0.000	100.800	0.000
Missile Segment Enhancement (MSE) /PAC-3-Raytheon	SS/FP	Raytheon: Boston, MA	42.730	-		-		-		-	0.000	42.730	0.000
Program Integration	Various	Various: Huntsville, AL	101.674	19.914		19.361		-		19.361	Continuing	Continuing	Continuing
U.S. Only Security / Exciter	SS/CPFF	Lockheed Martin: Syracuse, NY; Dallas, TX & Orlando, FL	47.825	17.500		10.786		-		10.786	Continuing	Continuing	Continuing
Product Development Support	Various	Program Office: Huntsville, AL	33.693	6.818		6.406		-		6.406	Continuing	Continuing	Continuing
International Program Office	Various	NAMEADSM: Huntsville, AL	12.477	4.842		5.418		-		5.418	Continuing	Continuing	Continuing
U. S. Other Government Agencies (OGA's)	Various	Various: Huntsville, AL	23.914	6.187		5.132		-		5.132	Continuing	Continuing	Continuing
U.S. Only Combined Aggregate Program (CAP)	Various	Various: Huntsville, AL & Dallas, TX	67.150	-		-		-		-	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	<b>PROJECT</b> M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Systems Engineering	Various	AMRDEC:Huntsville, AL	22.567	4.100		3.200		-		3.200	Continuing	Continuing	Continuing
U.S. Contracts	Various	Various:Huntsville, AL	43.126	8.990		5.200		-		5.200	Continuing	Continuing	Continuing
Design and Development Government Furnished Equipment (GFE) Procurement Efforts	Various	TACOM:Warren, MI	14.087	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			1,251.543	457.051		396.003		-		396.003			

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Range Support/Facilities	Various	WSMR:White Sands, NM; Ft Wingate	9.500	-		-		-		-	Continuing	Continuing	Continuing
Targets/Threat Simulators	Various	Various:Huntsville, AL	35.400	-		-		-		-	Continuing	Continuing	Continuing
Contractor Test & Evaluation	Various	Various:Huntsville, AL	-	-		-		-		-	Continuing	Continuing	Continuing
OGA Test and Evaluation	Various	AMRDEC:Huntsville, AL	8.000	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			52.900	-		-		-		-			

			<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			1,326.258	467.139		406.605		-		406.605			

**Remarks**

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	<b>PROJECT</b> M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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	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

PDB 6.5 Fielding	■	
MEADS System CDR: Critical Design Review	■	

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	<b>PROJECT</b> M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
PDB 6.5 Fielding	3	2010	3	2010
MEADS System CDR: Critical Design Review	3	2010	3	2010

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				PE 0604870A: <i>Nuclear Arms Control Monitoring Sensor Network</i>							
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	6.860	7.276	7.398	-	7.398	7.837	7.874	7.871	7.964	Continuing	Continuing
SE1: <i>NACT SENSOR ENGINEERING</i>	6.860	7.276	7.398	-	7.398	7.837	7.874	7.871	7.964	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

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

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

The program includes development of equipment and procedures for data exchanges, inspections and monitoring capability and analysis. The technologies and procedures developed in the arms control technology program provide an invaluable source of information on equipment and procedures that is extensively used by US and international agencies. This project also supports the warfighting capability area of combating Weapons of Mass Destruction (WMD).

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	7.103	7.276	7.424	-	7.424
Current President's Budget	6.860	7.276	7.398	-	7.398
Total Adjustments	-0.243	-	-0.026	-	-0.026
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.243	-			
• Adjustments to Budget Years	-	-	-0.026	-	-0.026

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army									<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604870A: <i>Nuclear Arms Control Monitoring Sensor Network</i>				<b>PROJECT</b> SE1: <i>NACT SENSOR ENGINEERING</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
SE1: <i>NACT SENSOR ENGINEERING</i>	6.860	7.276	7.398	-	7.398	7.837	7.874	7.871	7.964	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

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

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

The program includes development of equipment and procedures for data exchanges, inspections and monitoring capability and analysis. The technologies and procedures developed in the arms control technology program provide an invaluable source of information on equipment and procedures that is extensively used by US and international agencies. This project also supports the warfighting capability area of combating Weapons of Mass Destruction (WMD).

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Support OSD Treaty Manager	0.304	0.476	0.573
<b>Articles:</b>	0	0	
<b>Description:</b> .			
<b>FY 2010 Accomplishments:</b> Sponsored cooperative PTS / US international technical exchange meetings defining the next generation monitoring system technical and operational performance and reliability requirements (i.e. station data encryption, surety, command and control, reliability). Conducted NACT Radionuclide and Infrasound technology working groups / technology planning and review meetings. Provided PTS Working Group B U.S. delegation technical and programmatic support. Established / conducted / sponsored NACT program biweekly IPT meetings			
<b>FY 2011 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604870A: <i>Nuclear Arms Control</i> <i>Monitoring Sensor Network</i>		<b>PROJECT</b> SE1: <i>NACT SENSOR ENGINEERING</i>
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2010</b>
<p>Plan / Support joint US / PTS technology conferences / exchanges (i.e. Workshop on Medical Isotope Production (WOSMIP) II, PTS / US Technology Working Group 2nd Annual Conference; PTS PKI / Command &amp; Control experiment; US / Great Britain technology / operations interchange meetings). Provide technical and operational support for the PTS / US sponsored monitoring technology developments, standard reliability and operations /maintenance profile conference. Prepare / Support IMS technology overview briefings (OSD ASD Nuclear, Chemical, Biological Program) in preparation for inter agency meetings.</p> <p><b>FY 2012 Plans:</b> Plan / Support joint US / PTS technology conferences / exchanges (i.e. Workshop on Medical Isotope Production (WOSMIP) II, PTS / US Technology Working Group 2nd Annual Conference; PTS PKI / Command &amp; Control experiment; US / Great Britain technology / operations interchange meetings). Provide technical and operational support for the PTS / US sponsored monitoring technology developments, standard reliability and operations /maintenance profile conference. Prepare / Support IMS technology overview briefings (OSD ASD Nuclear, Chemical, Biological Program) in preparation for inter agency meetings.</p>				<b>FY 2011</b>
				<b>FY 2012</b>
<p><b>Title:</b> Prototype Sensor Development</p> <p><b>Description:</b> .</p> <p><b>FY 2010 Accomplishments:</b> Manufactured / deployed (i.e. US Seismic Array Project, the Israeli Sayarim infrasound experiment; UTTR) over 100 prototype infrasound next generation sensors for extensive and reliability and dynamic range performance / validation testing in support of the infrasound data collection; event identification; source location and signal analysis. CTBT performance requirements, acceptance testing at the Sandia National Laboratory.</p> <p><b>FY 2011 Plans:</b> Deploy next generation sensors for field and operational testing within the PTS Sayarim Infrasound Experiment. Deploy next generation sensors for dynamic operational performance testing at the UTTR ordinance disposal site. Deploy next generation sensors to the PTS Conrad Site for dynamic performance testing against CTBT acceptance requirements</p> <p><b>FY 2012 Plans:</b> Deploy next generation sensors for field and operational testing within the PTS Sayarim Infrasound Experiment. Deploy next generation sensors for dynamic operational performance testing at the UTTR ordinance disposal site. Deploy next generation sensors to the PTS Conrad Site for dynamic performance testing against CTBT acceptance requirements</p>				<p><b>Articles:</b></p> <p>1.300 0</p>
				1.400 0
				1.445
<p><b>Title:</b> Radionuclide Particulate / Xenon Gas Sensor System Development</p>				<p><b>Articles:</b></p> <p>0.400 0</p>
				0.400 0
				0.397

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604870A: <i>Nuclear Arms Control</i> <i>Monitoring Sensor Network</i>		<b>PROJECT</b> SE1: <i>NACT SENSOR ENGINEERING</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>				<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b>Description:</b> .</p> <p><b>FY 2010 Accomplishments:</b> Defined / procured / deployed radionuclide particulate system detector / cryogenic cooler replacement system for extensive field operational and performance validation testing. Initiated joint U.S. / PTS radionuclide particulate system detector / cryogenic cooler replacement system testing and performance validation program. Completed field portable Xenon gas detection system</p> <p><b>FY 2011 Plans:</b> Deploy and field test the field portable Xenon gas system within the EU project for Global Xenon background characterization. Complete acceptance / operational performance testing and deploy the next generation particulate system's detector / cryogenic cooler replacement system. Continue developing single-isotope xenon calibration standards production methods (i.e. Xenon detection system calibration standards). Define Xenon gas detection analysis and characterization algorithms</p> <p><b>FY 2012 Plans:</b> Deploy and field test the field portable Xenon gas system within the EU project for Global Xenon background characterization. Complete acceptance / operational performance testing and deploy the next generation particulate system's detector / cryogenic cooler replacement system. Continue developing single-isotope xenon calibration standards production methods (i.e. Xenon detection system calibration standards). Define Xenon gas detection analysis and characterization algorithms</p>						
<p><b>Title:</b> Information Management Systems Enhancements</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> .</p> <p><b>FY 2010 Accomplishments:</b> Implemented U.S. IMS stations' system engineering and reliability analysis pilot project. Conducted joint US / IMS engineering monitoring systems configuration management system audit within the Database of the Technical Secretariat (DOTS) architecture. Implemented the U.S. IMS Stations SOH monitoring system under a joint USASMDC NACT / AFTAC imitative at the U.S. NDC. Implemented PTS IMS SOH GUI and Performance Reporting Tool (PRTTool) (i.e. data availability, GCI and stations' performance monitoring) tools across the NACT Program</p> <p><b>FY 2011 Plans:</b> Implement extended infrasound propagation models (i.e. include NRL's</p> <p><b>FY 2012 Plans:</b> Implement extended infrasound propagation models (i.e. include NRL's</p>				1.356 0	1.500 0	1.496
<p><b>Title:</b> Continue R&amp;D support system</p>				0.900	0.900	0.897

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604870A: <i>Nuclear Arms Control</i> <i>Monitoring Sensor Network</i>	<b>PROJECT</b> SE1: <i>NACT SENSOR ENGINEERING</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p align="right"><b>Articles:</b></p> <p><b>Description:</b> .</p> <p><b>FY 2010 Accomplishments:</b> Developed / tested infrasound event signal clutter, false alarms and noise rejection techniques (i.e.</p> <p><b>FY 2011 Plans:</b> Continue radionuclide technology development projects focused on: improving International Monitoring System (IMS) xenon samplers' detection systems, improved information on the background levels of fission products in the atmosphere, and technology to decrease the effluent from medical isotope production plants that cause large backgrounds of radionuclides for IMS samplers. Continue waveform (infrasound / seismic) development program focused on sensor / station calibration and metrology, on sensor development and on data collection and analysis.</p> <p><b>FY 2012 Plans:</b> Continue radionuclide technology development projects focused on: improving International Monitoring System (IMS) xenon samplers' detection systems, improved information on the background levels of fission products in the atmosphere, and technology to decrease the effluent from medical isotope production plants that cause large backgrounds of radionuclides for IMS samplers. Continue waveform (infrasound / seismic) development program focused on sensor / station calibration and metrology, on sensor development and on data collection and analysis.</p>		0	0	
<p><b>Title:</b> Continue "On-Location" Infrasound Event Calibration Research</p> <p><b>Description:</b> .</p> <p><b>FY 2010 Accomplishments:</b> Calibration and Metrology Development (deployed / field tested portable sensor / array during Sayarim and UTTR; tested and validated infrasound In situ calibration process at I53, I10 and I56). Implemented / successfully demonstrated the US developed infrasound array</p> <p><b>FY 2011 Plans:</b> Continue calibration and metrology research and development at established test beds (EDTC) (O&amp;M-primary test bed (SNL); R&amp;D-primary test bed (PSU); SOH metrics (UAF, PSU, UM); data quality). Deploy / implement the US developed infrasound array</p> <p><b>FY 2012 Plans:</b></p>		0.500 0	0.500 0	0.497



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604870A: <i>Nuclear Arms Control</i> <i>Monitoring Sensor Network</i>	<b>PROJECT</b> SE1: <i>NACT SENSOR ENGINEERING</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Continue calibration and metrology research and development at established test beds (EDTC) (O&M-primary test bed (SNL); R&D-primary test bed (PSU); SOH metrics (UAF, PSU, UM); data quality). Deploy / implement the US developed infrasound array				
<p><b>Title:</b> Continue U.S. IMS Sensor Event Signal Identification Technique Development</p> <p><b>Articles:</b></p> <p><b>Description:</b> .</p> <p><b>FY 2010 Accomplishments:</b> Implemented the in-situ calibration method at the PTS Conrad test facility (Vienna). Initiated infrasound propagation models development (i.e. time domain model; blast propagation; repository built; transitioning existing codes; G2S atmospheric specifications). Formed extended propagation modeling team (UM , NRL)</p> <p><b>FY 2011 Plans:</b> Plan / support / participate in the Israeli wintertime Sayarim infrasound experiment. Implement / validate the enhanced infrasound propagation models (Sayarim; UTTR). Deploy next generation infrasound sensor at UTTR (data collection; source location; event analysis; performance, validation, reliability testing). Continue clutter, false alarms and noise mitigation analysis (USArray studies; catalogue persistent sources; noise studies; wind noise physics; false alarm rejection). Continue CEA / DASE collaboration (test against US and European network)</p> <p><b>FY 2012 Plans:</b> Plan / support / participate in the Israeli wintertime Sayarim infrasound experiment. Implement / validate the enhanced infrasound propagation models (Sayarim; UTTR). Deploy next generation infrasound sensor at UTTR (data collection; source location; event analysis; performance, validation, reliability testing). Continue clutter, false alarms and noise mitigation analysis (USArray studies; catalogue persistent sources; noise studies; wind noise physics; false alarm rejection). Continue CEA / DASE collaboration (test against US and European network)</p>		1.300 0	1.300 0	1.296
<p><b>Title:</b> Continue U.S. IMS Radionuclide Detection &amp; Measurement Development</p> <p><b>Articles:</b></p> <p><b>Description:</b> .</p> <p><b>FY 2010 Accomplishments:</b> US (PNNL) / PTS / Argentine Nuclear Regulatory Authority (ANR) program team indentified measurement sites / logistical plans for the International Xenon Inventory Measurements (IXIM) project The PNNL staff identified and met with local logistics companies to receive (seaport) and transport the TXL containerized measurement system to the location(s) in Argentina. Completed initial RL-16 laboratory gas analysis system performance and validation testing for use as a secondary, laboratory-</p>		0.800 0	0.800 0	0.797

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604870A: <i>Nuclear Arms Control Monitoring Sensor Network</i>	<b>PROJECT</b> SE1: <i>NACT SENSOR ENGINEERING</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>based radioxenon spectrometer. Completed two test sets (PTS provided samples; PNNL SAUNA generated samples). The PTS samples were generated by University of Texas (UT).</p> <p><b><i>FY 2011 Plans:</i></b> Continue advanced xenon separation modeling and simulation methods development for next generation Xenon detection and monitoring systems (i.e. life cycle and obsolescence management planning). Deploy Transportable Xenon Laboratory (TXL) to the Argentina for the International Xenon Inventory Measurements (IXIM) campaign (Q4CY10). Continue RL-16 laboratory gas analysis system performance and validation testing for use as a secondary, laboratory-based radioxenon spectrometer. Continue evaluating detector</p> <p><b><i>FY 2012 Plans:</i></b> Continue advanced xenon separation modeling and simulation methods development for next generation Xenon detection and monitoring systems (i.e. life cycle and obsolescence management planning). Deploy Transportable Xenon Laboratory (TXL) to the Argentina for the International Xenon Inventory Measurements (IXIM) campaign (Q4CY10). Continue RL-16 laboratory gas analysis system performance and validation testing for use as a secondary, laboratory-based radioxenon spectrometer. Continue evaluating detector</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	6.860	7.276	7.398

**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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604870A: <i>Nuclear Arms Control Monitoring Sensor Network</i>	<b>PROJECT</b> SE1: <i>NACT SENSOR ENGINEERING</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SMDC Support	SS/CPFF	Various:Various	1.500	0.500		0.496		-		0.496	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.500	0.500		0.496		-		0.496			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	Various	Various:MS, VA	6.431	2.562		2.744		-		2.744	Continuing	Continuing	Continuing
<b>Subtotal</b>			6.431	2.562		2.744		-		2.744			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Monitoring Sensor Systems, Program Data Analysis, Verification Systems Concept Demo	SS/CPFF	SAIC, General Dynamics:VA	5.815	1.600		1.594		-		1.594	Continuing	Continuing	Continuing
Support Contracts & Government Support	Various	Various:FL, NM, VA, AL	3.307	1.100		1.096		-		1.096	Continuing	Continuing	Continuing
SMDC Support	SS/CPFF	SMDC:AL, DC	2.200	1.200		1.196		-		1.196	Continuing	Continuing	Continuing
<b>Subtotal</b>			11.322	3.900		3.886		-		3.886			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	SS/CPFF	Various:Various	1.107	0.314		0.272		-		0.272	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.107	0.314		0.272		-		0.272			

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>
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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	110.465	23.957	37.098	-	37.098	32.849	20.986	19.184	14.834	Continuing	Continuing
087: <i>Distributed Learning System (DLS)</i>	0.312	0.346	-	-	-	-	-	-	-	Continuing	Continuing
099: <i>Army Human Resource System (AHRS)</i>	55.567	1.272	2.770	-	2.770	2.765	2.747	2.720	2.707	Continuing	Continuing
184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>	0.582	2.300	2.300	-	2.300	2.312	2.312	2.304	2.332	Continuing	Continuing
193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>	6.065	4.358	7.706	-	7.706	7.847	6.626	6.413	5.477	Continuing	Continuing
316: <i>STACOMP</i>	2.319	-	-	-	-	-	-	-	-	0.000	2.319
474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>	2.841	2.718	5.502	-	5.502	5.256	-	-	-	Continuing	Continuing
738: <i>AcqBiz</i>	10.917	5.530	11.011	-	11.011	10.501	5.044	3.468	-	Continuing	Continuing
AB5: <i>ARMY BEHAVIORAL HEALTH INTEG DATA ENVIRO (ABHIDE)</i>	0.402	-	-	-	-	-	-	-	-	0.000	0.402
AE5: <i>HEADQUARTERS ARMY ENVIRONMENTAL SYSTEM (HQAES)</i>	7.500	-	-	-	-	-	-	-	-	0.000	7.500
M05: <i>Enterprise Army Workload &amp; Performance Sys (eAWPS)</i>	1.792	-	-	-	-	-	-	-	-	0.000	1.792
T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>	0.990	0.584	0.664	-	0.664	-	-	-	-	0.000	2.238
T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>	21.178	6.849	7.145	-	7.145	4.168	4.257	4.279	4.318	Continuing	Continuing

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>
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**A. Mission Description and Budget Item Justification**

Supports efforts to plan, design, develop, and test information technology solutions to fulfill the Army's Warfighter Support Mission and accommodate changing Army requirements while fulfilling future Army needs. Provides for development and acquisition of Combat Service Support (CSS) and business information technology solutions to help arm, sustain, fix, move, train and man the force. Completed development/acquisition efforts will also enhance sustaining base functions and power projection capabilities and facilitate global messaging and electronic data interchange (EDI). Ongoing development efforts support multiple functional areas including logistics, personnel, transportation, training, medical/health protection, and sustaining base.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	66.568	23.957	35.833	-	35.833
Current President's Budget	110.465	23.957	37.098	-	37.098
Total Adjustments	43.897	-	1.265	-	1.265
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	1.265	-	1.265
• Other Adjustments 1	43.897	-	-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army									<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>				<b>PROJECT</b> 087: <i>Distributed Learning System (DLS)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
087: <i>Distributed Learning System (DLS)</i>	0.312	0.346	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Distributed Learning System (DLS) is an Army Acquisition Category III (ACAT III) automated information system that modernizes training delivery in the Army training and education system by leveraging information technology (IT). DLS acquires, deploys and maintains a worldwide distributed learning system to ensure our nation's Soldiers receive critical training for mission success. DLS benefits all Soldier's and DA Civilians. DLS is a key enabler for Army training transformation by improving unit readiness and significantly reducing costs. DLS enables the Army to properly train all components to a single Army standard. DLS supports readiness by enhancing institutional and individual training in all Army components (Active, National Guard, Reserve, and Department of the Army Civilians (DAC)). DLS provides both near and long-term information technology training infrastructure to enhance training, particularly in the areas of Military Occupational Skill Qualification (MOSQ) and reclassification. It also provides a highly effective means to deliver training and education to deployed forces. The overall goal for DLS is to leverage technology and to provide just-in-time training to each service member regardless of location. DLS supports the E-Government strategy by using the Web to provide training materials, by enabling the intra-agency sharing of training data, and by adopting commercial practices and products to reduce operating costs. DLS supports the President's Management Agenda by making use of e-Learning to leverage scarce training funds and to provide greater agency access to training materials. DLS goals also include reducing training delivery and training support costs; improving service member morale by allowing members to obtain increased amounts of required training without leaving their home station; improving efficiency and effectiveness of Army instructors by allowing each instructor to train more students in a shorter period of time; and, improving unit readiness due to the reduction in personnel turbulence resulting from long term absence for resident institutional training. DLS Increments 1 & 2 fielded electronic classrooms known as Digital Training Facilities (DTFs) comprised of student work stations, servers and room based video equipment. DLS currently operates and sustains 222 DTFs (117 DTFs at the Active Component (AC) and 105 DTFs at the United States Army Reserve (USAR)). DLS Increment 3, Army Learning Management System (ALMS) provides a web-based learning management system which Soldiers can use to enroll, take training and record training results. The DLS Increment 4, Deployed Digital Training Campus (DDTC) was approved for Full Deployment Decision Review (FDDR) by the Army in January 2010 and will have fielded a total of 26 of 50 DDTC systems by end of FY 2011. The DDTC is a mobile electronic training platform which will enable deployed Soldiers to take training.

This program has no FY12 Base or OCO procurement request.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Distributed Learning System (DLS)	0.081	-	-
<b>Articles:</b>	0		
<b>Description:</b> Funding supports Engineering & Manufacturing Development			

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 087: <i>Distributed Learning System (DLS)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
<b><i>FY 2010 Accomplishments:</i></b> Increment 4 (DDTC) Engineering & Manufacturing Development (E&MD) (FY2010 CORE)			
<b><i>Title:</i></b> DLS Increment 4 (DDTC) - System Operational Test & Evaluation (OT&E)  <b><i>Description:</i></b> Funding supports Increment 4 (DDTC)	0.231 0	-	-
<b><i>Articles:</i></b>			
<b><i>FY 2010 Accomplishments:</i></b> FY2010 Core funding procures operational test & evaluation (OT&E) of DLS Increment 4, Deployed Digital Training Campus (DDTC).			
<b><i>Title:</i></b> Planned Program: Increment 3 (ALMS) - Engineering Change Proposals (ECP) Operational Test & Evaluation (OT&E)  <b><i>Description:</i></b> Planned Program: Increment 3 (ALMS) - Engineering Change Proposals (ECP) Operational Test & Evaluation (OT&E) [FY2011 Core]	-	0.346 0	-
<b><i>Articles:</i></b>			
<b><i>FY 2011 Plans:</i></b> FY2011 Core dollars of \$346 thousand procured continuous test & evaluation of DLS Increment 4, Deployed Digital Training Campus (DDTC) as required by the Army Test and Evaluation Command (ATEC). DDTC employs a Very Small Aperture Terminal (VSAT) to enable satellite communications (SATCOM). SATCOM services for the DDTC require testing before acceptance into the government inventory.			
<b>Accomplishments/Planned Programs Subtotals</b>			
	0.312	0.346	-

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 324631/432612/432615: OMA APEs	49.648	48.462	46.402		46.402		42.813	46.433	44.874	Continuing	Continuing
• BE4173: ARMY DISTANCE LEARNING PROGRAM	9.980	9.856	7.876		7.876		10.732	7.140	9.439	Continuing	Continuing

**D. Acquisition Strategy**

Distributed Learning System (DLS) follows an evolutionary acquisition strategy using a spiral development process based on the following rationale: (1) cost savings can be realized immediately upon implementation of even a limited set of digital training facilities, courseware, and media types; (2) requirements for future increments



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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0605013A: <i>Information Technology Development</i>	087: <i>Distributed Learning System (DLS)</i>

are dependent upon technology maturation. DLS will be executed using four discrete increments narrow in scope and as brief in duration as practical to deliver a measurable net benefit independent of future segments. Each increment satisfies a set of requirements identified in the Army's Training and Doctrine Command (TRADOC) requirements document and provides a militarily useful and operationally supportable function, which permits additional increments to be added over time without having to completely re-design and redevelop those portions of the system already fielded. New capabilities requirements will be integrated with the existing functional baseline system as technologies and capabilities mature using system releases where feasible. A rigid configuration management program is established to maintain the integrity of each functional and technical baseline. The approved DLS acquisition strategy identifies four increments for implementation. Two previously identified capability requirements (Video-to-Desktop and Simulations) are best satisfied by changes to the existing Increment 2 (Networked DLS) platform as future system releases.

**E. Performance Metrics**

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 099: <i>Army Human Resource System (AHRS)</i>
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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
099: <i>Army Human Resource System (AHRS)</i>	55.567	1.272	2.770	-	2.770	2.765	2.747	2.720	2.707	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Army Human Resource System (AHRS) is the Army's system of systems that provides commanders the necessary personnel information to make informed decisions on mobilized military personnel resources (both Active Duty and Reserve Component). The implementation of AHRS requires the development of an authoritative Army Corporate database to support the eventual migration to Integrated Personnel and Payroll System-Army (IPPS-A). However, major elements of AHRS are not planned to be subsumed into IPPS-A. AHRS consists of three major components:

- Electronic Military Personnel Office (eMILPO) provides the U.S. Army with a reliable, timely, and efficient mechanism for performing Army personnel actions and managing strength accountability. The application provides visibility of the location, status, and skills of Soldiers both from a high level (tope of the system) and a unit level (bottom of the system). eMILPO delivers enhanced performance to the Soldier, providing superior data accuracy, and a more intuitive web-based approach resulting in increased productivity, quality, timeliness, security, and user satisfaction. It re-hosted the USC Title 10 functionality, formerly resident in the Standard Installation Division Personnel System-3 (SIDPERS) application, for migration to IPPS-A. Selected elements of eMILPO will need to be operated in parallel with IPPS-A until/unless IPPS-A is able to absorb all eMILPO funtionality.
- Deployed Theater Accountability System (DTAS) is a personnel accountability system that enables the Combatant Commanders (COCOM) to meet Title 10 personnel accountability responsibilities. DTAS is residing on the Secret Internet Router Network (SIPRnet) and accounts for military and civilian personnel in a deployed theater by unit, day and location supporting force tracking and deployed Operations Tempo (OPTEMP) tracking. DTAS is a persistent system and will continue to exist Integrated Personnel and Pay System - Army (IPPS-A) migration.
- The Tactical Personnel System (TPS) is a stand-alone system that supports personnel accountability for task organization/manifests and jump manifests used by tactical units. The system interfaces with DTAS, allowing Soldiers to be loaded into DTAS in mass upon arrival in theater. TPS will continue to exist Integrated Personnel and Pay System - Army (IPPS-A) migration.
- Personnel Transformation (PT)- Enterprise Service Bus (ESB)- The Army's Enterprise Service Bus (ESB) provides a data integration service in which data can be extracted from the legacy human resource systems and transferred to DIMHRS. The ESB will be a middleware application which will provide a single interface to and from DIMHRS from the Army Legacy Systems. The ESB will provide the infrastructure for the integration of new and existing applications by allowing systems and applications to easily exchange information across different environments and platforms. It will also form the information bridge between DIMHRS, the Army Legacy Systems, and external systems to create more streamlined systems in support of the military mission and personnel transformation goals.

FY12 funding procures configuration management software, test and evaluation software, life cycle replacement of legacy equipment and Continuity of Operations (COOP) equipment and software to support Engineering Change Packages (ECPs)/System Change Packages (SCPs)/Interim Change Packages (ICPs) in support of eMILPO and DTAS.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 099: <i>Army Human Resource System (AHRS)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> AHRS  <b>Description:</b> Funding will support Post Deployment Software Support (PDSS)  <b>FY 2010 Accomplishments:</b> Engineering Change Packages (ECPs)/System Change Packages (SCPs) Interim Change Packages (ICPs) in support of eMILPO and DTAS  <b>FY 2011 Plans:</b> Engineering Change Packages (ECPs)/System Change Packages (SCPs) Interim Change Packages (ICPs) in support of eMILPO and DTAS  <b>FY 2012 Plans:</b> Engineering Change Packages (ECPs)/System Change Packages (SCPs) Interim Change Packages (ICPs) in support of eMILPO and DTAS		11.722 <b>Articles:</b> 0	0.598 0	2.770
<b>Title:</b> AHRS - Development  <b>Description:</b> Funds support the continuing development of other AHRS systems  <b>FY 2010 Accomplishments:</b> Continuous Development  <b>FY 2011 Plans:</b> Cointinuous Development		11.106 <b>Articles:</b> 0	0.674 0	-
<b>Title:</b> AHRS - Army Continuing Education System  <b>Description:</b> Funding supports the development of the Army Continuing Education System  <b>FY 2010 Accomplishments:</b> Army Continuing Education System efforts		32.739 <b>Articles:</b> 0	-	-
<b>Accomplishments/Planned Programs Subtotals</b>		55.567	1.272	2.770

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 099: <i>Army Human Resource System (AHR)</i>

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>			<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• W00800: <i>STACOMP</i>	13.392	28.849	143.122		143.122		93.404	81.506	82.052	Continuing	Continuing
• 432612/434612: <i>AHRS</i>	11.419	5.888	11.422		11.422					Continuing	Continuing

**D. Acquisition Strategy**

Army Human Resource System (AHR)- The program manager makes extensive use of Integrated Product Teams (IPTs). Sub-elements of the acquisition (engineering and design, logistics planning, testing, etc.) are intensively managed by integrated teams of government and contractor personnel. Task performance is tracked against the Work Breakdown Structure (WBS) and resources allocated to each task are adjusted based on performance against the WBS. AHR contractual efforts are acquired on a firm fixed price basis through GSA schedule and existing contractual vehicles. The Title 10 functionality has transferred to AHR.

-Personnel Transformation - The Enterprise Service Bus (ESB) program management approach is a middleware application which will provide a single interface to and from DIMHRS from the Army Legacy Systems. The ESB will provide the infrastructure for the integration of new and existing applications by allowing systems and applications to easily exchange information across different environments and platforms. It will also form the information bridge between DIMHRS, the Army Legacy Systems, and external systems. Contractor selection will be accomplished through open competition, administered by a federal certified contracting agency. Program Management is accomplished by combining a "best practices" approach coupled with standard tools.

**E. Performance Metrics**

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



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>				<b>PROJECT</b> 184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>	0.582	2.300	2.300	-	2.300	2.312	2.312	2.304	2.332	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Installation Support Modules (ISM), deployed to Army sites worldwide, is software applications developed and standardized to perform business functions related to Army Force Generation (ARFORGEN) at the Installation level used by the combatant command and installation staffs. The ISM system is a web environment that utilizes a single, centralized, replicated database to store logistical and personnel readiness data for the entire Army. The requested funds continue migration of the fielded ISM software (Disk Operating System character based) applications to a more modern graphical user interface in a web based environment allowing the combat soldier as well as the field commander access to records impacting soldier readiness. Functionality fielded in FY10 and FY11 includes web server architecture that supports a graphical user interface, web-based user access, and a consolidated infrastructure in accordance with the Army Knowledge Management Strategic Plan. This modernized system enables the Army Installation Management community to provide simple web-enabled software applications for soldier processing; ready and relevant information to the commander; while transparently integrating multiple complex processes for soldiers, commanders, and Army executives. ISM consists of five discrete modules focusing on ARFORGEN activities including in/out processing of soldiers, personnel locator services, soldier transition processing, management of soldier educational records, and management of Organizational Clothing and Individual Equipment (OCIE). The Network Operations and Security Center, Ft. Huachuca, AZ manages the ISM network, provides general system configuration control, operates a 24/7 Helpdesk, provides user account management, and performs automated backups for ISM devices located at Army sites worldwide.

Coalition Warfighter Interoperability Demonstration (CWID) is a mandated Joint program that requires participation by the US Army to explore near-term technologies that support Joint and Coalition Warfare Interoperability. Funding is to facilitate Coalition Force interoperability research and development and to comply with CJCSI 6230.2 date 30 April 05. Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicides attempts are collected and stored in a in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service.

FY12 funding is essential for supporting demands to research and develop improved systems to provide for soldier safety and inventory reduction without risking readiness. Supports research and development to comply with Dept of Defense Instruction 8320.4 Serialized Item Management. Applications to use commercial off the shelf bar code systems in Central Issue Facilities (CIF) will ensure that serial numbered items can be tracked, and excess stocks can be moved to units with deployment requirements without unnecessary procurement. Funding for CWID will continue to facilitate Coalition Force interoperability research and development. Funding for ABHIDE will continue development of the system.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Independent Verification and Validation (IV&V) Testing		0.062	0.062	0.063
<b>Articles:</b>		0	0	
<b>Description:</b> Independent Verification and Validation (IV&V) Testing				
<b>FY 2010 Accomplishments:</b> Required Independent Verification and Validation (IV&V) Testing				
<b>FY 2011 Plans:</b> Required Independent Verification and Validation (IV&V) Testing				
<b>FY 2012 Plans:</b> Required Independent Verification and Validation (IV&V) Testing				
<b>Title:</b> Post-Deployment Software Support (PDSS) - Engineering Change Packages (ECPs)/System Change Packages (SCPs)		0.348	0.354	0.385
<b>Articles:</b>		0	0	
<b>Description:</b> Post-Deployment Software Support (PDSS) - Engineering Change Packages (ECPs)/System Change Packages (SCPs): Develop or enhance software to meet the requirements of the soldier and installation.				
<b>FY 2010 Accomplishments:</b> Added self service functions to the CIF through Army Knowledge on Line, which allows soldiers and commanders to access appointments, hand receipts and clothing records; helps eliminate duplicate ordering, provides commanders easy access to determine soldier readiness; and improves asset visibility. Added Ad Hoc query capability to existing data base to be able to research and report timely. Added an e-Signature capability to the CIF module for issue and turn-in of OCIE, reducing processing time and improving accountability. Added bar code technology to the CIF application worldwide, reducing unnecessary procurement of OCIE to meet deployment schedules.				
<b>FY 2011 Plans:</b> Planned: COTs extension of bar coding to meet DoD requirements for Individual Unit Identification (IUID) and tracking of OCIE in the CIF module to insure soldiers get the right equipment they need to execute their assigned mission as they progress through ARFORGEN cycles. IUID ensures the best stocks are issued to achieve an equipping balance based on CSA guidance to build enduring readiness while providing the soldier with the safest equipment possible. Specifically will expand Automated Identification Technology to the CIF application to comply with DoD IUID policy; continue to add self service functions to the CIF through Army Knowledge on Line; improve compliance with personal privacy safeguards to mask social security numbers and other personal information; add OCIE logistical data from National Guard systems and create a common data base to reduce				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
duplicate ordering and increase utilization of existing stocks; improves asset visibility; and add automation of soldier test scoring when taking the Armed Forces Classification Test.  <b>FY 2012 Plans:</b> Planned: Continue with COTs extension of bar coding to meet DoD requirements for Individual Unit Identification (IUID) and tracking of OCIE in the CIF module to insure soldiers get the right equipment they need to execute their assigned mission as they progress through ARFORGEN cycles. IUID ensures the best stocks are issued to achieve an equipping balance based on CSA guidance to build enduring readiness while providing the soldier with the safest equipment possible. Specifically will expand Automated Identification Technology to the CIF application to comply with DoD IUID policy; continue to add self service functions to the CIF through Army Knowledge on Line; improve compliance with personal privacy safeguards to mask social security numbers and other personal information; add OCIE logistical data from National Guard systems and create a common data base to reduce duplicate ordering and increase utilization of existing stocks; improves asset visibility; and add automation of soldier test scoring when taking the Armed Forces Classification Test.				
<b>Title:</b> Coalition Warfighter Interoperability Demonstration (CWID)  <b>Description:</b> Coalition Warfighter Interoperability Demonstration (CWID)  <b>FY 2010 Accomplishments:</b> Coalition Warfighter Interoperability Demonstration (CWID) is a mandated Joint program that requires participation by the US Army to explore near-term technologies that support Joint and Coalition Warfare Interoperability. Funding is to facilitate Coalition Force interoperability research and development and to comply with CJCSI 6230.2 date 30 April 05.  <b>FY 2011 Plans:</b> Coalition Warfighter Interoperability Demonstration (CWID) is a mandated Joint program that requires participation by the US Army to explore near-term technologies that support Joint and Coalition Warfare Interoperability. Funding is to facilitate Coalition Force interoperability research and development and to comply with CJCSI 6230.2 date 30 April 05.  <b>FY 2012 Plans:</b> Coalition Warfighter Interoperability Demonstration (CWID) is a mandated Joint program that requires participation by the US Army to explore near-term technologies that support Joint and Coalition Warfare Interoperability. Funding is to facilitate Coalition Force interoperability research and development and to comply with CJCSI 6230.2 date 30 April 05.		<b>Articles:</b> 0.172 0	0.296 0	0.291
<b>Title:</b> Army Behavioral Health Integrated Data Environment		-	1.588 0	1.561



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
<p><b>Description:</b> Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry.</p> <p><b>FY 2011 Plans:</b> Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicides attempts are collected and stored in a in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service.</p> <p><b>FY 2012 Plans:</b> Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicides attempts are collected and stored in a in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	0.582	2.300	2.300

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 432612/432100: OMA	12.331	11.068	12.378		12.378		13.017	13.402	13.630	Continuing	Continuing
• BE4162: MACOM AUTOMATION SYSTEMS	120.586	108.194	71.591		71.591		70.007	74.357	105.973	Continuing	Continuing

**D. Acquisition Strategy**  
Installation Support Modules is in Post Deployment Software Support (PDSS). The present concept calls for the use of full and open competition to implement enhancements as defined by the Functional Proponent, Army Chief Information Officer (CIO)/G-6.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>

**E. Performance Metrics**

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



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army								<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>				<b>PROJECT</b> 193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>	6.065	4.358	7.706	-	7.706	7.847	6.626	6.413	5.477	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Medical Communications for Combat Casualty Care (MC4) System provides multipliers to the medical force structure through the acquisition of digital communications and information technology solutions for the deployable medical forces. The MC4 System will also fulfill the requirements highlighted in United States Code: Title 10, Subtitle A, Part II, Chapter 55, Section 1074f, mandating the proper documentation of deployed service members' medical treatment to include pre- and post-deployment screening and its associated medical surveillance. The MC4 System will interface Force Health Protection and medical surveillance information with Army Battle Command and Combat Service Support information technology systems as they evolve to support the Army Transformation. The MC4 System also indirectly supports other soldier protection initiatives such as analysis of injury data collected from the MC4 systems is used to support the identification and development of other critical soldier support systems such as body armor, improved helmets, traumatic brain injury protection and trauma reduction. Current MC4 Program efforts are focused on system engineering, testing and integration, and fielding automation infrastructure for Army users of the Joint Theater Medical Information Program (TMIP-J) suite of software. Funding provides support system engineering, integration and developmental testing of information management/ information technology to better support Force Health Protection in the Army Campaign Plan and Overseas Contingency Operation units.

FY12 Base funding will be used for the engineering effort required to provide the Defense Health Information Management System (DHIMS) TMIP-J software on the Army platform, as well as the engineering effort for other Army unique capability. Activities include:

- Test augmentation to include development testing of TMIP (all releases until final objective), and other Army unique software capabilities
- Integration testing of software systems on the MC4 baseline system
- Future engineering in architecture development for better efficiency and effectiveness
- Evaluation of technology obsolescence and solutions
- Evaluation and testing of technology upgrades to include capabilities identification through market surveys and demonstrations
- Evaluation of new health care capabilities not provided by DHIMS/TMIP, e.g. teleradiology
- Test and evaluation of new capabilities and how well they work in the combat theater
- Lab site studies with technology and scenarios
- Interfaces with other systems, e.g. Army Brigade Combat Team Modernization

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Program Management	0.190	0.195	0.201
<b>Articles:</b>	0	0	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b>Description:</b> Civilian program management services providing guidance and direction to contract support personnel on R&amp;D related issues.</p> <p><b>FY 2010 Accomplishments:</b> Civilian program management services providing guidance and direction to contract support personnel on R&amp;D related issues.</p> <p><b>FY 2011 Plans:</b> Civilian program management services providing guidance and direction to contract support personnel on R&amp;D related issues.</p> <p><b>FY 2012 Plans:</b> Civilian program management services providing guidance and direction to contract support personnel on R&amp;D related issues.</p>				
<p><b>Title:</b> Engineering and Technical Support</p> <p align="right"><b>Articles:</b></p>		1.771 0	1.158 0	2.068
<p><b>Description:</b> Engineering and Technical Support for P3I and System Upgrades, Systems Integration, Software Support and Helpdesk Support.</p> <p><b>FY 2010 Accomplishments:</b> Engineering and Technical Support for P3I and System Upgrades, Systems Integration, Software Support and Helpdesk Support.</p> <p><b>FY 2011 Plans:</b> Engineering and Technical Support for P3I and System Upgrades, Systems Integration, Software Support and Helpdesk Support.</p> <p><b>FY 2012 Plans:</b> Engineering and Technical Support for P3I and System Upgrades, Systems Integration, Software Support and Helpdesk Support.</p>				
<p><b>Title:</b> MC4 Information Assurance (IA) Testing</p> <p align="right"><b>Articles:</b></p>		0.650 0	0.462 0	0.650
<p><b>Description:</b> Ensures IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems.</p> <p><b>FY 2010 Accomplishments:</b> Ensures IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems.</p> <p><b>FY 2011 Plans:</b></p>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Ensures IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems. <b>FY 2012 Plans:</b> Ensures IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems.				
<b>Title:</b> PMO Testing Support  <b>Description:</b> Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies. <b>FY 2010 Accomplishments:</b> Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies. <b>FY 2011 Plans:</b> Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies. <b>FY 2012 Plans:</b> Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies.		0.416 0	0.305 0	0.437
<b>Title:</b> MC4/TMIP Integration and Testing  <b>Description:</b> Development testing of DHIMS/TMIP-J Increment 2 (all releases); Lab site studies with technology and scenarios; Integration testing of software systems on the MC4 baseline system; test and evaluation of new capabilities for combat theater functionality. <b>FY 2010 Accomplishments:</b> Development testing of DHIMS/TMIP-J Increment 2 (all releases); Lab site studies with technology and scenarios; Integration testing of software systems on the MC4 baseline system; test and evaluation of new capabilities for combat theater functionality. <b>FY 2011 Plans:</b> Development testing of DHIMS/TMIP-J Increment 2 (all releases); Lab site studies with technology and scenarios; Integration testing of software systems on the MC4 baseline system; test and evaluation of new capabilities for combat theater functionality. <b>FY 2012 Plans:</b>		3.038 0	2.238 0	4.350

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Development testing of DHIMS/TMIP-J Increment 2 (all releases); Lab site studies with technology and scenarios; Integration testing of software systems on the MC4 baseline system; test and evaluation of new capabilities for combat theater functionality.			
<b>Accomplishments/Planned Programs Subtotals</b>	6.065	4.358	7.706

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• MA8046: (MC4)	19.692	23.606	26.232		26.232		2.416	2.036	0.930	Continuing	Continuing
• 432612: OMA	9.149	9.360	8.981		8.981		3.241	3.492	3.551	Continuing	Continuing

**D. Acquisition Strategy**

The MC4 Program supports a number of Army Medical Information Technology/Communications initiatives. The near and mid-term focus of the MC4 program is to engineer, design, test, acquire and field the Army automation/communications infrastructure capabilities supporting fielding of the Joint Theater Medical Information Program (TMIP) integrated software application suite and other Army requirements. The MC4 hardware is procured as Commercial-off-the-Shelf (COTS) components. Since TMIP software is a major component of the MC4 System, the MC4 Program will deliver capabilities in increments, recognizing the need for future system upgrades and Preplanned Product Improvements (P3Is). The MC4 Program continues to work with the user community to continually define and refine additional requirements and match them with available technologies to provide the user enhanced capabilities. These enhanced capabilities will be provided to the user at the earliest possible date. This approach yields the most operationally useful and supportable capability in the shortest time possible with Cost As an Independent Variable. Moreover, this approach provides an initial capability with the explicit intent of delivering improved and updated capability in subsequent upgrades and P3Is. This evolutionary development approach will be accomplished through a rapid prototyping process that will progress the system from its current functional capabilities to fully integrated objective capabilities. Appropriate commercial technology enhancements (e.g. advances in operating systems, voice activated technology, etc) will be incorporated into MC4 products and systems as they become available. Each MC4 System component will undergo a full range of developmental testing to include software unit testing, integration testing, interoperability testing and software qualification testing. The MC4 system upgrades and improvements will continue to undergo follow-on operational testing.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prog Mgmt Operations	Various	PMO:various	8.215	0.195		0.201		-		0.201	Continuing	Continuing	Continuing
<b>Subtotal</b>			8.215	0.195		0.201		-		0.201			

**Remarks**  
Funding in Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc. in direct support of RDTE effort

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Electronic Commodity	Various	GOV WORKS:various	2.700	-		-		-		-	Continuing	Continuing	Continuing
PMO Support	Various	CACI Inc-Federal:various	2.275	-		-		-		-	Continuing	Continuing	Continuing
Logistics Planning	Various	PMO,:various	2.975	-		-		-		-	Continuing	Continuing	Continuing
Logistics Planning Spt	Various	CACI Inc-Federal:various	1.481	-		-		-		-	Continuing	Continuing	Continuing
Engineering & Technical Spt	Various	PMO:various	3.336	-		-		-		-	Continuing	Continuing	Continuing
Engineering & Tech Spt	Various	L3 (was Titan):various	5.085	-		-		-		-	Continuing	Continuing	Continuing
PMO Support	Various	General Dynamics (was Anteon Inc.):various	0.708	-		-		-		-	Continuing	Continuing	Continuing
Information Assurance	Various	ISEC Support:AZ	0.650	0.462		0.650		-		0.650	Continuing	Continuing	Continuing
SBIR/STTR	Various	GOVWORKS:MD	0.025	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			19.235	0.462		0.650		-		0.650			

**Remarks**  
Electronic Commodity is a pass-through to Department of Interior, an initiative of SEN Byrd of West Virginia, from Congressional MARKS. SBIR/STTR reductions taken from program.  
PMO SUPPORT with GDIT moved to another appropriation to better align activities with program life cycle





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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>				<b>PROJECT</b> 316: <i>STACOMP</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
316: <i>STACOMP</i>	2.319	-	-	-	-	-	-	-	-	0.000	2.319
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Standard Army Management Information System (STAMIS) Tactical Computers (STACOMP) program provides acquisition, logistics, and integration support to numerous tactical logistics programs through in-house matrix and contract support. This support includes managing the Program Executive Office (PEO) warranty program for hardware and software products; developing and managing the PEO Integrated Logistics System (ILS) program for all systems; serving as the policy advisor on related matters, and maintaining liaison with the Headquarters, Department of the Army (HQDA) Logistics Studies Steering Committee (LCSS) and other members of the Acquisition Logistics community across the Army and Department of Defense (DoD). Support also includes managing contract negotiations and legal reviews; software/hardware evaluation testing; and contractor customer support for 24 hour hotline, technical upgrades, order processing/tracking reports, and World Wide Web (WWW) site.

The Global Combat Support System - Army (GCSS-Army) program will provide the Army's CS/CSS 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 logistics 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.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Congressional Add	2.319	-	-
<b>Articles:</b>	0		
<b>Description:</b> Congressional add for Health Informatics Initiative.			
<b>FY 2010 Accomplishments:</b> Congressional add for Health Informatics Initiative.			
<b>Accomplishments/Planned Programs Subtotals</b>	2.319	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0605013A: <i>Information Technology</i> <i>Development</i>	316: <i>STACOMP</i>

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

The Standard Army Management Information System (STAMIS) Tactical Computer (STACOMP) supports acquisition and deployment of Program Executive Office (PEO) logistics personnel 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.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>
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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
474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>	2.841	2.718	5.502	-	5.502	5.256	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Combat Service Support (CSS) Automated Information System Interface (CAISI) is a high-data-rate wireless system that provides sensitive information (SI) and is the backbone for logistics connectivity down to individual Combat Service Support (CSS) computer systems located within the sustainment area. The CAISI design effort focuses on integrating Commercial Off-The-Shelf (COTS) equipment from various manufacturers to create a standard deployable set of communications equipment. Current CAISI equipment is being fielded with new equipment training to logistics units Army-wide. Maintenance support is provided at depot-level with additional support at forward repair activities. Computer based training, on-line refresher training and technical support is also provided for CAISI users. CAISI employs a deployable wireless LAN infrastructure linking Standard Army Management Information Systems (STAMIS) computers in a 7 square-kilometer area using wireless bridging. CAISI design incorporates full lifecycle sustainability features to ensure reliability and supportability in full spectrum operations.

FY12 Base funding provides follow-on testing, software and hardware upgrades, integration and IA compliance.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Accomplishments</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2010 Accomplishments:</b> FY2010 core funding supported follow-on testing, product improvement, integration and IA compliance.</p>	2.841 0	-	-
<p><b>Title:</b> Planned</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> FY2011 and core funding will support evaluation, testing, Information Assurance Vulnerability Management (IAVM) compliance and technical support.</p> <p><b>FY 2012 Plans:</b></p>	-	2.718 0	5.502

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
FY2012 and beyond core funding will support follow on evaluation, testing, Information Assurance Vulnerability Management (IAVM) compliance and technical support.			
<b>Accomplishments/Planned Programs Subtotals</b>	2.841	2.718	5.502

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Procurement: <i>OPA, BD3512</i>	32.576	21.691	16.376		16.376					Continuing	Continuing
• OMA: <i>OMA, 423612</i>	5.750	5.725	3.442		3.442		5.768	5.881	5.981	Continuing	Continuing

**D. Acquisition Strategy**

Acquisition strategy will be to obtain engineering support, as well as applicable hardware and software to enhance current CAISI capabilities. Funding provides functional assesment, technical support and integration of IA requirements. Integral to this strategy is the imperative of developing the capability for inserting and integrating emerging technologies into the new CAISI.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Research, modification/integration and testing of CAISI 2.0.	SS/FP	ISEC:Technical/Integration Support	22.779	2.718		2.720		-		2.720	Continuing	Continuing	Continuing
<b>Subtotal</b>			22.779	2.718		2.720		-		2.720			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support	SS/FP	Springfield, VA:SETA Contractor Support	-	-		1.787		-		1.787	1.787	3.574	0.000
<b>Subtotal</b>			-	-		1.787		-		1.787	1.787	3.574	0.000

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Research, modification/integration and testing of CAISI 2.0.	SS/FP	ISEC:Technical/Integration Support	22.779	-		0.995		-		0.995	Continuing	Continuing	Continuing
<b>Subtotal</b>			22.779	-		0.995		-		0.995			

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			45.558	2.718		5.502		-		5.502			

**Remarks**

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>
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	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
New Software Development_SW1					██████████																							
New Software Development_SW2													██████████															
Software Testing_SW1													██████████															
Fielding Critical Technology													██████████															

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
New Software Development_SW1	1	2011	1	2012
New Software Development_SW2	4	2012	3	2013
Software Testing_SW1	1	2012	2	2012
Fielding Critical Technology	4	2012	4	2014



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 738: <i>AcqBiz</i>
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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
738: <i>AcqBiz</i>	10.917	5.530	11.011	-	11.011	10.501	5.044	3.468	-	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

PM AcqBusiness establishes and sustains the family of IT business systems that support the business of Army acquisition. PM AcqBusiness consists of a family of IT solutions, COTS products, decision support tools and web services that are integrated through a common architecture. Whenever possible, PM AcqBusiness provides access to external enterprise tools and services from other business domains, Army, OSD and DISA and does not duplicate those capabilities. PM AcqBusiness establishes the enterprise level investment control, portfolio management and requirements visibility which is the heart of IT business system transformation in Army Acquisition. PM AcqBusiness provides Army Acquisition practitioners with a consistent set of unique business tools, web services, and decision support tools which provides visibility of authoritative data, consistency in business process, more timely support to acquisition decisions and enterprise control over IT investments. The enterprise tools provided via PM AcqBusiness enables the reduction and eventual elimination of stovepipe and redundant tools that exist in the domain today. PM AcqBusiness provides an environment that will enable a standard capability to allow access to disparate Acquisition Domain data sources. PM AcqBusiness will provide role-based access to authoritative data sources and services. In addition, PM AcqBusiness provides a framework for information providers to publish their data and provide their services to authorized users.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Design, Development, and Test</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> This effort supports the ultimate integration of the AcqBusiness Portfolio</p> <p><b>FY 2010 Accomplishments:</b> Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio.</p> <p><b>FY 2011 Plans:</b> Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio.</p> <p><b>FY 2012 Plans:</b> Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio.</p>	<p>9.877</p> <p>0</p>	<p>4.438</p> <p>0</p>	<p>9.897</p>
<p><b>Title:</b> Program Management</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> This effort provides program management in support of the AcqBusiness Portfolio.</p> <p><b>FY 2010 Accomplishments:</b></p>	<p>1.040</p> <p>0</p>	<p>1.092</p> <p>0</p>	<p>1.114</p>

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 738: <i>AcqBiz</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
Program Management			
<b><i>FY 2011 Plans:</i></b> Program Management			
<b><i>FY 2012 Plans:</i></b> Program Management			
<b>Accomplishments/Planned Programs Subtotals</b>	10.917	5.530	11.011

**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 432612: <i>OMA APE</i>	14.547	10.117	10.880		10.880		11.309	11.538	11.734	Continuing	Continuing

**D. Acquisition Strategy**

Product Manager AcqBusiness was established to acquire a centrally managed and funded suite of standard net-centric business capabilities in order to provide Army acquisition practitioners the data visibility necessary to optimize the acquisition of supplies, services, and materiel for the Warfighter. PM AcqBusiness is using an evolutionary acquisition strategy to acquire the capabilities specified in the PM AcqBusiness requirements document in order to realize benefits early and reduce risk. The full range of PM AcqBusiness Service Oriented Architecture (SOA) services will be achieved through an evolutionary implementation of individual components, each delivered within 180 day increments of time. Each service is designed to federate cleanly with and leverage the capabilities provided by other SOA environments by leveraging an open-standards based approach to design. Each PM AcqBusiness SOA service will implement new functionality, and may or may not utilize other already published SOA services. Each service capability will be tested and then made available to consumers throughout the acquisition community and the Army. This approach minimizes the cost incurred for testing the system, as well as minimizes release transition impacts on users. PM AcqBusiness is using an evolutionary acquisition approach, incorporating the use of commercial-off-the-shelf (COTS) hardware and software, and custom developed software to meet Army requirements. In this approach, the maintenance release will be streamlined to expedite the fielding of a particular PM AcqBusiness software fix or upgrade. Maintenance releases will be installed on an "as needed" basis after testing and approval by PM AcqBusiness. This approach minimizes the time required to deliver new capabilities to users. The PM AcqBusiness acquisition approach embraces the tenets of Subtitle III of Title 40, U.S.C. (Formerly the Clinger-Cohen Act of 1996). As such, the PM AcqBusiness is: (1) performing Business Process Reengineering (BPR) in advance of development of AcqBusiness capabilities. AcqBusiness is primarily about changing how the acquisition business functions are done in the Army; (2) encouraging the purchase of commercial products and innovations from private industry; (3) involving potential suppliers of SOA technology early in the requirements generation process; (4) employing outsourcing wherever possible; and (5) acquiring the AcqBusiness capabilities in interoperable modules, leveraging the evolutionary acquisition approach.

**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.

**UNCLASSIFIED**

**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 738: <i>AcqBiz</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Support	Various	Government:various	5.857	1.092		1.114		-		1.114	Continuing	Continuing	Continuing
<b>Subtotal</b>			5.857	1.092		1.114		-		1.114			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Army Business Systems Modernization Initiatives.	Various	Multiple Activities:various	8.820	-		-		-		-	Continuing	Continuing	Continuing
Analysis and Design, Development , Integration and Testing	Various	Northrup Grumman:various	20.468	-		-		-		-	Continuing	Continuing	Continuing
Application Licenses	Various	Mythics:various	8.840	-		-		-		-	Continuing	Continuing	Continuing
Analysis and Design, Development, Integration	Various	Booz, Allen and Hamilton:Springfield	26.846	4.438		9.897		-		9.897	Continuing	Continuing	Continuing
<b>Subtotal</b>			64.974	4.438		9.897		-		9.897			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Support Costs	Various	Bearing Point Inc:various	0.174	-		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.174	-		-		-		-			

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>			<b>DATE:</b> February 2011				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>			<b>PROJECT</b> 738: <i>AcqBiz</i>		

	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
Increment Three IOC		■																										
Increment Four IOC				■																								
Increment Five IOC							■																					
Increment Six IOC								■																				
Increment Seven IOC											■																	
Increment Eight IOC												■																
Increment Nine IOC															■													
Increment Ten IOC																■												
Increment Eleven IOC																			■									
Increment Twelve IOC																				■								
Increment Thirteen IOC																							■					
Increment Fourteen IOC																								■				
Increment Fifteen IOC																										■		
Increment Sixteen IOC																												■

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> 738: <i>AcqBiz</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Increment Three IOC	2	2010	2	2010
Increment Four IOC	4	2010	4	2010
Increment Five IOC	2	2011	2	2011
Increment Six IOC	4	2011	4	2011
Increment Seven IOC	2	2012	2	2012
Increment Eight IOC	4	2012	4	2012
Increment Nine IOC	2	2013	2	2013
Increment Ten IOC	4	2013	4	2013
Increment Eleven IOC	2	2014	2	2014
Increment Twelve IOC	4	2014	4	2014
Increment Thirteen IOC	2	2015	2	2015
Increment Fourteen IOC	4	2015	4	2015
Increment Fifteen IOC	2	2016	2	2016
Increment Sixteen IOC	4	2016	4	2016

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> AB5: <i>ARMY BEHAVIORAL HEALTH INTEG DATA ENVIRO (ABHIDE)</i>
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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
AB5: <i>ARMY BEHAVIORAL HEALTH INTEG DATA ENVIRO (ABHIDE)</i>	0.402	-	-	-	-	-	-	-	-	0.000	0.402
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

This database provides a standardized, enterprise-wide, information management and technology capability to integrate information from nonrelated/dispersed databases into a comprehensive health surveillance database to support mental, behavioral, social health and public health activities.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Army Behavioral Health Integration Data Environment			
<b>Articles:</b>	0.402 0	-	-
<b>Description:</b> Funds support Engineering and Development.			
<b>FY 2010 Accomplishments:</b> Funds support engineering and development efforts of the system in support of suicidal prevention/mitigation.			
<b>Accomplishments/Planned Programs Subtotals</b>	0.402	-	-

**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.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> AE5: <i>HEADQUARTERS ARMY ENVIRONMENTAL SYSTEM (HQAES)</i>
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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
AE5: <i>HEADQUARTERS ARMY ENVIRONMENTAL SYSTEM (HQAES)</i>	7.500	-	-	-	-	-	-	-	-	0.000	7.500
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Headquarters Army Environmental System (HQAES) is the system of record for the Headquarters Environmental reporting mission, scheduled to subsume the legacy Army Environmental Data Base (AEDB) databases. The HQAES will serve in the same capacity as AEDB while being upgraded to ensure compliance with certification and current regulatory requirements (the Chief Financial Officers Act, DoD Financial Management Regulation (DoD 7000.14-R), Clinger Cohen Act, etc.), adding new capabilities, and ultimately will interface with the Army's General Fund Enterprise Business System (GFEBS) and the Single Army Logistics Enterprise (SALE). Furthermore, HQAES will satisfy Army Environmental Cleanup Liability Recognition, Valuation and Reporting requirements.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Headquarters Army Environmental System (HQAES)	7.500	-	-
<b>Articles:</b>	0		
<b>Description:</b> Funding supports Engineering and Development			
<b>FY 2010 Accomplishments:</b> Funding supports Engineering and Development			
<b>Accomplishments/Planned Programs Subtotals</b>	7.500	-	-

**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.



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> M05: <i>Enterprise Army Workload &amp; Performance Sys (eAWPS)</i>
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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
M05: <i>Enterprise Army Workload &amp; Performance Sys (eAWPS)</i>	1.792	-	-	-	-	-	-	-	-	0.000	1.792
Quantity of RDT&E Articles											

**Note**

Army Procure-to-Pay (P2P) business processes include purchase requisition, approval (work flow), commitment of funds, sourcing, solicitation, evaluation, contract management (award), receipt and acceptance, payment approval, and disbursing (payment). P2P follows a phased approach which includes a sand box demonstration of capability; initial fielding to a single site to further demonstrate capabilities in a live environment.

**A. Mission Description and Budget Item Justification**

Army Procure-to-Pay (P2P) business processes include purchase requisition, approval (work flow), commitment of funds, sourcing, solicitation, evaluation, contract management (award), receipt and acceptance, payment approval, and disbursing (payment). P2P follows a phased approach which includes a sand box demonstration of capability; initial fielding to a single site to further demonstrate capabilities in a live environment. Enables standard, integrated business processes across the Army that link finance and procurement

**BENEFITS:**

- Leverages automation, reduces paper, maximizes electronic storage
- Reduces duplicate data entry
- Data entered once in integrated system then used many times in linked end-to-end business processes
- Reduces manual intervention = reduced costs
- Improves records management and document tracking
- Process visibility from end-to-end

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> System Development</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Software and architecture development</p> <p><b>FY 2010 Accomplishments:</b> Software and architecture development for Procure to Pay (P2P)</p>	<p>1.777</p> <p>0</p>	<p>-</p>	<p>-</p>
<p><b>Title:</b> Small Business Innovative Research/Small Business Technology Transfer Program</p> <p style="text-align: right;"><b>Articles:</b></p>	<p>0.015</p> <p>0</p>	<p>-</p>	<p>-</p>

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> M05: <i>Enterprise Army Workload &amp; Performance Sys (eAWPS)</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Description:</b> Small Business Innovative Research/Small Business Technology Transfer Program			
<b>FY 2010 Accomplishments:</b> Small Business Innovative Research/Small Business Technology Transfer Program			
<b>Accomplishments/Planned Programs Subtotals</b>	1.792	-	-

**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.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>
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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
T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>	0.990	0.584	0.664	-	0.664	-	-	-	-	0.000	2.238
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Virtual Interactive Processing System (VIPS) will modernize and automate the Information Technology (IT) capabilities for qualifying Applicants into the Military Service during wartime, peacetime, and mobilization. VIPS will enable a responsive, flexible and efficient means to qualify Applicants to meet manpower resource requirements for the uniformed Services, Coast Guard, and National Guard routine and contingency operations. VIPS will be the future accessioning system to be used by the US Military Entrance Processing Command (USMEPCOM) which serves as the single entry point for determining the physical, aptitude, and conduct qualifications of candidates for enlistment. VIPS will provide the capability to electronically acquire, process, store, secure, and seamlessly share personnel data across the Accessions Community of Interest (ACOI). When fully implemented, VIPS will reduce the cycle time required to induct enlistees to meet the needs of Homeland Defense, reduce the number of visits to the Military Entrance Processing Stations (MEPS), reduce manual data entry errors, and reduce attrition through better pre-screening practices. The implementation of a Service Oriented Architecture (SOA) approach will enable accession data to be securely available to applicants and ACOI partners such as Recruiting and Training Commands, Defense Manpower Data Center (DMDC), Military Health System, Human Resource Management (HRM), and Defense Travel Management Office (DTMO). VIPS will support compliance with DoD direction for a net-centric environment and take advantage of automated data capture technology, e.g., medical equipment with the capability to capture and electronically transmit exam results. The accessioning system of the future will be location independent, virtually paper-free, and automated to assist with bringing the right people at the right time to operational commanders. On November 1, 2008, the DoD Business Transformation Agency (BTA) assumed program lead.

FY12 Base funding supports USMEPCOM project transformation of VIPS.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Project Support	0.966	0.584	0.664
<b>Articles:</b>	0	0	
<b>Description:</b> Funding will support the following effort			
<b>FY 2010 Accomplishments:</b> The Virtual Interactive Processing System (VIPS) will modernize and automate the Information Technology (IT) capabilities			
<b>FY 2011 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
The Virtual Interactive Processing System (VIPS) will modernize and automate the Information Technology (IT) capabilities				
<b>FY 2012 Plans:</b> The Virtual Interactive Processing System (VIPS) will modernize and automate the Information Technology (IT) capabilities				
<b>Title:</b> SBIR/SBTT				
<b>Description:</b> Funding will support the following effort				
<b>FY 2010 Accomplishments:</b> Small Business Innovative Research/Small Business Technology Transfer Program				
		<b>Articles:</b>	0.024 0	- -
<b>Accomplishments/Planned Programs Subtotals</b>		0.990	0.584	0.664
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>D. Acquisition Strategy</b>				
<p>VIPS will be acquired using an incremental acquisition strategy to develop and field the system in multiple increments. Increments will be developed to meet user requirements and place a capability in the hands of the stakeholders as early as possible. The incremental development strategy will allow for opportunities to align VIPS engineering and development with the ongoing deployment of other Service modernization projects such as Defense Travel System (DTS), Armed Forces Health Longitudinal Technology Application (AHLTA), Internet Computerized Adaptive Testing (ICAT), and Defense Integrated Military Human Resources System (DIMHRS), promoting incorporation of existing systems into the VIPS solution and mitigate program costs. Requirements will be based on the industry's capabilities discovered through market sampling and review of technology and systems conducted by PEO-EIS (IMS-A/USMEPCOM), Business Transformation Agency (BTA) and the ACOI.</p> <p>In accordance with the incremental acquisition strategy, the program will complete Milestones B and C in stages that correspond to three major increments. Milestone B for Increment 1.0 will be completed by the end of FY 2010. Completion of Milestone B for Increment 1.0 will ensure start of Engineering and Manufacturing Development Phase in FY 2011. The Milestone C for Increment 1.0 will be completed in FY 2011.</p> <p>Following the successful acceptance of the Increment 1.0 Initial Operational Test &amp; Evaluation (OT&amp;E) in FY 2011, the system deployment will provide a functional baseline and Initial Operational Capability (IOC) early in the program life cycle. Subsequent to deployment of Increment 1.0, Increment 2.0 will be developed. Milestone B for Increment 2.0 will be completed in FY 2012 and Milestone C for Increment 2.0 will be completed in FY 2012. Increment 2.0 will be deployed in FY 2012/2013. Increment 3.0 development and deployment will occur in FY 2013. Final Full Operational Capability (FOC) scheduled for the end of FY 2013 following completion of a Final Operational Test &amp; Evaluation (FOT&amp;E) to verify that functional capability requirement have been fulfilled and that the system is operationally effective.</p>				

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0605013A: <i>Information Technology Development</i>	T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>

VIPS will be acquired using a full and open competitive contracting strategy using performance based contracting and will include Earned Value Management (EVM). BTA's VIPS Program Office will employ rigorous cost controls using a comprehensive risk management program to ensure development and deployment of a managed solution that meets USMEPCOM and ACOI requirements and fulfills identified capability gaps.

**E. Performance Metrics**

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

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>
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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
T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>	21.178	6.849	7.145	-	7.145	4.168	4.257	4.279	4.318	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Adapt/improve/install/field government off the shelf (GOTS), commercial off the shelf (COTS), and new software to perform various tasks in a networked environment such as data warehousing, force management, personnel, installation and environmental databases and applications to support Business System Transformation and Installation Management.

The Army Human Resources Command (HRC) has modernization requirements to add to new capabilities to current IT systems in a sustainment mode. To add these new capabilities, RDT&E funds must be utilized. Currently systems that require these funds for modernization at HRC include: the Army Selection Board System (ASBS), the Officer Selection Support System (OSSS), the Promotion Point Worksheet (PPW), and the GoArmy Ed system. These funds will be aligned against these systems to provide new capabilities as required.

The Program Planning Budget (PPB)- Business Operating System (BOS) will standardize and better integrate the transactional automated information systems used in the HQDA level programming and budgeting processes. These systems are core to the PPBE business processes of the HQ for gathering programmatic requirements, balancing resources and delivering the Army's program budget to OSD. This project is streamlining programming and budgeting processes and significantly improving strategic analysis capabilities. The project is architecting, reengineering, streamlining and consolidating HQDA systems, feeder data base systems, and streamlining the associated processes. These improvements will improve capability eliminate redundancies and reduce overall cost of operations. The PPB BOS project is complementary to the Army's General Fund Enterprise Business System (GFEBS) program.

The Criminal Information Management System (CIMS) is a collection of mission essential information technology (IT) systems within the Criminal Investigation Command (CIDC). It comprises a case management system that includes criminal intelligence querying and reporting capabilities in compliance with regulatory and policy standards for Army Law Enforcement. Connectivity to many CIMS applications occurs through client/server access points that require agents to download program software and coordinate with garrison administrators for installation before being able to access information. Typically client/server applications work well in CONUS-based garrison networks, but are excessively slow in forward deployed locations due to their network hogging bandwidth requirements. Requested RDTE funds are for accelerated development, testing and deployment of a secured web-based platform that will no longer require program software to be downloaded to individual computers and will increase access to information for Special Agents deployed to theater.

The Laboratory Information Management System (LIMS) is a web-based software system used at the United States Army Criminal Investigation Laboratory (USACIL) at Fort Gillem, GA for the management of casework and tracking of all evidence received and processed. The USACIL requires RDT&E funding to complete the configuration, installation and validation of additional LIMS modules in support of forensics (to include the Materials Management, Equipment Management, Proficiency Testing, Training and Crime Scene support); and, to support the development, configuration and implementation of an Expeditionary Forensics Laboratory Information

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>
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Management System (eLIMS) in theater. The eLIMS is the conduit between the deployed labs and the laboratory located at Ft. Gillem. The eLIMS would provide the forensic analysts with the ability to collect, track, store and analyze evidence collected from battlefield crime scenes at required competency levels of testing and calibration. It will allow the results to be electronically maintained and transmitted to the permanent physical lab at Ft. Gillem, Ga. In addition, the system would afford the analysts electronic access to shared case management and evidence databases at the LAB from their deployed positions. At the current configuration of LIMS from CONUS locations, transmission of case related information can be processed in real time; however, transmission of case related information in theater takes approximately 1-2 hours. If requirements are not funded, the USACIL will not be able to complete and implement the additional forensic modules for the core LIMS or develop and implement the eLIMS for the deployable labs. The stated objective will be delayed, resulting in a less than efficient process for handling of cases in theater and an inability to meet acceptable levels of turnaround time for casework.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Army Business System Modernization Initiatives</p> <p><b>Articles:</b></p>	21.178 0	6.849 0	7.145
<p><b>Description:</b> The Army Human Resources Command (HRC) modernization requirements will add new capabilities to legacy IT systems that support human resource functions such as organization and position management, training, and employment. The PPB BOS system standardize and integrate the transactional information systems used in the Headquarters Department of Army (HQDA) Programming and Budgeting processes. The program is streamlining programming and budgeting business processes and significantly improving strategic analysis capabilities. The PPB BOS architecture reengineers, streamlines, and consolidates HQDA systems and financial feeder systems; aligns to the DoD Business Enterprise Architecture (BEA); implements powerful business intelligence analytical tools to support strategic planning, programming, and budgeting within HQDA; and provides access to GFEBS funds management and execution data through system interfaces with required SFIS compliancy integral to the PPB BOS data model. The CIMS program will provide criminal intelligence querying and reporting capabilities in compliance with regulatory and policy standards for Army Law Enforcement regarding investigation of felony crimes. CIMS will captures criminal case investigative information regarding incidents, location descriptors, entities (name, social security number, rank, title, physical characteristics, sex, birth place, and date), agent assignment, crime description and identifiers, statements, property data, laboratory tests; verifies and stores this data for criminal intelligence purposes: and reports this information to the proper authorities from the Division Commanding Officer to the United States Grand Jury. The system will extract necessary data for consolidation and input to Defense Incident-Based Reporting System (DIBRS) monthly reports, National Incident-Based Reporting System (NIBRS) monthly reports and the Defense Clearance and Investigations Index (DCII) daily updates. The LIMS system will automate business processes that support the forensic examiners. These processes include, but are not limited to, analytics, materials management, management reporting, Freedom of Information Act requests (FOIA), legal discovery request, court preparation and outsource processing.</p> <p><b>FY 2010 Accomplishments:</b></p>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605013A: <i>Information Technology Development</i>	<b>PROJECT</b> T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>Started the initial deployment of the enterprise -level PPB BOS application to improve operations, reduce workload, expand data visibility, and transfer budget data to the Army's financial enterprise resource system the General Fund Enterprise Business System.</p> <p><b>FY 2011 Plans:</b> Continued deployment and final fielding of the enterprise-level PPB BOS application throughout HQDA and the transfer of budget data to the Army's financial enterprise resource system, the General Fund Enterprise Business System. Field the full operating capability of the Army Mapper system, which is the Army Geospatial data base of record and the HQDA repository for all Installation &amp; Environment related geo-spatial data systems.</p> <p><b>FY 2012 Plans:</b> Complete development of the enterprise-level PPB BOS application throughout HQDA and the transfer of budget data to the Army's financial enterprise resource system, the General Enterprise Business System. Start the development, configuration, and implementation of the Criminal Information Management system (CIMS) and the Laboratory Information Management System (LIMS) to support the administrative requirements for law enforcement management within the Criminal Investigation Command (CIDC). Army Human Resources Command will update and add new capabilities to several IT systems currently in sustainment, which includes the Army Selection Board system, the Officer Selection Support system, the Promotion Point Worksheet, and the Go Army Education system.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	21.178	6.849	7.145

**C. Other Program Funding Summary (\$ in Millions)**  
N/A

**D. Acquisition Strategy**  
Modernize IT legacy systems across Army IT domains by adapting/improving government off the shelf (GOTS), commercial off the shelf (COTS), and new software development to perform various tasks in a networked environment. These efforts include the Army Selection Board System (ASBS), the Officer Selection Support System (OSSS), the Promotion Point Worksheet (PPW), the ArmyGoEd system, the Criminal Information Management System (CIMS), the Laboratory Information Management System (LIMS), and the Program Planning Budget Execution (PPBE) - Business Operating System (BOS).

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



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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	100.500	68.693	-	68.693	53.968	64.534	-	-	0.000	287.695
HR5: <i>ARMY INTEG MILITARY HUMAN RESOURCES SYS (A-IMRS)</i>	-	100.500	68.693	-	68.693	53.968	64.534	-	-	0.000	287.695

**A. Mission Description and Budget Item Justification**

The Army Integrated Military Human Resources System (A-IMHRS) will provide the Army with an integrated, multi-component, personnel and pay system. The system will streamline Army Human Resources (HR), enhancing the efficiency and accuracy of Army personnel and pay procedures. A-IMHRS will provide each Service member with a single, comprehensive record of service that will feature a self-service capability that allows the Service member to update selected personal information. HR Specialists, Commanders and others will have access to Soldiers' personnel and pay information as required to support their decisions and responsibilities across the Army. This web-based HR tool will be available 24 hours a day.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	-	100.500	68.600	-	68.600
Current President's Budget	-	100.500	68.693	-	68.693
Total Adjustments	-	-	0.093	-	0.093
• Congressional General Reductions					
• Congressional Directed Reductions					
• Congressional Rescissions	-	-			
• Congressional Adds					
• Congressional Directed Transfers					
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.093	-	0.093

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>				<b>PROJECT</b> HR5: <i>ARMY INTEG MILITARY HUMAN RESOURCES SYS (A-IMRS)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
HR5: <i>ARMY INTEG MILITARY HUMAN RESOURCES SYS (A-IMRS)</i>	-	100.500	68.693	-	68.693	53.968	64.534	-	-	0.000	287.695
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

Please note the name of Army Integrated Military Human Resources System (A-IMHRS) has changed to Integrated Personnel and Pay System - Army (IPPS-A) effective 22 September, 2010. IPPS-A will more accurately identify the program as the military personnel and pay solution for the Army.

The Army Integrated Military Human Resources System (A-IMHRS) /Integrated Personnel and Pay System - Army (IPPS-A) provides the Army with an integrated, multi-component, personnel and pay system which streamlines Army Human Resources (HR), enhances the efficiency and accuracy of Army personnel and pay procedures, and supports soldiers and their families. A-IMHRS /IPPS-A will subsume approximately 70 Army legacy systems across the Army, Army Reserve, and National Guard, into one integrated system. A-IMHRS /IPPS-A will be a web-based tool, available 24 hours a day, accessible to HR professionals, combatant commanders, personnel and pay managers, and other authorized users throughout the Army. A-IMHRS/ IPPS-A addresses major deficiencies in the delivery of military personnel and pay services and also provides internal controls and audit procedures that prevent erroneous payments and loss of funds.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Analysis and Design, Development, and Integration of IPPS-A	-	100.500	68.693
<b>Articles:</b>		0	
<b>Description:</b> Funding is provided for the following efforts:			
<b>FY 2011 Plans:</b> Efforts associated with the delivery of a fully integrated system which includes the following major activities: Fit/Gap, requirements decomposition, Preliminary Design Review, Critical Design Review, development environments/ data centers build out, development of configuration, customization, and integration, unit level testing, product level testing, data conversion, interface conversion, security (roles & permissions, provisioning, GRC, DIACAP), reports and queries.			
<b>FY 2012 Plans:</b> In FY2012, A-IMHRS/IPPS-A will complete system Design, Development, and Integration efforts as well as System Development Testing for Release 1. In Q3 FY2012, the Program will begin Government Acceptance Testing. In addition, A-IMHRS/IPPS-A will engage in multiple other activities related to system development and deployment, including the build-out of the Production			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	<b>PROJECT</b> HR5: <i>ARMY INTEG MILITARY HUMAN RESOURCES SYS (A-IMRS)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
environment and data centers; training of test participants; deployment planning; data conversion; interface conversion; security planning; reports and queries; and development of all program Milestone C documentation.			
<b>Accomplishments/Planned Programs Subtotals</b>	-	100.500	68.693

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• 0308610A: <i>OMA - Army Integrated Military Human Resources System (A-IMHRS)</i>								66.799	65.003	0.000	196.805

**D. Acquisition Strategy**

On September 8, 2009, the USD(AT&L) issued an Acquisition Decision Memorandum (ADM) directing the Services to develop Service-specific integrated personnel and pay systems (IPPSs). The ADM also directed the Services to use the DIMHRS IT Investment to the maximum extent practical to develop their IPPS from a DoD program to a Service specific program. As a result of this decision, on October 1, 2009, the DoD Business Transformation Agency (BTA) began to transition the work done on DIMHRS to the Services. The Army G-1 and Program Executive Office Enterprise Information Systems (PEO EIS) are partnered to develop the Integrated Personnel and Pay System - Army (IPPS-A), leveraging the IT investment to the maximum extent practical. This new direction for the program will ensure the system meets Army specific requirements while also feeding a planned DoD Enterprise Data Warehouse to satisfy joint Services and Office of the Secretary of Defense (OSD) information requirements. The Army will address personnel and pay management requirements by implementing a COTS Enterprise Resource Planning (ERP) product using the Oracle PeopleSoft software and building on the DIMHRS solution delivered by BTA.

Army intends to design, develop, and implement IPPS-A using the enterprise DIMHRS IT Investment initially developed by the BTA and transitioned to the Services beginning in October 2009. The Army will build out the Army-specific attributes and functionality of the DIMHRS personnel and pay system to develop an integrated, Army-specific system. As part of this strategy, IPPS-A will be built using commercial-off-the-shelf (COTS) Enterprise Resource Planning (ERP) software, upgrading the DIMHRS IT Investment platform to the latest version of PeopleSoft (v9.1), and migrating the DIMHRS environment to an Army Data Center. The Army anticipates approval of a Defense Acquisition Milestone (MS) B in Q2 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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	<b>PROJECT</b> HR5: <i>ARMY INTEG MILITARY HUMAN RESOURCES SYS (A-IMRS)</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management Contract Support	C/FP	Booz Allen Hamilton INC.:Mclean, VA	-	11.000		5.000		-		5.000	Continuing	Continuing	Continuing
In-house Government Management Support	Allot	Program oversight, resource justification, budget and programming, milestone and schedule tracking:Alexandria, VA	-	-		3.000		-		3.000	Continuing	Continuing	Continuing
Independent Verification and Validation (IV&V)	C/FP	Capgemini Government Solutions LLC:Herndon, VA	-	-		2.000		-		2.000	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	11.000		10.000		-		10.000			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Design, Development, and Integration	C/CPAF	Northrop Grumman Information Technology:Mclean, VA	-	68.500		20.000		-		20.000	Continuing	Continuing	Continuing
Software Licenses	SS/FP	Various:Various	-	4.000		10.000		-		10.000	Continuing	Continuing	Continuing
In-house contract support of system development	C/FP	Booz Allen Hamilton INC.:Mclean, VA	-	13.000		19.263		-		19.263	Continuing	Continuing	Continuing
Oracle Consulting Service	C/FFP	Oracle America INC.:Redwood City, CA	-	2.000		2.930		-		2.930	Continuing	Continuing	Continuing
Network Support	MIPR	Network support from various activities:Various	-	2.000		3.100		-		3.100	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	89.500		55.293		-		55.293			



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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	<b>PROJECT</b> HR5: <i>ARMY INTEG MILITARY HUMAN RESOURCES SYS (A-IMRS)</i>
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	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
Release I (R1)																												
Design, Development, and Integration																												
System Development Test																												
GAT																												
OT & E																												
Deployment																												
Operations and Support																												
Release II (R2)																												
Development and Integration - R2																												
Integrated Development and Operational Test - R2																												
Deployment - R2																												
Operations and Support - R2																												
Release III (R3)																												
Development and Integration - R3																												
Integrated Development and Operational Test - R3																												
Deployment - R3																												
Operations and Support - R3																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	<b>PROJECT</b> HR5: <i>ARMY INTEG MILITARY HUMAN RESOURCES SYS (A-IMRS)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Release I (R1)	1	2011	2	2014
Design, Development, and Integration	1	2011	1	2012
System Development Test	3	2011	2	2012
GAT	3	2012	1	2013
OT & E	1	2013	3	2013
Deployment	3	2013	2	2014
Operations and Support	3	2013	2	2014
Release II (R2)	2	2013	3	2014
Development and Integration - R2	2	2013	4	2013
Integrated Development and Operational Test - R2	4	2013	2	2014
Deployment - R2	3	2014	3	2014
Operations and Support - R2	3	2014	3	2014
Release III (R3)	4	2013	4	2014
Development and Integration - R3	4	2013	2	2014
Integrated Development and Operational Test - R3	2	2014	3	2014
Deployment - R3	4	2014	4	2014
Operations and Support - R3	4	2014	4	2014

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	118.459	130.340	127.095	-	127.095	136.284	108.591	56.019	56.677	Continuing	Continuing
JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>	118.459	130.340	127.095	-	127.095	136.284	108.591	56.019	56.677	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Joint Air-to-Ground Missile (JAGM) is an air-launched missile system that provides advanced line-of-sight (LOS) and beyond-line-of-sight (BLOS) capabilities, including precision point and fire-and-forget (active and passive) seeker targeting technologies; increased range; and increased lethality against soft and hardened moving and stationary targets. The system will be used with fixed-wing aircraft, rotary-wing aircraft, and unmanned aircraft systems (UAS).

The JAGM System will replace aviation-launched TOW, the HELLFIRE family of missiles, and the Navy's Maverick family of missiles. JAGM is a joint program with the Army, Navy, and United States Marine Corps that addresses rotary/fixed wing and UAS requirements. The Army is funding common missile development and integration to Army unique platforms with the Navy funding their platform integration requirements. The Super Hornet (F/A 18E/F), the Apache (AH-64D), and the Super Cobra (AH-1Z) are threshold platforms with integration by Milestone C (FY15) and Initial Operational Capability (IOC) beginning in FY17. Other threshold platforms are the Seahawk (MH-60R), Extended Range Multi Purpose (ERMP) UAS (MQ-1C), and the Army OH-58 Cockpit and Sensor Upgrade Program (CASUP). Integration timelines for MH-60R, MQ-1C ERMP and the OH-58 CASUP is FY15 and will be updated prior to Milestone B as those programs mature. JAGM will increase the Warfighter's operational flexibility by effectively engaging a variety of stationary and mobile targets on the battlefield, including advanced heavy/light armored vehicles, bunkers, buildings, patrol craft, command and control vehicles, transporter/erector (e.g., SCUD) launchers, artillery systems, and radar/air defense systems. Its tri-mode seeker will provide robust capability in adverse weather, day or night, and in an obscured/countermeasure environment, against both stationary and moving targets. JAGM supports more efficient logistics for expeditionary force tailoring by replacing several missile variants with a single, interoperable weapon. The warhead is designed for high performance against both armored and non-armored targets. This missile allows battlefield resupply flexibility in a variety of environments, thereby minimizing the logistics burden of the combat force. The JAGM System includes missile, trainers, containers, support equipment, and launcher modifications.



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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	126.775	130.340	127.534	-	127.534
Current President's Budget	118.459	130.340	127.095	-	127.095
Total Adjustments	-8.316	-	-0.439	-	-0.439
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-4.066	-			
• SBIR/STTR Transfer	-4.250	-			
• Adjustments to Budget Years	-	-	-0.439	-	-0.439

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	<b>PROJECT</b> JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>
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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
JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>	118.459	130.340	127.095	-	127.095	136.284	108.591	56.019	56.677	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Not applicable for this item.

**A. Mission Description and Budget Item Justification**

The Joint Air-to-Ground Missile (JAGM) is an air-launched missile system that provides advanced line-of-sight (LOS) and beyond-line-of-sight (BLOS) capabilities, including precision point and fire-and-forget (active and passive) seeker targeting technologies; increased range; and increased lethality against soft and hardened moving and stationary targets. The system will be used with fixed-wing aircraft, rotary-wing aircraft, and unmanned aircraft systems (UAS).

The JAGM System will replace aviation-launched TOW, the HELLFIRE family of missiles, and the Navy's Maverick family of missiles. JAGM is a joint program with the Army, Navy and United States Marine Corps that addresses rotary/fixed wing and UAS requirements. The Army is funding common missile development and integration to Army unique platforms with the Navy funding their platform integration requirements. The Super Hornet (F/A 18E/F), the Apache (AH-64D), and the Super Cobra (AH-1Z) are threshold platforms with integration by Milestone C (FY15) and Initial Operational Capability (IOC) beginning in FY17. Other threshold platforms are the Seahawk (MH-60R), Extended Range Multi Purpose (ERMP) UAS (MQ-1C), and the Army OH-58 Cockpit and Sensor Upgrade Program (CASUP). Integration timelines for MH-60R, MQ-1C ERMP and the OH-58 CASUP is FY15 and will be updated prior to Milestone B as those programs mature. JAGM will increase the Warfighter's operational flexibility by effectively engaging a variety of stationary and mobile targets on the battlefield, including advanced heavy/light armored vehicles, bunkers, buildings, patrol craft, command and control vehicles, transporter/erector (e.g., SCUD) launchers, artillery systems, and radar/air defense systems. Its tri-mode seeker will provide robust capability in adverse weather, day or night, and in an obscured/countermeasure environment, against both stationary and moving targets. JAGM supports more efficient logistics for expeditionary force tailoring by replacing several missile variants with a single, interoperable weapon. The warhead is designed for high performance against both armored and non-armored targets. This missile allows battlefield resupply flexibility in a variety of environments, thereby minimizing the logistics burden of the combat force. The JAGM System includes missile, trainers, containers, support equipment, and launcher modifications.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Preliminary Design Review (PDR)	24.308	-	-
<b>Articles:</b>	0		
<b>Description:</b> Both JAGM contractors held PDRs in June 2010.			
<b>FY 2010 Accomplishments:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	<b>PROJECT</b> JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
PDR actions are closed.				
<p><b>Title:</b> Prototype Flights</p> <p><b>Description:</b> During Technology Demonstration (TD) contract execution, the contractors were required to complete a Preliminary Design Review (PDR) for a system that meets the JAGM Performance Specification and to build and fly prototype missiles to demonstrate integration of the critical technologies.</p> <p><b>FY 2010 Accomplishments:</b> TD Phase missile test flights completed September 2010.</p>		<p><b>Articles:</b></p> <p>35.205 0</p>	-	-
<p><b>Title:</b> Software Simulation Algorithm Maturity</p> <p><b>Description:</b> The program will use a Modeling and Simulation (M&amp;S) strategy that provides an Integrated Flight Simulation (IFS), a software test station, and a high fidelity hardware in the loop simulation facility.</p> <p><b>FY 2010 Accomplishments:</b> The IFS has been developed by both JAGM contractors and preliminary verification activities have begun. Performance assessments of the JAGM contractor's software was completed for the preliminary design review and indicated performance capability above the expected level for this phase of the program.</p> <p><b>FY 2011 Plans:</b> The IFS results will supplement the flight test data to determine system effectiveness during test. The flight test data will support verification and validation by independent agents from the Army and Navy.</p>		<p><b>Articles:</b></p> <p>7.180 0</p>	<p>6.297 0</p>	-
<p><b>Title:</b> Design Verification Test (DVT)/Engineering Development Test (EDT)</p> <p><b>Description:</b> The contractor will conduct design verification testing and component qualification testing leading to a Critical Design Review (CDR).</p> <p><b>FY 2010 Accomplishments:</b> Initial DVT component tests complete. TD phase Engineering Development Tests initiated missile test flights Jun 2010. Contractor tests were completed Sep 2010.</p> <p><b>FY 2011 Plans:</b></p>		<p><b>Articles:</b></p> <p>38.984 0</p>	<p>45.286 0</p>	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	<b>PROJECT</b> JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
DVT and EDT activities include government component testing, test-planning, range coordination, and missile integration testing to further reduce EMD risk.				
<p><b>Title:</b> Apache Integration</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Integration activities will be addressed in the JAGM Platform Integration Plan. The Plan identifies Apache integration participants, scope and schedule of integration activities.</p> <p><b>FY 2010 Accomplishments:</b> Proposed software interface changes have been submitted by JAGM contractors and platform fit checks have been completed during the TD Phase.</p> <p><b>FY 2011 Plans:</b> Apache integration in FY11 will develop, control, and maintain the interfaces between the JAGM missile and Apache platform.</p>		5.210 0	10.187 0	-
<p><b>Title:</b> Milestone B</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> JAGM system will successfully demonstrate exit criteria meeting entrance requirements for MS B.</p> <p><b>FY 2010 Accomplishments:</b> MS B documentation is on schedule.</p> <p><b>FY 2011 Plans:</b> MS B is scheduled for 3rd Qtr FY11.</p>		7.572 0	5.047 0	-
<p><b>Title:</b> Development Activities to Support Critical Design Review (CDR)</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> During the 48-month EMD phase, the JAGM prime contractor will complete all major component and subsystem CDRs, System CDR, and testing and platform integration activities with the Platform primes on the AH-64D, AH-1Z, F/A-18E/F, and platform integration designs for the MH-60R, MQ-1C, and OH-58 CASUP.</p> <p><b>FY 2011 Plans:</b> Prime contractor begins design activities and component qualification testing 4th Qtr FY11.</p>		-	38.518 0	-
<p><b>Title:</b> Enter Engineering Manufacturing, and Development (EMD) Phase</p> <p align="right"><b>Articles:</b></p>		-	25.005 0	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	<b>PROJECT</b> JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2010</b>
<b>Description:</b> JAGM EMD is further divided into two sub-phases: a 15-month Integrated System Design and a 33-month System Capability and Manufacturing Process Demonstration. The first of these sub-phases culminates in a successful CDR and the latter with MS C.			
<b>FY 2011 Plans:</b> Contract award is scheduled 4th Qtr FY11 for a 48 month development effort.			
<b>Title:</b> Component Qualification			
<b>Description:</b> A cornerstone of the EMD phase includes completing all component qualifications prior to entering System Critical Design Review (CDR). Component qualification will give the JAGM program an accurate assessment of the JAGM system's maturity design before entering the system environmental qualification phase and pilot production line activities.			
<b>FY 2012 Plans:</b> Complete the majority of component qualification prior to CDR.			
<b>Title:</b> Subsystem/System Critical Design Review (CDR)			-
<b>Description:</b> Accomplish major component and subsystem CDR, System CDR, and testing and platform integration activities with the Platform primes. System CDR is further enhanced by requiring demonstrated maturity of the tactical software to 90% of all software traced requirements prior to entry of System CDR.			
<b>FY 2012 Plans:</b> Complete major component and subsystem CDR, testing, and platform integration activities.			
<b>Title:</b> Integrated Baseline Review (IBR)			-
<b>Description:</b> JAGM Product Office and Prime Contractor will review the entire EMD scope of technical work (SOW and SOO). The JAGM IBR team and prime will develop and implement the technical plan. This will lead to an assessment of JAGM technical risk and allocation of resources necessary to meet the technical requirements within the schedule.			
<b>FY 2012 Plans:</b> JAGM IBR team conducts Performance Measurement Baseline reviews, which tracks the Budgeted Cost of Work Scheduled. The team will conduct reviews with the prime.			
<b>Title:</b> Sub-System Qualification			-
			-
			55.105
			47.803
			4.045
			8.303

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	<b>PROJECT</b> JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b>Description:</b> The JAGM PO will conduct subsystem performance and qualification testing with the JAGM System launcher, missile and software installed on AH-64D Blk II, AH-1Z, F/A-18E/F platforms.</p> <p><b>FY 2012 Plans:</b> The JAGM Product Office will prepare for subsystem performance and qualification testing with the JAGM System launcher, missile and software installed on AH-64D Blk II, AH-1Z, and F/A-18E/F platforms.</p>			
<p><b>Title:</b> Platform Integration</p> <p><b>Description:</b> The contractor will initiate platform integration during EMD, the contractor initiated activities on the MS-C Threshold Platforms to include characterization of F/A-18E/F flying qualities. The scope of EMD includes platform integration activities. During EMD, the JAGM system will perform integration on all six threshold platforms. Platform integration activities will occur in two distinct phases for the six JAGM threshold platforms. During EMD, integration of the JAGM system will be completed on the F/A-18E/F, AH-64D, and AH-1Z platforms to support the MS C decision. While some integration efforts on the remaining threshold platforms may begin prior to MS C, completion of the integration of the remaining threshold platforms, MH-60R, OH-58 CASUP, and MQ-1C will occur subsequent to MS C. This approach does create a level of overlap between the LRIP phase and platform integration on the second group of threshold platforms.</p> <p><b>FY 2012 Plans:</b> Prepare for initial JAGM missile system platform integration.</p>	-	-	11.839
<b>Accomplishments/Planned Programs Subtotals</b>	118.459	130.340	127.095

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• C70302: <i>Joint Air-to-Ground MSLS (JAGM)</i>							5.496	96.213	97.886	Continuing	Continuing
• PE:: <i>Navy RDTE</i>	61.762	100.846	118.395		118.395		129.651	61.629	34.147	Continuing	Continuing
• SSN:: <i>Navy Procurement</i>							9.869	166.722	174.673	Continuing	Continuing

**D. Acquisition Strategy**

The JAGM System is an ACAT 1D Joint Army/Navy/USMC program with the Army designated as lead service. The JAGM system is a common air-to-ground precision guided missile for use by Joint Service manned and unmanned aircraft to destroy high-value stationary, moving, and relocateable land and naval targets. JAGM provides current and future aviation platforms a common, multi-mode weapon, with reactive targeting capability, which satisfies the sum of needs across

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>

the joint platforms and eliminates the requirement for separate upgrades to multiple existing missile systems. The JAGM program has four phases: a Technology Demonstration (TD) phase including system integration and PDR, an Engineering Manufacturing, and Development (EMD) phase, a Production & Deployment (PD) phase, and an Operations & Support phase. Following solicitation and formal source selection, the government competitively awarded Fixed Price Incentive (FPI) contracts (with full cost reporting) to two contractors for the 27-month TD phase. The TD phase culminated with PDR and competitive fly-off of the contractor's prototype missiles. Milestone B has been adjusted to 3QFY11 to account for delays in approval of Milestone B documentation. The TD contractors will be asked to submit proposals for the EMD and Low Rate Initial Production (LRIP) phases. A source selection process will evaluate the contractor's proposals for the EMD and LRIP portion of the PD phases. Offeror's plans to facilitate competition during the PD phase will be considered during the evaluation process for the EMD contract. The government plans to award a single contract for the 48-month EMD phase, including an option for Advance Procurement items to support the follow-on LRIP portion of the PD phase. Fixed Price Type contracts are planned for the PD phase (LRIP and full rate production (FRP)).

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	<b>PROJECT</b> JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
System Eng/ Project Management	C/FP	Various:Various	6.359	7.793		7.520		-		7.520	Continuing	Continuing	Continuing
<b>Subtotal</b>			6.359	7.793		7.520		-		7.520			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Raytheon	C/FP	Tucson, Arizona:TD Prime Contract	50.000	-		-		-		-	Continuing	Continuing	Continuing
Lockheed Martin	C/FP	Orlando, Florida:TD Prime Contract	48.710	-		-		-		-	Continuing	Continuing	Continuing
Support Contracts	C/FP	Various:NA	5.328	10.290		7.742		-		7.742	Continuing	Continuing	Continuing
EMD Prime Contract	C/CPIF	NA:EMD Prime Contract	-	103.654		98.436		-		98.436	Continuing	Continuing	Continuing
Development Engineering	C/FP	Various:NA	2.653	2.963		5.165		-		5.165	Continuing	Continuing	Continuing
<b>Subtotal</b>			106.691	116.907		111.343		-		111.343			

<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Other Gov Agencies	C/FP	Various:Various	1.767	5.640		8.232		-		8.232	Continuing	Continuing	Continuing
<b>Subtotal</b>			1.767	5.640		8.232		-		8.232			

			<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			114.817	130.340		127.095		-		127.095			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>			<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>		<b>PROJECT</b> JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>	

	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
Preliminary Design Review (PDR)		■																										
Milestone B						■																						
Critical Design Review											■																	
Advance Procurement 1																				■								
Milestone C																								■				
Low Rate Initial Production 1																											■	
Advance Procurement 2																												■
Low Rate Initial Production 2																												■

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	<b>PROJECT</b> JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Preliminary Design Review (PDR)	2	2010	2	2010
Milestone B	2	2011	2	2011
Critical Design Review	4	2012	4	2012
Advance Procurement 1	1	2015	1	2015
Milestone C	3	2015	3	2015
Low Rate Initial Production 1	4	2015	4	2015
Advance Procurement 2	1	2016	1	2016
Low Rate Initial Production 2	4	2016	4	2016

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
2040: <i>Research, Development, Test &amp; Evaluation, Army</i>			PE 0605455A: <i>SLAMRAAM</i>								
BA 5: <i>Development &amp; Demonstration (SDD)</i>											
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	23.700	19.931	-	19.931	-	-	-	-	Continuing	Continuing
S35: <i>SLAMRAAM</i>	-	23.700	19.931	-	19.931	-	-	-	-	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM) is an air defense system included in the Army Integrated Air & Missile Defense (IAMD) architecture. SLAMRAAM consists of launcher platforms employing the proven AIM-120-C7 Advanced Medium Range Air-to-Air Missile (AMRAAM); Integrated Fire Control Station (IFCS) command, control, and communications platforms; and Improved Sentinel Radars. SLAMRAAM is a day or night, adverse weather, non-line-of-sight system that counters cruise missiles (CM), unmanned aerial vehicle (UAV), fixed wing and rotary wing threats. SLAMRAAM is mobile and armored which allows it to operate in various combat situations to protect maneuver forces and strategic assets.

The Army's Air and Missiles Defense (AMD) portfolio assessment of the cost-effectiveness of SLAMRAAM capabilities versus competing priorities for capability investments within the AMD portfolio led to an Army recommendation to conduct an orderly conclusion of the SLAMRAAM program. The program will complete prototypes and vehicle integration, developmental testing, limited user testing and demonstrations but will not go into production. The prototypes will allow for provision of an Emergency Operational Capability if required.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	-	23.700	17.800	-	17.800
Current President's Budget	-	23.700	19.931	-	19.931
Total Adjustments	-	-	2.131	-	2.131
• Congressional General Reductions					
• Congressional Directed Reductions					
• Congressional Rescissions	-	-			
• Congressional Adds					
• Congressional Directed Transfers					
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	2.131	-	2.131

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605455A: <i>SLAMRAAM</i>	<b>PROJECT</b> S35: <i>SLAMRAAM</i>
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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
S35: <i>SLAMRAAM</i>	-	23.700	19.931	-	19.931	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

This is the new SLAMRAAM program element for RDTE. All prior year information is located in PE 0604802A (S23).

**A. Mission Description and Budget Item Justification**

Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM) is an air defense system included in the Army Integrated Air & Missile Defense (IAMD) architecture. SLAMRAAM consists of launcher platforms employing the proven AIM-120-C7 Advanced Medium Range Air-to-Air Missile (AMRAAM); Integrated Fire Control Station (IFCS) command, control, and communications platforms; and Improved Sentinel Radars. SLAMRAAM is a day or night, adverse weather, non-line-of-sight system that counters cruise missiles (CM), unmanned aerial vehicle (UAV), fixed wing and rotary wing threats. SLAMRAAM is mobile and armored which allows it to operate in various combat situations to protect maneuver forces and strategic assets.

The Army's Air and Missiles Defense (AMD) portfolio assessment of the cost-effectiveness of SLAMRAAM capabilities versus competing priorities for capability investments within the AMD portfolio led to an Army recommendation to conduct an orderly conclusion of the SLAMRAAM program. The program will complete prototypes and vehicle integration, developmental testing, limited user testing and demonstrations but will not go into production. The prototypes will allow for provision of an Emergency Operational Capability if required.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Development Testing/Operational Testing and Modeling and Simulation for FY11</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> This element includes contractor and government test and evaluation costs.</p> <p><b>FY 2011 Plans:</b> Execution of operational testing (Limited User Testing (LUT)), logistics and maintenance demonstration, developmental testing of prime items to support component qualification.</p>	-	12.400 0	-
<p><b>Title:</b> Product Development - Engineering and Manufacturing Development (EMD) phase contract activities.</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Continue EMD phase contract activities.</p> <p><b>FY 2011 Plans:</b></p>	-	6.300 0	2.658

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605455A: <i>SLAMRAAM</i>	<b>PROJECT</b> S35: <i>SLAMRAAM</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Perform Line Replaceable Units (LRU) design updates and qualification. Conduct a Functional Configuration Audit (FCA) in support of the Milestone C decision. <b>FY 2012 Plans:</b> Complete Line Replaceable Units (LRU) design updates and qualification. Conduct a Manufacturing Readiness Assessment in support of Milestone C.				
<b>Title:</b> System Engineering/Program Management (SE/PM)  <b>Description:</b> CMDS Project Office cost for execution of project management activities to include government lead for execution of Milestone C preparation and program close-out activities. This includes government labor, contractor labor and operating expenses.  <b>FY 2011 Plans:</b> Government PM execution of Engineering and Manufacturing (EMD) activities to support refurbishment of prototypes, redesign and qualification of line replaceable units and conduct of functional configuration audit.  <b>FY 2012 Plans:</b> Government PM execution of Engineering and Manufacturing (EMD) activities to support completion of the refurbishment of prototypes, redesign and qualification of line replaceable units, conduct of physical configuration audit and program close-out activities.		-	5.000 0	7.810
<b>Title:</b> Close Out (Contract, Facilities, Disposition)  <b>Description:</b> Disposition Advanced Procurement of the IFCS. Disposition equipment and shutdown facilities. Shutdown Product Office (personnel, MOAs/MOUs)  <b>FY 2012 Plans:</b> Estimated funding to complete the disposition of equipment and close-out of personnel and facilities.		-	-	9.463
<b>Accomplishments/Planned Programs Subtotals</b>		-	23.700	19.931

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605455A: <i>SLAMRAAM</i>	<b>PROJECT</b> S35: <i>SLAMRAAM</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0604869A: <i>Proj MO6, Patriot/MEADS Combined Aggregate Program (CAP)</i>	570.831	467.139	406.605		406.605					Continuing	Continuing
• SSN C53101: <i>MSE Missile</i>		62.500	88.993		88.993		68.938	63.468	64.215	Continuing	Continuing
• SSN C53201: <i>PATRIOT/MEADS GSE</i>											
• PE 0102419A: <i>Proj E55, JLENS</i>	317.132	372.493	344.655		344.655		58.124	19.717	19.726	Continuing	Continuing
• SSN BZ0525: <i>JLENS Production</i>							501.459	454.966	416.888	Continuing	Continuing
• PE 0604802A: <i>Proj S23, SLAMRAAM</i>	56.441									Continuing	Continuing
• PE 0605455A: <i>Proj S35 SLAMRAAM</i>		23.700	19.931		19.931					Continuing	Continuing
• SSN C81002: <i>SLAMRAAM Launcher</i>		116.732								Continuing	Continuing
• SSN C81004: <i>SLAMRAAM Missile</i>											
• PE 0603305A: <i>Proj TR7, Protection Capability II - Intercept</i>		4.296	21.126		21.126		89.021	92.999	142.738	Continuing	Continuing
• SSN WK5053: <i>FAAD GBS</i>		91.467	7.958		7.958					Continuing	Continuing
• PE 0603327A: <i>Proj S34, AMD System of System Engineering and Integration</i>	164.719									Continuing	Continuing
• PE 0605457A: <i>Proj, S40, Army Integrated Air and Missile Defense (AIAMD)</i>		251.124	270.607		270.607		346.341	298.869	275.651	Continuing	Continuing
• SSN BZ5075: <i>Army IAMD Battle Command System (IBCS)</i>							23.587	100.560	256.855	Continuing	Continuing
• PE 0208053: <i>Proj 635, JOINT TACT GRD STATION-P3I (MIP)</i>	13.189	12.403	27.630		27.630		14.109	7.912	8.039	Continuing	Continuing
• SSN BZ8401: <i>Joint Tactical Ground Station (JTAGS)</i>	6.682	9.279	1.199		1.199		9.740	4.432	4.496	Continuing	Continuing
			83.777		83.777		68.938	63.468	64.215	Continuing	Continuing

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605455A: <i>SLAMRAAM</i>	<b>PROJECT</b> S35: <i>SLAMRAAM</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0605456A: <i>Project PA3, PAC-3/MSE Missile</i>											
• PE 0604820A: <i>Proj E10, SENTINEL</i>			2.890		2.890		1.983	1.968	2.937	Continuing	Continuing
• SSN WK5057: <i>SENTINEL MODS</i>	25.783		41.657		41.657		48.418	46.613	46.463	Continuing	Continuing

**D. Acquisition Strategy**

System Development and Demonstration (SDD) contract was awarded in 2nd Quarter FY04 and completed in Oct 09. The SLAMRAAM program has been restructured to a new platform, the FMTV. Furthermore, SLAMRAAM has a new Program Element for RDTE beginning in FY11 (S35). All prior SLAMRAAM activities are under PE Number 0604802A/S23. Beginning in FY11, SLAMRAAM RDTE effort has been transitioned to this PE.

The Army's Air and Missiles Defense (AMD) portfolio assessment of the cost-effectiveness of SLAMRAAM capabilities versus competing priorities for capability investments within the AMD portfolio led to an Army recommendation to conduct an orderly conclusion of the SLAMRAAM program. The program will complete prototypes and vehicle integration, developmental testing, limited user testing and demonstrations but will not go into production. The prototypes will allow for provision of an Emergency Operational Capability if required.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605455A: <i>SLAMRAAM</i>	<b>PROJECT</b> S35: <i>SLAMRAAM</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Government System Engineering/Program Management	MIPR	Multiple:Multiple	-	5.000		4.480		-		4.480	0.000	9.480	0.000
Contractor Systems Engineering/Program Management	SS/CPFF	Multiple:Multipes	-	-		3.330		-		3.330	0.000	3.330	0.000
<b>Subtotal</b>			-	5.000		7.810		-		7.810	0.000	12.810	0.000

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Government Hardware/ Software Development , Integration & Assessment	MIPR	Multiple:Multiple	-	-		0.260		-		0.260	Continuing	Continuing	0.000
Government Furnished Equipment (GFE)/Systems Engineering Technical Assistance (SETA)	MIPR	Multiple:Multipile	5.000	5.000		-		-		-	Continuing	Continuing	0.000
Contractor Hardware/Software Development	SS/CPFF	Multiple:Multiple	-	1.300		-		-		-	0.000	1.300	0.000
Close-out (Contract, Facilities, Disposition of Equipment and Personnel)	SS/CPFF	Multiple:Multiple	-	-		9.463		-		9.463	0.000	9.463	0.000
Contractor Line Replaceable Unit Qualification and Manufacturing Readiness Assessment	SS/CPFF	Multiple:Multiple	-	-		2.398		-		2.398	0.000	2.398	0.000
<b>Subtotal</b>			5.000	6.300		12.121		-		12.121			0.000

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605455A: <i>SLAMRAAM</i>	<b>PROJECT</b> S35: <i>SLAMRAAM</i>

	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
Functional Configuration Audit																												
Physical Configuration Audit																												
Milestone C Decision																												
Complete Development Testing/Operational Testing																												
Refurb Prototypes																												
Product Development																												
Close Out (C/O) Begins																												
Close Out (C/O) Ends																												
Disposition Advanced Procurement IFCS																												
Disposition Equipment & Shutdown Facilities																												
Shutdown Product Office (Personnel, MOAs/ MOUs)																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605455A: <i>SLAMRAAM</i>	<b>PROJECT</b> S35: <i>SLAMRAAM</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Functional Configuration Audit	3	2011	3	2011
Physical Configuration Audit	4	2011	4	2011
Milestone C Decision	3	2012	3	2012
Complete Development Testing/Operational Testing	1	2011	2	2011
Refurb Prototypes	3	2011	4	2011
Product Development	1	2011	2	2012
Close Out (C/O) Begins	3	2011	3	2011
Close Out (C/O) Ends	4	2012	4	2012
Disposition Advanced Procurement IFCS	3	2011	4	2011
Disposition Equipment & Shutdown Facilities	3	2011	4	2012
Shutdown Product Office (Personnel, MOAs/MOUs)	3	2011	4	2012

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				PE 0605456A: <i>PAC-3/MSE MISSILE</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	62.500	88.993	-	88.993	37.587	68.938	63.468	64.215	Continuing	Continuing
PA3: <i>PAC-3/MSE MISSILE</i>	-	62.500	88.993	-	88.993	37.587	68.938	63.468	64.215	Continuing	Continuing

**Note**

The funding increase of \$26.893 million dollars in FY2012 is for the MSE follow-on test, ground system integration and live fire test and evaluation.

**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.

The PATRIOT Advanced Capability 3 (PAC-3) is the evolution of the phased material change improvement to PATRIOT. It is continuously being improved via hardware and software changes to provide enhanced performance across the spectrum for system and threat intercept performance. The latest missile improvement is the Missile Segment Enhancement (MSE) and has been accepted as the baseline missile for the Medium Extended Air Defense System (MEADS). It is being developed by the U.S. for PATRIOT to meet the U.S. operational requirements. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded software, and insensitive munitions improvements.

Near term efforts to include ground system software evolution to best utilize both the PAC-3 and MSE missile capabilities within the PATRIOT system are being implemented.

The Army is developing an MSE path forward which may impact the projected 4th Qtr FY14 First Unit Equipped (FUE) due to evolving funding limitations and flight test progress. If MSE is delayed, the Army would expect to continue to procure the PAC-3 Missile in FY13.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605456A: <i>PAC-3/MSE MISSILE</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	-	62.500	62.100	-	62.100
Current President's Budget	-	62.500	88.993	-	88.993
Total Adjustments	-	-	26.893	-	26.893
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	26.893	-	26.893

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605456A: <i>PAC-3/MSE MISSILE</i>	<b>PROJECT</b> PA3: <i>PAC-3/MSE MISSILE</i>
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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
PA3: <i>PAC-3/MSE MISSILE</i>	-	62.500	88.993	-	88.993	37.587	68.938	63.468	64.215	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

From 2006 thru 2010, this system was funded under the PATRIOT/MEADS Combined Aggregate Program (CAP) program element: 0604869A.

**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.

The PATRIOT Advanced Capability 3 (PAC-3) is the evolution of the phased material change improvement to PATRIOT. It is continuously being improved via hardware and software changes to provide enhanced performance across the spectrum for system and threat intercept performance. The latest missile improvement is the Missile Segment Enhancement (MSE) and has been accepted as the baseline missile for the Medium Extended Air Defense System (MEADS). It is being developed by the U.S. for PATRIOT to meet the U.S. operational requirements. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded software, and insensitive munitions improvements.

Near term efforts to include ground system software evolution to best utilize both PAC-3 and MSE missile capabilities within the PATRIOT system are being implemented.

The Army is developing an MSE path forward which may impact the projected 4th Qtr FY14 First Unit Equipped (FUE) due to evolving funding limitations and flight test progress. If MSE is delayed, the Army would expect to continue to procure the PAC-3 Missile in FY13.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> MSE upgrades	-	18.940	37.181
<b>Articles:</b>		0	
<b>Description:</b> Funding is provided for the following effort			
<b>FY 2011 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605456A: <i>PAC-3/MSE MISSILE</i>	<b>PROJECT</b> PA3: <i>PAC-3/MSE MISSILE</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
MSE specific qualification activities to include Solid Rocket Motor (SRM), Ignition Safety Device (ISD), canister, Functional Configuraton Audit (FCA). and completion of Guided Test Flight 2 (GTF-2), and MSE corrective action upgrade for future follow-on qualification activities.  <b>FY 2012 Plans:</b> Continues MSE upgrade and qualification activities.			
<b>Title:</b> Program integration efforts  <b>Description:</b> Funding is provided for the following effort  <b>FY 2011 Plans:</b> Implementation of common redesign program integration efforts to support PAC-3/MSE missile improvements for initiation and completion of US operational needs.  <b>FY 2012 Plans:</b> Integration of PAC-3 modernization hardware items in support of MSE follow-on flight tests (task 7.4 and 7.5) and MSE ground system integration.	<b>Articles:</b> -	31.960 0	38.490
<b>Title:</b> Range support for testing, targets, and modeling and simulation  <b>Description:</b> Funding is provided for the following effort  <b>FY 2011 Plans:</b> White Sands Missile Range (WSMR) Engineering support, MSE Live Fire Test and Evaluation (LFTE), hardware and set-up of test activities to prove out test readiness.  <b>FY 2012 Plans:</b> Continues range support for LFTE, modeling and simulation, and MSE follow-on test.	<b>Articles:</b> -	11.600 0	13.322
<b>Accomplishments/Planned Programs Subtotals</b>	-	62.500	88.993

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605456A: <i>PAC-3/MSE MISSILE</i>	<b>PROJECT</b> PA3: <i>PAC-3/MSE MISSILE</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0604869A, Proj M06, PATRIOT/MEAD: <i>PE 0604869A,</i> <i>Proj M06, PATRIOT/MEADS</i> <i>Combined Aggregate Program</i> <i>(CAP)</i>	570.831	467.139	382.772		382.772					Continuing	Continuing
• SSN C53101, MSE Missile: <i>SSN</i> <i>C53101, MSE Missile</i>			74.953		74.953		532.540	487.049	560.099	Continuing	Continuing
• SSN C53201, PATRIOT/MEADS GSE: <i>SSN C53201, PATRIOT/</i> <i>MEADS GSE</i>											
• PE 0102419A, Proj E55, JLENS: <i>PE 0102419A, Proj E55, JLENS</i>	317.132	372.493	344.655		344.655		58.124	19.717	19.726	Continuing	Continuing
• SSN BZ0525, JLENS Production: <i>SSN BZ0525, JLENS Production</i>							501.459	454.966	416.888	Continuing	Continuing
• PE 0604802A, Prpj S23, SLAMRAAM: <i>PE 0604802A, Prpj</i> <i>S23, SLAMRAAM</i>	56.441									Continuing	Continuing
• PE 0605455A, Proj S345 SLAMRAAM: <i>PE 0605455A, Proj</i> <i>S345 SLAMRAAM</i>		23.700	19.931		19.931					Continuing	Continuing
• SSN C81002, SLAMRAAM Launcher: <i>SSN C81002,</i> <i>SLAMRAAM Launcher</i>		116.732								Continuing	Continuing
• SSN C81004, SLAMRAAM Missile: <i>SSN C81004, SLAMRAAM</i> <i>Missile</i>											
• PE 0603305A, Proj TR7, Protection C: <i>PE 0603305A, Proj</i> <i>TR7, Protection Capability II -</i> <i>Intercept</i>		4.296	21.216		21.216		89.021	92.999	142.738	Continuing	Continuing
• SSN WK5053, FAAD GBS: <i>SSN</i> <i>WK5053, FAAD GBS</i>		91.467	7.958		7.958					Continuing	Continuing



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605456A: <i>PAC-3/MSE MISSILE</i>	<b>PROJECT</b> PA3: <i>PAC-3/MSE MISSILE</i>
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**C. Other Program Funding Summary (\$ in Millions)**

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0603327A, Proj S34, AMD System: <i>PE 0603327A, Proj S34, AMD System of System Engineering and Integration</i>	164.719									Continuing	Continuing
• PE 0605457A, Proj S40 Army Integrat: <i>PE 0605457A, Proj S40 Army Integrated Air and Missile Defense (AIAMD)</i>		251.124	254.745		254.745		346.341	298.869	275.651	Continuing	Continuing
• SSN BZ5075, Army IAMD Battle Comman: <i>SSN BZ5075, Army IAMD Battle Command System (IBCS)</i>							23.587	100.560	256.855	Continuing	Continuing
• PE 0208053m Proj 635, Joint Tact Gr: <i>PE 0208053m Proj 635, Joint Tact Grd Station-P3I (MIP)</i>	13.189	12.403	27.630		27.630		14.109	7.912	8.039	Continuing	Continuing
• SSN BZ8401, Joint Tactical Ground S: <i>SSN BZ8401, Joint Tactical Ground Station (JTAGS)</i>	6.682	9.279	1.199		1.199		9.740	4.432	4.496	Continuing	Continuing
• PE 0604820A, Proj E10, SENTINEL: <i>PE 0604820A, Proj E10, SENTINEL</i>			2.721		2.721		1.983	1.968	2.937	Continuing	Continuing

**D. Acquisition Strategy**

The design objective of the PATRIOT system is to provide an element of an integrated Ballistic Missile Defense system capable of being modified to cope with the evolving threat. This strategy minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. PAC-3 system development efforts further improve system capabilities against emerging and reactive threats. The PAC-3 Missile Program focuses on developing, fabricating and testing the high velocity, hit to kill, surface to air missile and associated ground support equipment to provide essential increases in battle space, accuracy, lethality and firepower to counter and destroy evolving air defense threats. The missile performance is demonstrated through a series of flight tests and modeling and simulation activities. The latest missile improvement is the PAC-3 MSE program which provides extended ranges, insensitive munitions enhancements, and greater logistical flexibility. The PAC-3 MSE will be fielded to PATRIOT units and is the baseline missile for MEADS.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605456A: <i>PAC-3/MSE MISSILE</i>	<b>PROJECT</b> PA3: <i>PAC-3/MSE MISSILE</i>

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605456A: <i>PAC-3/MSE MISSILE</i>	<b>PROJECT</b> PA3: <i>PAC-3/MSE MISSILE</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	Various:Huntsville, AL	-	1.003		1.003		-		1.003	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	1.003		1.003		-		1.003			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Missile Segment Enhancement (MSE) - Lockheed Martin Missiles and Fire Control (LMMFC)	C/CPIF	LMMFC:Dallas, TX	-	15.940		17.000		-		17.000	Continuing	Continuing	Continuing
Program Integration	Various	Various:Huntsville, AL	-	19.832		22.454		-		22.454	Continuing	Continuing	Continuing
MSE/PAC-3 Raytheon	Various	Raytheon:Waltham, Massachusetts	-	3.000		18.500		-		18.500	Continuing	Continuing	Continuing
PAC-3 Product Office	Various	PO:Huntsville, Alabama	-	4.997		2.327		-		2.327	Continuing	Continuing	Continuing
SETA Contracts	Various	Various:Huntsville, AL	-	2.380		3.609		-		3.609	Continuing	Continuing	Continuing
U.S. Other Government Agencies (OGAs)	Various	Various:Huntsville, AL	-	3.748		6.200		-		6.200	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	49.897		70.090		-		70.090			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Targets/Threat Simulators	Various	Various:Huntsville, AL	-	1.500		4.000		-		4.000	Continuing	Continuing	Continuing
Modeling and Simulation	Various	Various:Huntsville, AL	-	1.900		1.700		-		1.700	Continuing	Continuing	Continuing
Contractor T&E funding	Various	Various:Huntsville, AL	-	3.100		3.700		-		3.700	Continuing	Continuing	Continuing
Other T&E Funding	Various	WSMR, White Sands, NM/Ft Wingate, White	-	5.100		8.500		-		8.500	Continuing	Continuing	Continuing

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605456A: <i>PAC-3/MSE MISSILE</i>	<b>PROJECT</b> PA3: <i>PAC-3/MSE MISSILE</i>

	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
PDB 7 Fielding - Modernized Adjunct Processor (MAP)																												
Missile Segment Enhancement (MSE) Development																												
MSE Production Decision																												
MSE Production Contract Award																												
PDB 8 Fielding - Radar Digital Processor (RDP)																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605456A: <i>PAC-3/MSE MISSILE</i>	<b>PROJECT</b> PA3: <i>PAC-3/MSE MISSILE</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
PDB 7 Fielding - Modernized Adjunct Processor (MAP)	2	2012	2	2012
Missile Segment Enhancement (MSE) Development	4	2010	1	2013
MSE Production Decision	4	2012	4	2012
MSE Production Contract Award	4	2012	4	2012
PDB 8 Fielding - Radar Digital Processor (RDP)	3	2015	3	2015

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				PE 0605457A: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	251.124	270.607	-	270.607	250.895	346.341	298.869	275.651	Continuing	Continuing
S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	-	251.124	270.607	-	270.607	250.895	346.341	298.869	275.651	Continuing	Continuing

**Note**

FY12 funds realigned (\$936 Thousand) to higher priority requirements.

**Program Issues:**

AIAMD is currently executing FY 2011 under FY 2010 funding levels due to Continuing Resolution Authority (CRA) constraints, which results in program operations at \$85 Million less than the FY 2011 President's Budget. Impacts of year-long CRA funding to AIAMD are:

- Up to 12 month slip to Initial Operational Capability (Current IOC FY 2016)
- Estimated additional cost to the program of up to \$190 Million
- Loss of prime contract (Northrop Grumman) effort (approximately 250 man-years in Alabama)
- IAMD Critical Design Review (CDR) and Office of the Secretary of Defense (OSD) Defense Acquisition Board In Process Review (DAB IPR) delayed up to 12 months
- Delay to Joint Track Management Capability (JTMC) Demo with Navy currently scheduled for August FY 2011
- IAMD OSD Overarching Integrated Product Team (OIPT) update scheduled for March FY 2011 will be delayed approximately 4 months pending IAMD program realignment
- No Plug and Fight Kit implementation Contract Award (Raytheon)

**A. Mission Description and Budget Item Justification**

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

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0605457A: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>

As part of the new DoD 5000.02 initiative for competitive prototyping, the AIAMD program awarded two competitive contracts to teams lead by Northrop Grumman and Raytheon for the development of the Army IAMD Battle Command System in September 2008. During FY 2009, the two competing contractors developed prototypes of their respective designs and conducted an initial Preliminary Design Review (PDR). Competitive proposals were then submitted for the Engineering and Manufacturing Development (EMD) Phase of the program in May 2009. The down select to one contractor occurred after the Milestone B decision in 1QFY2010. FY 2010 was the first full year of the EMD phase of the program. The FY 2011 funding represents continuation of the EMD Phase of the program. During this phase, the IBCS contractor is maturing its design efforts with respect to the EOC, the common side of the Plug and Fight Kit, and the Integrated Fire Control Network. AIAMD funding also incorporates A-Kit contract actions by the AIAMD PO for the development of the unique side of the Plug & Fight Kit which enables the weapons and sensors to be placed on the Integrated Fire Control Network for the contributing acquisition programs (Phased Array Tracking to Intercept of Target (PATRIOT), Improved Sentinel, and Joint Land Attack Cruise Missile Defense Elevated Netted Sensor Systems (JLENS)). An Overarching Integrated Product Team (OIPT) is scheduled for second quarter FY 2011. An IBCS Critical Design Review (CDR) is planned for third quarter FY 2011 with the contributing programs CDRs and the AIAMD CDR in fourth quarter FY 2011. A Post CDR Assessment will be conducted in first quarter FY 2012 along with a Defense Acquisition Board In Process Review (DAB IPR). The IBCS prototype delivery is scheduled for February FY 2012.

The AIAMD Acquisition Program Baseline (APB) was approved on 28 June 2010.

Beginning with FY11, this funding was transferred from the Army IAMD PE 0603327A, Project Code S34, for FY 2011 and beyond, to continue funding the Engineering and Manufacturing Development (EMD) phase of the program.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	-	251.124	271.543	-	271.543
Current President's Budget	-	251.124	270.607	-	270.607
Total Adjustments	-	-	-0.936	-	-0.936
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.936	-	-0.936



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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army								<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0605457A: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>				<b>PROJECT</b> S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	-	251.124	270.607	-	270.607	250.895	346.341	298.869	275.651	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

On 23 December 2009 the Army Integrated Air & Missile Defense (AIAMD) program was approved for entry into the Engineering and Manufacturing Development phase as ACAT ID program. The approved program baseline represents a substantially lower risk approach from the initial program and resulted in a FY 2016 Initial Operational Capability (IOC). As a result of certification required by section 2366b of title 10, United States Code, the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) waived three certification elements (Affordability, Full Funding, and Preliminary Design Review (PDR) Completion) for the Army IAMD program. With submission of the FY 2011 budget, two of these waivers (Affordability & Full Funding) are no longer necessary. The third waiver (PDR Completion) will be completed in second quarter FY 2011 and the Delta PDR Report will be submitted to the Office of the Secretary of Defense (OSD).

**A. Mission Description and Budget Item Justification**

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

As part of the new DoD 5000.02 initiative for competitive prototyping, the AIAMD program awarded two competitive contracts to teams lead by Northrop Grumman and Raytheon for the development of the Army IAMD Battle Command System in September 2008. During FY 2009, the two competing contractors developed prototypes of their respective designs and conducted an initial Preliminary Design Review (PDR). Competitive proposals were then submitted for the Engineering and Manufacturing Development (EMD) Phase of the program in May 2009. The down select to one contractor occurred after the Milestone B decision in 1QFY2010. FY 2010 was the first full year of the EMD phase of the program. The FY 2011 funding represents continuation of the EMD Phase of the program. During this phase, the IBCS contractor is maturing its design efforts with respect to the EOC, the common side of the Plug and Fight Kit, and the Integrated Fire Control Network. AIAMD

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605457A: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	<b>PROJECT</b> S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>
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funding also incorporates A-Kit contract actions by the AIAMD PO for the development of the unique side of the Plug & Fight Kit which enables the weapons and sensors to be placed on the Integrated Fire Control Network for the contributing acquisition programs (Phased Array Tracking to Intercept of Target (PATRIOT), Improved Sentinel, and Joint Land Attack Cruise Missile Defense Elevated Netted Sensor Systems (JLENS)). An Overarching Integrated Product Team (OIPT) is scheduled for second quarter FY 2011. An IBCS Critical Design Review (CDR) is planned for third quarter FY 2011 with the contributing programs CDRs and the AIAMD CDR in fourth quarter FY 2011. A Post CDR Assessment will be conducted in first quarter FY 2012 along with a Defense Acquisition Board In Process Review (DAB IPR). The IBCS prototype delivery is scheduled for February FY 2012.

The AIAMD Acquisition Program Baseline (APB) was approved on 28 June 2010.

Beginning with FY11, this funding was transferred from the Army IAMD PE 0603327A, Project Code S34, for FY 2011 and beyond, to continue funding the Engineering and Manufacturing Development (EMD) phase of the program.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Product Development</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> Continuing product development for EOC, the common and unique side of the Plug and Fight kits, and the Integrated Fire Control Network. Provides for an IBCS CDR, contributing programs CDRs, and the AIAMD CDR.</p> <p><b>FY 2012 Plans:</b> Continuing product development for EOC, the common and unique side of the Plug and Fight kits, and the Integrated Fire Control Network. Provides for a Post CDR Assessment and Defense Acquisition Board In Process Review (DAB IPR).</p>	-	218.863 0	235.575
<p><b>Title:</b> System Engineering and Program Management</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> System Engineering and Program Management in support of developing the Plug and Fight kits, Integrated Fire Control Network, IBCS CDR, contributing programs CDRs, and the AIAMD CDR. Other contracts and OGAs support of EMD phase activities.</p> <p><b>FY 2012 Plans:</b> System Engineering and Program Management in support of developing the Plug and Fight kits, Integrated Fire Control Network, Post CDR Assessment and the DAB IPR. Other contracts and OGAs support of EMD phase activities.</p>	-	15.264 0	15.802
<p><b>Title:</b> Test and Evaluation</p> <p style="text-align: right;"><b>Articles:</b></p>	-	16.997 0	19.230

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605457A: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	<b>PROJECT</b> S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
<p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> Provides for Modeling &amp; Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support</p> <p><b>FY 2012 Plans:</b> Provides for Modeling &amp; Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	-	251.124	270.607

<b>C. Other Program Funding Summary (\$ in Millions)</b>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PE 0604869A, Project M06: <i>PE 0604869A, Project M06, PATRIOT/MEADS Combined Aggregate Program (CAP)</i>	570.831	467.139	406.605		406.605					Continuing	Continuing
• PE 0605456A, Project PA3: <i>PE 0605456A, Project PA3, PAC- 3/ MSE Missile</i>		62.500	88.993		88.993		68.938	63.468	64.215	Continuing	Continuing
• SSN C53101: <i>SSN C53101, MSE Missile</i>			74.953		74.953		532.540	487.049	560.099	Continuing	Continuing
• SSN C53201: <i>SSN C53201, PATRIOT/MEADS GSE</i>											
• PE 0102419A, Proj E55: <i>PE 0102419A, Proj E55, JLENS</i>	317.132	372.493	344.655		344.655		58.124	19.717	19.726	Continuing	Continuing
• SSN BZ0525: <i>SSN BZ0525, JLENS Production</i>							501.459	454.966	416.888	Continuing	Continuing
• PE 0604802A, Project S23: <i>PE 0604802A, Project S23, SLAMRAAM</i>	56.441									Continuing	Continuing
		23.700	19.931		19.931					Continuing	Continuing

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605457A: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	<b>PROJECT</b> S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>
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**C. Other Program Funding Summary (\$ in Millions)**

Line Item	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
• PE 0605450A, Project S35: <i>PE 0605450A, Project S35, SLAMRAAM</i>											
• SSN C81002: <i>SSN C81002, SLAMRAAM Launcher</i>		116.732								Continuing	Continuing
• PE 0603327A, Project S34: <i>PE 0603327A, Project S34, Army Integrated Air and Missile Defense (AIAMD)</i>	164.719									Continuing	Continuing
• BZ5075: <i>BZ5075, Army IAMD Battle Command System (IBCS)</i>							23.587	100.560	256.855	Continuing	Continuing
• PE 0604820A: <i>PE 0604820A, Proj E10, SENTINEL</i>			2.890		2.890		1.983	1.968	2.937	Continuing	Continuing

**D. Acquisition Strategy**

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

Each AIAMD capability increment follows the AIAMD Capability Development Document (CDD), JROC approved on 17 May 2010 via JROCM 073-10, and is defined as:

- Increment 1 is a User-executed capability increment focused on realignment of current force systems into an AMD Battalion (BN) organizational construct. (not part of the materiel development program)
- Increment 2 provides the first increment of an integrated materiel solution, and is the initial acquisition program to develop the threshold AIAMD capability

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

Key principles of the AIAMD acquisition approach are the following:

- Migrate from system-based acquisition to component-based acquisition

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0605457A: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>

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

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605457A: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	<b>PROJECT</b> S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government System Engineering & Program Management (SEPM)	TBD	Multiple OGAs, Inhouse and Contractor:Huntsville, AL	-	15.264		15.802		-		15.802	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	15.264		15.802		-		15.802			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Space and Missile Defense (ASMD) System of Systems (SOS) Hardware-in-the- Loop Testbed	C/CPFF	Multiple OGA's, Inhouse and Contractor:Huntsville, AL and various other locations	-	17.697		-		-		-	0.000	17.697	0.000
AIAMD System Engineering & Integration	C/CPFF	Contractor:Huntsville, AL	-	20.236		15.212		-		15.212	Continuing	Continuing	Continuing
IAMD Engineering Manufacturing and Development	C/CPIF	Contractor:Huntsville, AL and Various other locations	-	165.874		196.219		-		196.219	Continuing	Continuing	Continuing
Government Furnished Equipment	MIPR	AMRDEC:Huntsville, AL	-	10.803		17.384		-		17.384	Continuing	Continuing	Continuing
US Army Aviation and Missile Research Development and Engineering Center (AMRDEC)	MIPR	AMRDEC:Huntsville, AL	-	4.253		6.760		-		6.760	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	218.863		235.575		-		235.575			



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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605457A: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	<b>PROJECT</b> S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>
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	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
Delta Preliminary Design Review (PDR) (IBCS Incr 2)			■																									
Delta Preliminary Design Review (PDR) (IAMD Incr 2)				■																								
Overarching Integrated Product Team (OIPT)							■																					
Critical Design Review (CDR) (IBCS Incr 2)							■																					
Critical Design Review (CDR) (IAMD Incr 2)								■																				
Post Critical Design Review (CDR) Assessment												■																
Defense Acquisition Board In Process Review (DAB IPR)												■																
Major End Item Integration & Test (MEI&T)													■	■	■	■												
Product Readiness Review (PRR)																■												
Force Development Experimentation/Limited User Test (FDE/LUT)																				■								
Milestone C (MS C)																								■				
Initial Operations Capability (IOC)																												■



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605457A: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	<b>PROJECT</b> S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Delta Preliminary Design Review (PDR) (IBCS Incr 2)	3	2010	3	2010
Delta Preliminary Design Review (PDR) (IAMD Incr 2)	4	2010	4	2010
Overarching Integrated Product Team (OIPT)	1	2011	1	2011
Critical Design Review (CDR) (IBCS Incr 2)	2	2011	2	2011
Critical Design Review (CDR) (IAMD Incr 2)	3	2011	3	2011
Post Critical Design Review (CDR) Assessment	4	2011	4	2011
Defense Acquisition Board In Process Review (DAB IPR)	4	2011	4	2011
Major End Item Integration & Test (MEI&T)	4	2012	3	2013
Product Readiness Review (PRR)	3	2013	3	2013
Force Development Experimentation/Limited User Test (FDE/LUT)	1	2014	2	2014
Milestone C (MS C)	4	2014	4	2014
Initial Operations Capability (IOC)	3	2016	3	2016

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605625A: <i>Manned Ground Vehicle</i>
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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	76.861	934.366	884.387	-	884.387	1,963.178	1,364.021	732.849	380.600	Continuing	Continuing
FC8: <i>BCT Ground Combat Vehicle</i>	76.861	934.366	884.387	-	884.387	1,963.178	1,364.021	732.849	380.600	Continuing	Continuing

**Note**

Change Summary Explanation:

Funding:

FY10: SBIR/STTR transfer

FY12: Program revisions caused a seven month delay in Milestone A and the subsequent award up to three TD phase contracts (from 4QFY2010 to 3QFY2011).

In addition, the revisions are intended to reduce program development costs. Combined, the program revisions caused a significant reduction in FY2012 funding requirements.

**A. Mission Description and Budget Item Justification**

The Ground Combat Vehicle (GCV) program is based on an Initial Capabilities Document (ICD) that was approved 10 December 2009. In addition, a draft Capabilities Development Document (CDD) has been released by the U.S. Army Training and Doctrine Command (TRADOC). The accomplishments and funding reflected in this justification are based on these documents. Current plans call for a Milestone A review and subsequent award of Technology Development (TD) phase contracts in 3QFY11. Information generated for the Milestone A and program baselines that will be in place after contract awards will provide information to allow future budget justifications at greater levels of detail. In the meantime, the following funding requirements/justifications are based on program office estimates. The FY2012 Accomplishments/Planned Program depicted in the R2a exhibits are consistent with the currently planned GCV strategy/schedule. In addition, it should also be noted that ongoing turmoil related to defense budgets means that the above FY2013 through FY2016 values are still based on the program as defined in the FY2011 President's Budget. It is expected that these will be clarified in the FY13 President's Budget.

The Army requires an Infantry Fighting Vehicle (IFV) capability to rapidly deploy an overmatching infantry squad anywhere on the battlefield. The GCV IFV provides the infantry squad with a highly mobile, protected, transport to the decisive locations on the battlefield. The GCV IFV will provide both destructive fires against threat armored vehicles and direct fire support for the squad during dismounted assaults. It also increases the Infantry's tactical mobility, survivability, and lethality against light and heavy armored threats. The GCV IFV will have a primary weapon system as well as a secondary weapon system consisting of a coaxial mounted machine gun and a commander's independent weapon station.

The GCV program is using an incremental approach with the GCV IFV development as the first increment. Future increments have not yet been defined. The GCV IFV program will utilize competitive development and a 3-phased approach starting with MS A in 3QFY11 and the 24 month Technology Development phase for up to 3 contractors. A down select will occur at the conclusion of the TD phase. Following a competitive proposal and source selection process, up to two 48 month contracts will be awarded for the Engineering and Manufacturing Development (EMD) phase. During EMD, each contractor will deliver three early prototypes approximately one year after contract award. These early prototypes will consist of selected critical subsystems and will serve to mitigate development risk. Later in EMD each contractor

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE</b>
2040: <i>Research, Development, Test &amp; Evaluation, Army</i>	PE 0605625A: <i>Manned Ground Vehicle</i>
BA 5: <i>Development &amp; Demonstration (SDD)</i>	

will deliver twelve full-up system prototypes and an extensive testing program will be conducted. Milestone C will occur in 3QFY17 and will immediately be followed with award of a Low Rate Initial Production (LRIP) contract.

Four program imperatives have been defined for GCV: 1) meet defined Force Protection requirements, 2) be capable of carrying a full nine Soldier squad, 3) be capable of conducting Full Spectrum operations, and 4) deliver the first production vehicle seven years after award of the TD phase contracts. In addition, program affordability is a cornerstone of the GCV development strategy. In support of these objectives, a Request for Proposal (RFP) was released to industry in November, 2010. Key characteristics of this RFP include: encouraging industry to utilize mature technologies to reduce program cost and risk, tiering/prioritizing IFV specifications to provide industry with trade space, and providing production and operations and support cost targets. Based on evaluation of proposals, up to three 24 month TD phase contracts will be awarded in 3QFY11. Information generated from the TD phase will inform the requirements generation/maturation process and will lead to a Joint Requirements Oversight Council (JROC) approved CDD prior to Milestone B.

The primary focus of GCV IFV development will be on design integration (i.e., integration of mature components and subsystems). The overall goal of the Technology Demonstration (TD) phase is to complete the Preliminary Design Review (PDR) of the system. In support of PDR, each contractor will be required to develop, fabricate, integrate, and test at least two different subsystem prototypes: Rocket Propelled Grenade (RPG) Protection Subsystem prototype and Mine Blast Subsystem prototype. Additional subsystem prototypes may be defined by contactors to support development. Prototype subsystem testing will be conducted by the Government.

FY11 funding represented in this document does not reflect the restructure to the program as a result of the recently signed Acquisition Decision Memorandum

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	79.583	934.366	1,882.839	-	1,882.839
Current President's Budget	76.861	934.366	884.387	-	884.387
Total Adjustments	-2.722	-	-998.452	-	-998.452
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.722	-			
• Other Adjustments 1	-	-	-998.452	-	-998.452

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605625A: <i>Manned Ground Vehicle</i>	<b>PROJECT</b> FC8: <i>BCT Ground Combat Vehicle</i>
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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
FC8: <i>BCT Ground Combat Vehicle</i>	76.861	934.366	884.387	-	884.387	1,963.178	1,364.021	732.849	380.600	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

A revised Request for Proposal (RFP) was released by the Government in November, 2010 and up to three TD contracts will be awarded 3QFY2011. The FY2012 Accomplishments/Planned Program are consistent with the currently planned Ground Combat Vehicle (GCV) strategy/schedule.

In addition to the above, it should also be noted that ongoing turmoil related to defense budgets means that the above FY2013 through FY2016 values are still based on the program as defined in the FY2011 President's Budget. It is expected that these will be clarified in the FY13 President's Budget.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Government System Engineering &amp; Program Management</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Provides for basic Government oversight of the Ground Combat Vehicle (GCV) program. Includes funding for government personnel (labor, travel, training, supplies) and other support (other government agencies, support contractors, automated data processing, communications, and equipment).</p> <p><b>FY 2010 Accomplishments:</b> Began initial requirement decomposition and developed a Government design concept for the Ground Combat Vehicle (GCV). Developed MS A required documentation. Staffed and facilitated the GCV competitive Source Selection Evaluation Board (SSEB). Provided integrated program management for all development activities. Provided United States Code (USC), Title 10 program oversight. Developed initial plans associated with contractor management. These funds also covered the costs of travel and the facilities/operational equipment required for effectively executing the program. Also included TRADOC support for requirement analysis, Analysis of Alternatives (AoA) support, and Milestone related reviews.</p> <p><b>FY 2011 Plans:</b> Implement the GCV Management team and execute the GCV management plan. The plan consists of monitoring and analyzing each separate contractor's detailed Integrated Master Schedules (IMS) and the integration and tracking of all GCV activities into a single GCV program level IMS. Standup the GCV Performance Management Baseline (PMB) team and execute the GCV PMB process for each separate contractor. The PMB process consists of monitoring and analyzing each of the separate contractor's PMB. Standup the GCV Design management/Manned System Integration (MSI) team and execute the Design management plan for each separate contractor in order to monitor and track the design development of the Hull, Turret, Suspension, Electrical, Power Train, Fire Control, Armament, Navigation, Command and Control, Communications systems and provide operational and</p>	27.736 0	20.454 0	36.487

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605625A: <i>Manned Ground Vehicle</i>	<b>PROJECT</b> FC8: <i>BCT Ground Combat Vehicle</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>technical guidance. Monitor the design development of the vehicle's auxiliary systems, testing and training. The government management team will also oversee each separate contractor as they perform systems engineering, requirements analysis, functional analysis, configuration management, risk management, interface management, data management, technical reviews, trade studies, modeling and simulation, specialty engineering, along with software engineering, test and training. Includes the costs of travel and the facilities/operational equipment required for executing the program. Provide integrated program management (i.e. planning, directing, tools and controlling functions), for all development activities to include data and supplier management, program control, government training, procurement and contracts management, operations management for new combat vehicle development. Provide Congressional Title 10 oversight, cost analysis and management, budget development, justification and tracking, Earned Value Management, Integrated Master Schedule development and management, Complementary Program management and operations management associated with contractor management. These funds also cover the costs of travel and the facilities/operational equipment required for effectively executing the program. Also includes TRADOC support for requirement analysis, AoA support, and Milestone reviews. Develops network interfaces and architecture for integrating the GCV into the Army's Battle Command and Communication Network.</p> <p><b><i>FY 2012 Plans:</i></b> Provide integrated program management for all development activities by continuing to execute the GCV knowledge based management plan and by providing USC Title 10 oversight. The GCV Earned Value Management (EVM) team will continue to evaluate cost and schedule performance against the established Performance Measurement Baseline (PMB) and Integrated Master Schedule (IMS) for each separate contractor. The GCV IPTs will continue to oversee the technical development efforts of each separate contractor in order to monitor and track technical progress related to the development of the various subsystems. This includes review and acceptance of 34 formal contract deliverables for each of the three contractor teams. These deliverables will be used to support execution of the GCV knowledge based management plan. The government management team will also continue to oversee each separate contractor as they perform systems engineering, requirements analysis, functional analysis, configuration management, risk management, interface management, data management, technical reviews, trade studies, modeling and simulation, specialty engineering, software engineering, test and training. COEA submittals will continue and will underpin the Army's understanding of requirements and take contractor's preliminary design. These activities will culminate in a Preliminary Design Review (PDR) currently planned for 1QFY13. Includes the costs of travel and the facilities/operational equipment required for executing the program. Complete an Engineering and Manufacturing Development (EMD) performance specification for inclusion in the EMD Request for Proposal (RFP). Initiate development of approximately 40 documents to support the Milestone B.</p>				
<b>Title:</b> Contractor Systems Engineering/Program Management		49.125	716.108	688.546
		<b>Articles:</b> 0	0	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605625A: <i>Manned Ground Vehicle</i>	<b>PROJECT</b> FC8: <i>BCT Ground Combat Vehicle</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b>Description:</b> Provides for contractor basic development, engineering, and management for the GCV prime contracts, less prototype hardware and software development (which are captured in the following sections).</p> <p><b>FY 2010 Accomplishments:</b> The Technology Development (TD) phase begins immediately after Milestone A (MS A). Up to three prime contracts will be awarded immediately after a successful MS A decision. These contracts were originally planned to be awarded in September, 2010. As a result of Department of Defense (DoD) direction, program revisions have occurred and the contracts will now be awarded late April/early May, 2011. FY10 funds planned for the TD contracts will be placed on the contracts immediately following award. Revised program plans have been predicated upon these funds continuing to be available. Contractor efforts supported with FY10 funds will include preparing for award of subsystem and component sub-contracts and beginning balanced vehicle design focusing on size, weight, power, and cooling requirements.</p> <p><b>FY 2011 Plans:</b> In 1QFY11, award subsystem and component provider contracts. Continue vehicle design and integration of subsystems focusing on size, weight, power, and cooling requirements. Include Mobility Systems (propulsion, cooling, suspension, and track); Survivability Systems (armor and structures, signal management, chemical, biological, radiological, nuclear, and explosives); Hit Avoidance Systems (long and short range); Crew Systems and Chassis Auxiliary components (close combat armament system, common crew stations, and auxiliary systems); Core Vetronics (data/signal electronics, and power distribution/management); Lethality Systems (fire control, turret structure, slip ring, ammunition handling system, armament); Mission Module Structure (infantry squad compartment, squad situational awareness, equipment stowage, ramp, and infantryman interfaces). Complete preparation and conduct System Functional Review (SFR) in 2QFY11; verify contractor's ability to meet requirements. Conduct Subsystem Preliminary Design Review (SPDR) in 4QFY11 to ensure subsystems are ready for 2QFY12 competitive testing and 4QFY12 Modeling and Simulation (M&amp;S).</p> <p><b>FY 2012 Plans:</b> Continue vehicle design of subsystems focusing on size, weight, power, and cooling requirements. Sub-system Preliminary Design Reviews will be held during the first half of FY2012. Complete the designs for the subsystem test assets. Complete initial delivery of the integrated set of architecture artifacts. Plan, design, and complete the initial fabrication of the GCV IFV System Integration Environment. Provide a GCV IFV Hot Bench to support integration of hardware and software sub-components prior to vehicle level integration. Design and fabricate vehicle and modular armor mock-ups. Prepare for the GCV system level Preliminary Design Review (PDR) in 1QFY13. Complete design studies to allow identification of Engineering and Manufacturing Development (EMD) long lead hardware requirements. Initiate testing related to the subsystem test assets. Perform program management using EVM and TPMs to report cost/schedule/technical status.</p>					
<b>Title:</b> Contractor Prototypes			-	75.689	95.994

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605625A: <i>Manned Ground Vehicle</i>		<b>PROJECT</b> FC8: <i>BCT Ground Combat Vehicle</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p align="right"><b>Articles:</b></p> <p><b>Description:</b> Provides for procurement and fabrication of subsystem test assets required by the Technology Development (TD) contract and for system level prototypes planned in the EMD phase. Does not include material consumed in support of component level engineering efforts.</p> <p><b>FY 2011 Plans:</b> In 1QFY11 begin building subsystems for prototype subsystem testing in 2QFY12. Begin design and build of the indirect driving and 360 degree situational awareness demonstrator. Begin building two (2) Automotive Test Rigs (ATR) and two (2) each of the following key subsystems and their supporting components: Indirect Vision-Driving/Local Situational Awareness demonstrator; Non-Lethal subsystem demonstrator; Hit Avoidance/Active Protection System demonstrator, Mine Blast Test Asset demonstrator. In 2QFY11 develop and begin build of System Integration Laboratories (SIL) and Modeling and Simulations (M&amp;S) programs for government testing and design integration in FY12. 4QFY11: Order long-lead item subsystems for prototype fabrication in 1QFY13.</p> <p><b>FY 2012 Plans:</b> Fabricate, integrate, and deliver the subsystem test assets required of each contractor (at a minimum: Rocket Propelled Grenade (RPG) Protection Subsystem Prototype and Mine Blast Subsystem Prototype Test Article).</p>				0	
<p><b>Title:</b> Government Tests and Modeling and Simulation</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Provides for costs incurred by the government to perform/validate system-related test activities. This element also includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing. The actual test articles (i.e., functionally configured systems) are excluded from this element as they are included in the prototype manufacturing section.</p> <p><b>FY 2011 Plans:</b> In 2QFY11 begin development of the System Integration Laboratories (SIL) and Modeling and Simulations (M&amp;S) test procedures for government testing in FY12. Additionally, test planning/coordination and safety requirements development and coordination efforts in support of the Prototype subsystem testing will commence in FY11. Begin building the government's subsystem demonstrator test facility. Plan and develop the Indirect driving and 360 degree situational awareness demonstrators testing procedures, which is intended to verify the operational feasibility of the contractor's indirect vision material solution. Plan and develop the subsystem demonstrator Test SIL requirements and test procedures which will evaluate the contractor's ability to safely and effectively operate the IFV over hard surface, cross country, and urban terrain during day and night operations. Begin development of the ATR test requirements that will be used to evaluate the contractor's design feasibility against the mobility Key Performance Parameter (KPP). The ATR will be tested at a Government test facility to evaluate its automotive</p>			-	2.650 0	20.395

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605625A: <i>Manned Ground Vehicle</i>	<b>PROJECT</b> FC8: <i>BCT Ground Combat Vehicle</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>performance operations in accordance with the draft GCV Operational Mode Summary/Mission Profile (OMS/MP). Additionally, laboratory testing of integrated Engine/Transmission solution against the fuel efficiency KPP will be required. The Mine Blast Test Asset is intended to reflect the Contractor's vehicle structure, and crew and passenger seating. It will be tested against the Level 1 underbelly threats to assess vehicle/mine kit structural integrity and mitigation of harmful accelerations to the crew to support the Governments evaluation of the Survivability and Force Protection KPPs. The Mine Blast Test Asset will be tested at a Government test facility. The Non-Lethal system demonstrator is intended to verify the contractor's design from both a stationary and on the move perspective. Contractors will be allowed to mount their respective systems on a surrogate platform to demonstrate performance on the move. The Non-Lethal system demonstrator will be tested at a Government test facility. Additionally, contractor will be required to test their APS solution set against GCV requirements. If hardware is available for test, APS testing will be tested at a Government test facility.</p> <p><b>FY 2012 Plans:</b> All Subsystem test assets will be tested at Government test facilities during FY12 and into FY13. The subsystem test assets will be tested, as required. At a minimum, the Rocket Propelled Grenade (RPG) Protection Subsystem Prototype and Mine Blast Subsystem Prototype Test Article will be tested against relevant threats. An initial draft of the TEMP will be completed and entered into Army/OSD staffing to support the Milestone B. Detailed test planning will be initiated for the Engineering and Manufacturing Development (EMD) phase.</p>				
<p><b>Title:</b> Contractor Software</p> <p><b>Description:</b> Provides for contractor software development efforts for the GCV prime contracts. This includes all software related to the various subsystems, training, logistics, vehicle management, and battle command integration.</p> <p><b>FY 2011 Plans:</b> Initiate vehicle software development activities in 1QFY11 for supporting FY12 prototype subsystem competitive testing and Modeling and Simulation tests. Define software development plan and schedule. Define and establish software development and integration environments. Initiate work on development of Software Requirements Specification, interface requirements specification, software architecture definition/description, formulate software build plan to align with system and subsystem requirements development, and begin software development and integration. Create vehicle model and selected subsystem models (e.g. Mobility, Survivability, etc.) for M&amp;S.</p> <p><b>FY 2012 Plans:</b> Continue the development of initial software build in support of testing of the subsystem test assets. All software requirements and interfaces for the early software build will be baselined to allow software development to complete in support of iterative</p>		-	26.880 0	42.965



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605625A: <i>Manned Ground Vehicle</i>	<b>PROJECT</b> FC8: <i>BCT Ground Combat Vehicle</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
software integration. Conduct early software integration using emulators and surrogates to verify correct subsystem behaviors and interfaces. Conduct qualification and regression testing and delivery of the software build to support subsystem level integration. Initiate subsequent software build/development efforts and incrementally build up the functionalities in meeting vehicle delivery schedule. Update software architecture with specific implementation features for all Government furnished software subsystems.			
<p><b>Title:</b> Contractor Active Protection System</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Provided Contractor APS support to continue to design, develop, integrate, model/simulate and test the APS.</p> <p><b>FY 2011 Plans:</b> Contractor: continue to design, develop, integrate, model/simulate and test the Active Protection System. Continue maturation of the Short Range APS (Execute/Complete the Short Range Design Verification and Test (DVT)) number 2 using 20 Countermeasures that were purchased in FY10, execute Insensitive Munitions testing with the 10 countermeasures and warheads, plan and prepare Short Range Counter Measure Initial Qualification Test (IQT) and Short Range (SR) Active Protection System (APS) Production Qualification test (PQT) in FY12 with the purchase of 159 Countermeasures. Transition the Kinetic Energy (KE Army Technology Objective (ATO) Kinetic Energy Interceptor program into the Long Range APS System, prepare for Long Range Design Verification Test (DVT) number 1 by procuring 10 countermeasures for FY12. Development and Integration of APS Fire Control System: Integrate the Passive Threat Warner, Laser Warning Receiver and APS Radar (integration of the Hit Avoidance System to Common Radar Design Interface (HCRDIF) Full Spectrum Software and Ballistic Radome) with the APS Countermeasure Controller Software and APS Operations Controller Software; Design and Construction of Surrogate Test Vehicle (Trailer).</p>	-	92.585 0	-
<b>Accomplishments/Planned Programs Subtotals</b>	76.861	934.366	884.387

**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
• G86000: <i>Ground Combat Vehicle (GCV)</i>							98.880	785.890	2,209.626	Continuing	Continuing

**D. Acquisition Strategy**  
Pursuant to an Acquisition Decision Memorandum (ADM), signed 23 June 2009, which directed the cancellation of the FCS (BCT) Acquisition Program and the termination of the Manned Ground Vehicle system, the Army chartered the Program Executive Office - Integration. The PEO-I, in order to meet the ADM requirements, initiated the Ground Combat Vehicle program. The program was subsequently transitioned to the Program Executive Officer, Ground Combat Systems (PEO GCS)

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0605625A: <i>Manned Ground Vehicle</i>	FC8: <i>BCT Ground Combat Vehicle</i>

in July, 2010. The strategy is to execute the program in three phases. It will enter the acquisition process at Milestone A (3Q FY11). Approval at Milestone A will immediately be followed by the competitive selection of up to three contractors to execute the Technology Development (TD) phase. The TD phase will consist of designing an Infantry Fighting Vehicle based on requirements defined in the draft Capability Development Document (CDD) and articulated in the Specification included in the GCV Request for Proposal (RFP). Selected sub-system test assets will be delivered in FY12. The TD phase will end with competitive testing & evaluation of the sub-system test assets and the successful completion of a Preliminary Design Review (PDR) (1Q FY13). Upon successful completion of the TD phase the program will complete a Milestone B and enter the Engineering and Manufacturing Development phase (3Q FY13). EMD will end at MS C (3Q FY17). During this phase each contractor will successfully complete a Critical Design Review (CDR) and produce twelve (12) complete prototypes. The EMD phase will end with a competitive down select to one contractor. The selected contractor will execute Low Rate Initial Production (LRIP).

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605625A: <i>Manned Ground Vehicle</i>	<b>PROJECT</b> FC8: <i>BCT Ground Combat Vehicle</i>
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<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor System Engineering and Prog. Mgt	TBD	TBD:TBD	-	808.693		688.546		-		688.546	Continuing	Continuing	Continuing
Contractor Prototypes	TBD	TBD:TBD	-	75.689		95.994		-		95.994	Continuing	Continuing	Continuing
Contractor Software	TBD	TBD:TBD	-	26.880		42.965		-		42.965	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	911.262		827.505		-		827.505			

<b>Support (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government System Engineering and Prog. Mgt	TBD	PM Ground Combat Vehicle:Warren, MI	-	20.454		36.487		-		36.487	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	20.454		36.487		-		36.487			

<b>Test and Evaluation (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Tests & Modeling & Simulation	TBD	PM Ground Combat Vehicle:Warren, MI	-	2.650		20.395		-		20.395	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	2.650		20.395		-		20.395			

			Total Prior Years Cost	FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			-	934.366		884.387		-		884.387			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2012 Army</b>			<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605625A: <i>Manned Ground Vehicle</i>	<b>PROJECT</b> FC8: <i>BCT Ground Combat Vehicle</i>	

	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
Material Development Decision	■																											
Milestone A					■																							
Technology Development Source Selection Board				■	■																							
Technology Development Contract Award					■																							
Technology Development Phase					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Prototype Subsystem Testing								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
System Preliminary Design Review								■																				
Milestone B													■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
EMD Contract Award													■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
1st Early Prototype Vehicle																	■	■	■	■	■	■	■	■	■	■	■	
Critical Design Review																												
1st Full-up Prototype Vehicle																										■	■	
Critical Design Review Update																											■	
Limited User Test																											■	
Production Readiness Review																											■	

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605625A: <i>Manned Ground Vehicle</i>	<b>PROJECT</b> FC8: <i>BCT Ground Combat Vehicle</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Material Development Decision	1	2010	1	2010
Milestone A	2	2011	2	2011
Technology Development Source Selection Board	1	2011	2	2011
Technology Development Contract Award	2	2011	2	2011
Technology Development Phase	2	2011	2	2013
Prototype Subsystem Testing	2	2012	4	2012
System Preliminary Design Review	4	2012	4	2012
Milestone B	2	2013	2	2013
EMD Contract Award	2	2013	2	2013
1st Early Prototype Vehicle	2	2014	2	2014
Critical Design Review	3	2014	3	2014
1st Full-up Prototype Vehicle	1	2016	1	2016
Critical Design Review Update	3	2016	3	2016
Limited User Test	4	2016	4	2016
Production Readiness Review	4	2016	4	2016

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605626A: <i>Aerial Common Sensor - SDD</i>
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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	-	211.500	31.465	-	31.465	3.335	30.234	28.807	28.699	Continuing	Continuing
AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>	-	211.500	31.465	-	31.465	3.335	30.234	28.807	28.699	Continuing	Continuing

**Note**

Change Summary Explanation: Funding - FY 2011: Program transferred to this PE from 0307665A.

**A. Mission Description and Budget Item Justification**

The Enhanced Medium Altitude Reconnaissance and Surveillance System (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.

FY12 Base funding in the amount of \$31.465 million funds continuation of the EMARSS Engineering, Manufacturing and Development (EMD) contract. Funding supports Developmental and Operational Tests (DT/OT) and Limited Users Test (LUT); Government Furnished Equipment (GFE) support; preparation for ASARC/MS and documentation; Continues Army test support; Program Management Office (PMO) support; DCGS-A on-board processing and Developmental System Integration laboratory (DSIL) efforts.

FY12 OCO - No budget request

FY10 was funded through RE 0307207A Project 024

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605626A: <i>Aerial Common Sensor - SDD</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	-	211.500	31.400	-	31.400
Current President's Budget	-	211.500	31.465	-	31.465
Total Adjustments	-	-	0.065	-	0.065
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.065	-	0.065

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605626A: <i>Aerial Common Sensor - SDD</i>	<b>PROJECT</b> AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>
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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
<i>AC5: Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>	-	211.500	31.465	-	31.465	3.335	30.234	28.807	28.699	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Enhanced Medium Altitude Reconnaissance and Surveillance System (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 Medium Altitude Reconnaissance and Surveillance System Quick Reaction Capability (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.

FY12 Base funding in the amount of \$31.465 million funds continuation of the EMARSS Engineering, Manufacturing and Development (EMD) contract. Funding supports Developmental and Operational Tests (DT/OT) and Limited Users Test (LUT); Government Furnished Equipment (GFE) support; preparation for ASARC/MS C and documentation; Continues Army test support; Program Management Office (PMO) support; DCGS-A on-board processing and Developmental System Integration laboratory (DSIL) efforts.

FY12 OCO - No budget request

FY10 was funded through RE 0307207A Project 024

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> EMD Effort	-	176.332	-
<b>Articles:</b>		0	
<b>Description:</b> Funding is provided for the following efforts:			



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605626A: <i>Aerial Common Sensor - SDD</i>	<b>PROJECT</b> AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b><i>FY 2011 Plans:</i></b> Continues EMD contract, purchases of aircraft and GFE and technical support. Continues DCGS-A on board processing and test.</p> <p><b><i>Title:</i></b> Software Integrations Costs</p> <p><b><i>Description:</i></b> Support costs for efforts include: DCGS-A S/W integration and PM SETA support</p> <p><b><i>FY 2012 Plans:</i></b> Continues DCGS-A on board processing and PM SETA support</p>			
<p><b><i>Title:</i></b> TEST EFFORTS</p> <p><b><i>Description:</i></b> Funding is provided for the following effort</p> <p><b><i>FY 2011 Plans:</i></b> Government Test and Flight Range Support</p> <p><b><i>FY 2012 Plans:</i></b> Gov't DT/OT,LUT, LFTE, and FOA</p>	-	11.200 0	3.995 20.500
<p><b><i>Title:</i></b> PROGRAM MANAGEMENT SUPPORT</p> <p><b><i>Description:</i></b> Funding is provided for the following effort</p> <p><b><i>FY 2011 Plans:</i></b> Continues Program Management Office (PMO) and travel.</p> <p><b><i>FY 2012 Plans:</i></b> Continues Government Program Management Office (PMO) and travel, Government Matrix and Aircraft Engineering support.</p>	-	23.968 0	6.970
<b>Accomplishments/Planned Programs Subtotals</b>	-	211.500	31.465

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• RDTE: <i>RDTE</i>	115.430									0.000	115.430
• RDT&E, Army: <i>RDTE, Army</i>	0.074									0.000	0.074

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605626A: <i>Aerial Common Sensor - SDD</i>	<b>PROJECT</b> AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Aircraft Procurement: <i>Aircraft Procurement</i>		88.483	539.574		539.574		504.321	243.672	122.699	0.000	1,741.512
• ACS NSA MIP: <i>ACS NSA MIP</i>	2.022	1.350	10.634		10.634		7.395	7.395		Continuing	Continuing
• GSCS NSA MIP: <i>GRCS NSA MIP</i>	2.780	0.685	5.246		5.246		3.601	3.601		Continuing	Continuing

**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.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605626A: <i>Aerial Common Sensor - SDD</i>	<b>PROJECT</b> AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>
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<b>Management Services (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO Staff/travel/O/H expenses	Various	PM, AC Sensors: Ft. Monmouth, NJ; Aberdeen, MD:Ft. Monmouth, NJ; Aberdeen, MD	-	8.550		2.921		-		2.921	Continuing	Continuing	Continuing
Gov't Matrix Support	Various	Multiple: Ft. Monmouth, NJ:Multiple: Ft. Monmouth, NJ; Aberdeen, MD	-	2.550		2.550		-		2.550	Continuing	Continuing	Continuing
Gov't Aircraft Matrix Support	Various	PMFW, AMRDEC: Redstone, AL:Redstone, AL	-	5.858		1.499		-		1.499	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	16.958		6.970		-		6.970			

<b>Product Development (\$ in Millions)</b>				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EMARSS EMD	C/FP	Boeing Company:Ridley Park, PA	-	167.912		-		-		-	0.000	167.912	0.000
Vortex Data Links/PALS/ DBOS	SS/FPIF	L3COMM,:Warner Robins AFB	-	1.470		-		-		-	Continuing	Continuing	Continuing
Other GFE/COMSEC Equipment	SS/FFP	TBD:TBD	-	0.250		-		-		-	Continuing	Continuing	Continuing
Airborne Precision Geo0Location (APG) System	C/FFP	NSA:NSA	-	0.500		-		-		-	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	170.132		-		-		-			



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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605626A: <i>Aerial Common Sensor - SDD</i>	<b>PROJECT</b> AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>

	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
Material Development Decision (MDD)	■																											
Milestone B				■																								
Engineering Manufacturing & Development				■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SRR/SFR						■	■																					
System Design Review							■	■																				
CT/DT										■	■	■																
LUT/FOA											■	■																
MS C											■	■																
LRIP											■	■	■	■	■	■												
IOT&E														■	■													
Full Rate Production															■	■												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605626A: <i>Aerial Common Sensor - SDD</i>	<b>PROJECT</b> AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Material Development Decision (MDD)	1	2010	1	2010
Milestone B	4	2010	4	2010
Engineering Manufacturing & Development	1	2011	3	2012
SRR/SFR	2	2011	2	2011
System Design Review	3	2011	3	2011
CT/DT	1	2012	2	2012
LUT/FOA	2	2012	3	2012
MS C	3	2012	3	2012
LRIP	3	2012	3	2013
IOT&E	2	2013	2	2013
Full Rate Production	3	2013	3	2013

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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303032A: <i>TROJAN - RH12 - MIP</i>
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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	-	3.697	3.920	-	3.920	4.142	4.372	4.559	4.589	Continuing	Continuing
RH5: <i>TROJAN - RH12 - MIP</i>	-	3.697	3.920	-	3.920	4.142	4.372	4.559	4.589	Continuing	Continuing

**Note**

Change Summary Explanation: Funding - FY 2011: Program transferred to stand alone MIP PE. FY 2010 and prior was funded in 0604270A/L16.

**A. Mission Description and Budget Item Justification**

This project is a Military Intelligence Program (MIP). Trojan research and development supports Trojan Classic XXI (TCXXI) and next generation (NexGEN) future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of Army Modernization and Army Force Generation, TCXXI will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure, collaborative architecture.

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

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303032A: <i>TROJAN - RH12 - MIP</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	-	3.697	3.930	-	3.930
Current President's Budget	-	3.697	3.920	-	3.920
Total Adjustments	-	-	-0.010	-	-0.010
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.010	-	-0.010



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303032A: <i>TROJAN - RH12 - MIP</i>	<b>PROJECT</b> RH5: <i>TROJAN - RH12 - MIP</i>
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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
RH5: <i>TROJAN - RH12 - MIP</i>	-	3.697	3.920	-	3.920	4.142	4.372	4.559	4.589	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Not applicable for this item.

**A. Mission Description and Budget Item Justification**

This project is a Military Intelligence Program (MIP). Trojan research and development supports Trojan Classic XXI (TCXXI) and next generation (NexGEN) future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of Army Modernization and Army Force Generation, TCXXI will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure, collaborative architecture.

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

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<p><b>Title:</b> Integrate and test specialized hardware/software</p> <p style="text-align: right;"><b>Articles:</b></p> <p><b>Description:</b> Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GLAIVE software. Integrated several new NSA SW packages-efforts still ongoing.</p> <p><b>FY 2011 Plans:</b></p>	-	0.388 0	0.412

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303032A: <i>TROJAN - RH12 - MIP</i>	<b>PROJECT</b> RH5: <i>TROJAN - RH12 - MIP</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GLAIVE software. Integrated several new NSA SW packages-efforts still ongoing.				
<b>FY 2012 Plans:</b> Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GLAIVE software. Integrated several new NSA SW packages-efforts still ongoing.				
<b>Title:</b> Acquire and apply multi-bandwidth		-	0.336	0.358
<b>Articles:</b>			0	
<b>Description:</b> Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.				
<b>FY 2011 Plans:</b> Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.				
<b>FY 2012 Plans:</b> Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.				
<b>Title:</b> Develop prototype quick reaction capability receiver		-	0.375	0.400
<b>Articles:</b>			0	
<b>Description:</b> Develop prototype quick reaction capability receiver packages for fixed and transportable Trojan systems to acquire non-standard modulations using DSP and FPGA technologies.				
<b>FY 2011 Plans:</b> Develop prototype quick reaction capability receiver packages for fixed and transportable Trojan systems to acquire non-standard modulations using DSP and FPGA.				
<b>FY 2012 Plans:</b> Develop prototype quick reaction capability receiver packages for fixed and transportable Trojan systems to acquire non-standard modulations using DSP and FPGA.				
<b>Title:</b> Integrate Direction Finding		-	0.367	0.390
<b>Articles:</b>			0	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303032A: <i>TROJAN - RH12 - MIP</i>	<b>PROJECT</b> RH5: <i>TROJAN - RH12 - MIP</i>			
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p><b>Description:</b> Integrate Direction Finding (DF) and geolocation technologies into Trojan Remote Receiving Groups.</p> <p><b>FY 2011 Plans:</b> Integrate Direction Finding (DF) and geolocation technologies into Trojan Remote Receiving Groups.</p> <p><b>FY 2012 Plans:</b> Integrate Direction Finding (DF) and geolocation technologies into Trojan Remote Receiving Groups.</p>					
<p><b>Title:</b> Develop hardware/software interface</p> <p><b>Description:</b> Develop hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system</p> <p><b>FY 2011 Plans:</b> Develop hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system</p> <p><b>FY 2012 Plans:</b> Develop hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system</p>			-	0.420 0	0.445
<p><b>Title:</b> Develop specialized software enhancements to the Trojan</p> <p><b>Description:</b> Develop specialized software enhancements to the Trojan audio streaming subsystems to improve system redundancy &amp; throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted Trojan systems, including streaming audio technologies.</p> <p><b>FY 2011 Plans:</b> Develop specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy &amp; throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies.</p> <p><b>FY 2012 Plans:</b> Develop specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy &amp; throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies.</p>			-	0.270 0	0.285
<p><b>Title:</b> Development of SATCOM dishes and receivers</p>			-	0.736 0	0.780

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303032A: <i>TROJAN - RH12 - MIP</i>	<b>PROJECT</b> RH5: <i>TROJAN - RH12 - MIP</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012
<p><b>Description:</b> Development of smaller more mobile SATCOM dishes and receivers. Development of more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems.</p> <p><b>FY 2011 Plans:</b> Development of smaller more mobile SATCOM dishes and receivers. Development of more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems.</p> <p><b>FY 2012 Plans:</b> Development of smaller more mobile SATCOM dishes and receivers. Development of more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems.</p>			
<p><b>Title:</b> Labor cost SW engineers</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer.</p> <p><b>FY 2011 Plans:</b> Labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer.</p> <p><b>FY 2012 Plans:</b> Labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer.</p>	-	0.805 0	0.850
<b>Accomplishments/Planned Programs Subtotals</b>	-	3.697	3.920

**C. Other Program Funding Summary (\$ in Millions)**  
N/A

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

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0303032A: <i>TROJAN - RH12 - MIP</i>	<b>PROJECT</b> RH5: <i>TROJAN - RH12 - MIP</i>

**E. Performance Metrics**

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

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>			<b>R-1 ITEM NOMENCLATURE</b>								
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			PE 0304270A: <i>Electronic Warfare Development</i>								
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	-	21.571	13.819	-	13.819	13.918	19.068	20.712	20.238	Continuing	Continuing
EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>	-	18.426	10.431	-	10.431	10.455	15.061	15.491	14.933	Continuing	Continuing
EW6: <i>ARAT-TSS - MIP</i>	-	3.145	3.388	-	3.388	3.463	4.007	5.221	5.305	Continuing	Continuing

**Note**

Change Summary Explanation: Funding - FY 2011: Program transferred from 0604270A beginning in FY 11 to comply with fully captured Military Intelligence Program (MIP) elements.

**A. Mission Description and Budget Item Justification**

FY 2011 budget request funds Electronic Warfare Development. This program element (PE) encompasses engineering and manufacturing development for tactical electronic warfare (EW). EW encompasses the development of tactical EW equipment and systems mounted in both ground and air vehicles. The systems under this program provides the Army with the capability to degrade or deny hostile forces the effective use of their communications, countermortar/counterbattery radars, surveillance radars, infrared/optical battlefield surveillance systems and electronically fused munitions. Existing Army EW systems must be replaced or upgraded to maintain their capability in the face of threats. The Army Reprogramming Analysis Team (ARAT) Project will develop, test and equip an Army-wide infrastructure capable of rapidly reprogramming electronic combat software embedded in offensive and defensive weapon systems.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	-	21.571	13.854	-	13.854
Current President's Budget	-	21.571	13.819	-	13.819
Total Adjustments	-	-	-0.035	-	-0.035
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	-0.035	-	-0.035

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0304270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>
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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
EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>	-	18.426	10.431	-	10.431	10.455	15.061	15.491	14.933	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

Note: This is not a new start. Program transferred from 0604270A beginning in FY 11 to comply with fully captured Military Intelligence Program (MIP) elements.

**A. Mission Description and Budget Item Justification**

Prophet is the tactical commander's sole organic ground-based Signals Intelligence (SIGINT)/Electronic Warfare system for the Brigade Combat Team (BCT), Stryker Brigade Combat Team (SBCT), and Battlefield Surveillance Brigade (BfSB). Its primary mission is to provide 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. Prophet is an integral part of the Army Modernization providing Near Real Time (NRT) information to the Brigade Commander within his combat decision cycle. This NRT information, when processed, provides a key component of the fused intelligence Common Operating Picture (COP). Prophet Enhanced (PE) provides a modular, scalable, open architecture-based system solution optimized for ease of use and rapid integration of Technical Insertions/Pre-Planned Product Improvements to ensure operational relevance. PE is a non-vehicle specific system, allowing maximum flexibility to accommodate a myriad of platforms. PE also provides a simultaneous mission capability in stationary, mobile, and man-pack configuration/modes further increasing/enhancing the SIGINT capabilities for the unit commander. PE is being fielded to deploying units in accordance with ARFORGEN requirements. Prophet provides reach-back capability and interfaces directly with the National SIGINT Enterprise via Wideband Beyond Line of Sight (WB BLOS) Satellite Communications either at Prophet Control (PC) or the Prophet Sensor.

FY2012 Base dollars support the following activities: develops product upgrades for Next Generation Signals to increase the capabilities of the PE and maintain operational relevance; initiates establishment of the Prophet System Integration Lab; and initiates integration and testing of a software defined radio/receiver solution (e.g. PENNANTRACE) into the PE Sensor.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Integrate Electronic Warfare Systems	-	4.900	-
<b>Articles:</b>		0	
<b>Description:</b> Integrate Electronic Warfare Systems			
<b>FY 2011 Plans:</b> Integrate Electronic Warfare Systems			
<b>Title:</b> PE/SP1 ES Software Upgrade	-	6.428	-
<b>Articles:</b>		0	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0304270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Description:</b> P3I upgrade for Prophet Enhanced and ES Spiral 1 software  <b>FY 2011 Plans:</b> Software upgrade for Prophet Enhanced and ES Spiral 1				
<b>Title:</b> PE Hardware Upgrade  <b>Description:</b> P3I hardware upgrade for Prophet Enhanced systems.  <b>FY 2011 Plans:</b> Hardware Upgrade for Prophet Enhanced systems		-	4.598 0	-
<b>Title:</b> Next Generation Signals (TOS) <b>Description:</b> Develop next generation signals (TOS)  <b>FY 2012 Plans:</b> Develop next generation signals (TOS)		-	-	2.500
<b>Title:</b> Precision Geo-Location <b>Description:</b> Develop Geo-location capability for the Prophet Enhanced system under P3I requirements.  <b>FY 2012 Plans:</b> Develop Geo-location capability for the Prophet Enhanced system under P3I requirements.		-	-	1.872
<b>Title:</b> System Integration Lab  <b>Description:</b> Stand Up System Integration Lab  <b>FY 2011 Plans:</b> Stand up Systems Integration Lab  <b>FY 2012 Plans:</b> Stand Up System Integration Lab		-	2.500 0	2.172
<b>Title:</b> Prophet Control H/W and S/W Upgrade		-	-	2.115



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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0304270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Description:</b> Upgrade hardware and software for Prophet Control systems.			
<b>FY 2012 Plans:</b> Upgrade hardware and software for Prophet Control systems.			
<b>Title:</b> Radio/Receiver Integration	-	-	1.772
<b>Description:</b> Integrate Radio/Receiver integration into the Prophet Enhanced system under P3I requirements.			
<b>FY 2012 Plans:</b> Integrate Radio/Receiver integration into the Prophet Enhanced system under P3I requirements.			
<b>Accomplishments/Planned Programs Subtotals</b>	-	18.426	10.431

**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Signals Warfare Development	5.172									0.000	5.172
- L12: <i>Electronic Warfare Development L12 (RDT&amp;E)</i>											
• Prophet Ground: <i>Prophet Ground (OPA)</i>	58.299	90.417	72.041		72.041		41.090	40.239	35.926	Continuing	Continuing
• Special Purpose Systems (MIP): <i>Special Purpose Systems (MIP) (OPA)</i>	6.999	7.646	9.163		9.163		13.149	13.948	14.396	Continuing	Continuing
• Defense Cryptological Program: <i>NSA MIP for Prophet (RDT&amp;E)</i>	0.319	2.136	5.989		5.989		4.724	4.814	4.896	Continuing	Continuing

**D. Acquisition Strategy**

The Prophet R&D Acquisition Strategy is structured to optimize system capability while reducing risk and streamlining business and engineering processes. PE entered production in 2QFY09 via Full and Open competition. The PE contract is Firm-Fixed-Price, Indefinite-Delivery Indefinite-Quantity with provisions to support R&D and other developmental work as Cost-Plus efforts. The PE contract will be used to maintain the operational relevancy of PE systems in a dynamic threat environment.

**E. Performance Metrics**

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0304270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>
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<b>Management Services (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Management	Various	PM Electronic Warfare:APG, MD	-	0.380		0.181		-		0.181	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	0.380		0.181		-		0.181			

<b>Product Development (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Prophet Enhanced H/W Upgrade	C/FP	GD C4 Systems:Scottsdale, AZ	-	3.000		-		-		-	Continuing	Continuing	Continuing
Prophet Enhanced/SP1 ES S/W Upgrade	C/FP	GD C4 Systems:Scottsdale, AZ	-	4.200		-		-		-	Continuing	Continuing	Continuing
Integrate Electronic Warfare Systems	C/FP	TBD:TBD	-	4.900		-		-		-	Continuing	Continuing	Continuing
Next Generation Signals (TOS)	C/FP	GD C4 Systems:Scottsdale, AZ	-	-		2.500		-		2.500	Continuing	Continuing	Continuing
Prophet Control HW/SW Upgrade	C/FP	GD C4 Systems:Scottsdale, AZ	-	-		1.643		-		1.643	Continuing	Continuing	Continuing
Precision Geo-Location	C/FP	GD C4 Systems:Scottsdale, AZ	-	-		1.400		-		1.400	Continuing	Continuing	Continuing
Radio/Receiver Integration	C/FP	GD C4 Systems:Scottsdale, AZ	-	-		1.300		-		1.300	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	12.100		6.843		-		6.843			

<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Matrix Support	Various	CECOM:APG, MD	-	0.473		0.207		-		0.207	Continuing	Continuing	Continuing
Contract Engineering Support	Various	MITRE:Eatontown, NJ	-	0.600		-		-		-	Continuing	Continuing	Continuing
System Integration Lab	Various	I2WD:APG, MD	-	2.500		1.700		-		1.700	Continuing	Continuing	Continuing

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0304270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>

	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
Prophet Control (PC) - Sole Source Contract Award	■																											
PC Production - Sole Source Contract			■	■																								
Prophet Control (PC) - Competitive Contract Award							■																					
PC Production - Competitive Contract											■	■																
Delta Testing - P3I (2013)												■																
Delta Testing - P3I (2014)																■												
Delta Testing - P3I (2015)																				■								
Delta Testing (2016)																											■	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Army		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0304270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Prophet Control (PC) - Sole Source Contract Award	1	2010	1	2010
PC Production - Sole Source Contract	3	2010	4	2010
Prophet Control (PC) - Competitive Contract Award	2	2011	2	2011
PC Production - Competitive Contract	2	2012	1	2013
Delta Testing - P3I (2013)	1	2013	1	2013
Delta Testing - P3I (2014)	1	2014	1	2014
Delta Testing - P3I (2015)	1	2015	1	2015
Delta Testing (2016)	1	2016	1	2016

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**Exhibit R-2A, RDT&E Project Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0304270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> EW6: <i>ARAT-TSS - MIP</i>
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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
EW6: <i>ARAT-TSS - MIP</i>	-	3.145	3.388	-	3.388	3.463	4.007	5.221	5.305	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**

This is not a new start. Program transferred from 0604270A beginning in FY 11 to comply with fully captured Military Intelligence Program (MIP) elements.

**A. Mission Description and Budget Item Justification**

The Army Reprogramming Analysis Team (ARAT) is a Department of the Army established program to develop techniques, methods, tools and architecture to reprogram mission software embedded in Army Force Protection Systems (FPS) and Targeting Sensing Systems (TSS) in response to changes in threat signatures. The regulatory guidance directing this mission is contained in AR 525-25, AR 525-22, and AR 95-1. Current military operations are conducted in a rapidly changing threat environment, where Improvised Explosive Devices (IEDs), IR man-portable air defense systems (MANPADS) seekers, radar guided surface-to-air-missiles (SAM), laser guided weapons, anti-helicopter mines, and targeting sensors are proliferating and evolving. Integrated solutions are required to counter increasingly sophisticated EW threats, and the ARAT reprogramming infrastructure supports the tactical Commander by providing timely rapid-reprogramming, and software/information dissemination for Army supported, Joint, allied service, Electronic Warfare (EW) Integrated Reprogramming (EWIR) target acquisition, target engagement, vehicle survivability, and aircraft survivability equipment (ASE). ARAT efforts support Electronic Attack (EA), Electronic Protect (EP) and Electronic Support (ES). The ARAT rapid-reprogramming infrastructure supports tactical requirements for deployed aircraft and ground-based (e.g. CREW) survivability systems including those deployed in the CENTCOM area of responsibility (AOR). ARAT identifies and analyzes threat signature changes which affect FPS & TSS; determines the impact of observed signature changes on FPS & TSS; creates new mission data software to adapt the system to the changes; disseminates the software changes; and provides methods to upload the new software into the affected FPS or TSS. Each element within the ARAT infrastructure plays a specific role within the program's rapid reprogramming process, providing the Warfighter with the capability to install mission and target identification software at the lowest possible level - maximizing flexibility for tactical commanders. ARAT participates in the operational and developmental test design of Army FPS, and supports Service and JCS Reprogramming Exercises in all theaters.

ARAT R&D enables continuing development of 1) automated threat analysis tools to rapidly detect (flag) threat changes within the intelligence system, 2) tools to minimize the time to develop Mission Data Sets (MDS), 3) tools and technology to minimize the time required to test and validate MDSs, 4) improved communications conduits to transmit mission software changes to field users, and 5) enhanced mission-software uploading tools. These efforts allow for rapid threat analysis, simulation, software development, distribution and uploading of software changes directly to the supported Warfighter.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Keeping Pace with the Enemy & Technology	-	1.813	2.013
<b>Articles:</b>		0	
<b>Description:</b> Funding is provided for the following effort			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0304270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> EW6: <i>ARAT-TSS - MIP</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			
			<b>FY 2010</b>
			<b>FY 2011</b>
			<b>FY 2012</b>
<p><b>FY 2011 Plans:</b> Keeping Pace with the Enemy &amp; Technology - Analysis &amp; Studies for EO/IR/UV Multi-Spectral FPS/TSS Support: In order to keep pace with changing threat and technology ARAT requires assets to better understand the impact of the physical battlefield environment on deployed high-technology sensors and their sustainment. This effort will 1) study the intelligence data requirements to support MDS development for Electro-optical/Ultra-violet/Infra-red (EO/UV/IR) and other multi-spectral sensors for aviation &amp; non-aviation force protection systems (FPS) and target sensing systems and to include active protection systems (APS), 2) Develop government organic knowledge and application-base enabling reprogramming of future systems and 3) Perform requirements analysis and concept development for the reprogramming of multi-spectral TSS.</p> <p><b>FY 2012 Plans:</b> Keeping Pace with the Enemy &amp; Technology - Analysis &amp; Studies for EO/IR/UV Multi-Spectral FPS/TSS Support: In order to keep pace with changing threat and technology ARAT requires assets to better understand the impact of the physical battlefield environment on deployed high-technology sensors and their sustainment. This effort will 1) study the intelligence data requirements to support MDS development for Electro-optical/Ultra-violet/Infra-red (EO/UV/IR) and other multi-spectral sensors for aviation &amp; non-aviation force protection systems (FPS) and target sensing systems and to include active protection systems (APS), 2) Develop government organic knowledge and application-base enabling reprogramming of future systems and 3) Perform requirements analysis and concept development for the reprogramming of multi-spectral TSS.</p>			
<p><b>Title:</b> Infrastructure Improvements Multispectral</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> Infrastructure improvements ? Operational Flight Program (OFP) sustainment environment - Develop and deploy operational flight program (OFP) development environment for missile warning systems (MWS). Determine data and analysis requirements for MANPADS characterization and establish a government-organic analysis and sustainment process to support OFP?s and subsequently adapt MWS?s to new threats. Currently, no government organic capability exists, increasing the risk that systems can not be readily adapted to changing threats.</p> <p><b>FY 2012 Plans:</b> Infrastructure improvements ? Operational Flight Program (OFP) sustainment environment - Develop and deploy operational flight program (OFP) development environment for missile warning systems (MWS). Determine data and analysis requirements for MANPADS characterization and establish a government-organic analysis and sustainment process to support OFP?s and</p>			<p>-</p> <p>0.667 0</p> <p>0.605</p>

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0304270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> EW6: <i>ARAT-TSS - MIP</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
subsequently adapt MWS?s to new threats. Currently, no government organic capability exists, increasing the risk that systems can not be readily adapted to changing threats.				
<p><b>Title:</b> Infrastructure Improvement Radio Frequency General</p> <p><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> Infrastructure improvements (general) - Enhance the ARAT communications architecture to facilitate the transmission of mission software changes to FPS &amp; TSS users, with emphasis on remote user and highly mobile Warfighter connectivity. Develop/ implement integrated ASE test environment to ensure MDS and aircraft counter-measure (CM) Integration flight test support.</p> <p><b>FY 2012 Plans:</b> Infrastructure improvements (general) - Enhance the ARAT communications architecture to facilitate the transmission of mission software changes to FPS &amp; TSS users, with emphasis on remote user and highly mobile Warfighter connectivity. Develop/ implement integrated ASE test environment to ensure MDS and aircraft counter-measure (CM) Integration flight test support.</p>		-	0.450 0	0.540
<p><b>Title:</b> Threat Flagging &amp; Mission Data Set Reprogramming Tool Development</p> <p><b>Articles:</b></p> <p><b>Description:</b> Funding is provided for the following effort</p> <p><b>FY 2011 Plans:</b> Threat Flagging &amp; MDS Reprogramming Tool Development - Develop applications for ARAT internal system-specific threat flagging, threat analysis, MDS generation, and MDS testing. Enhance threat flagging (threat performance change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging &amp; changing threats that adversely affect the performance of FPS &amp; TSS. Create MDS development, testing and validation tools to decrease time from threat-change detection to the distribution of MDS products in order to increase the accuracy and fidelity of threat identification, and reduce the engineering involvement/workload associated with the manually intensive analysis and MDS development processes. Define requirements and develop tools to migrate to a data support infrastructure that employs Next Generation EWIR System (NGES) when the NGES is deployed and the current EWIR system is decommissioned.</p> <p><b>FY 2012 Plans:</b> Threat Flagging &amp; MDS Reprogramming Tool Development - Develop applications for ARAT internal system-specific threat flagging, threat analysis, MDS generation, and MDS testing. Enhance threat flagging (threat performance change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging &amp;</p>		-	0.215 0	0.230

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0304270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> EW6: <i>ARAT-TSS - MIP</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
changing threats that adversely affect the performance of FPS & TSS. Create MDS development, testing and validation tools to decrease time from threat-change detection to the distribution of MDS products in order to increase the accuracy and fidelity of threat identification, and reduce the engineering involvement/workload associated with the manually intensive analysis and MDS development processes. Define requirements and develop tools to migrate to a data support infrastructure that employs Next Generation EWIR System (NGES) when the NGES is deployed and the current EWIR system is decommissioned.			
<b>Accomplishments/Planned Programs Subtotals</b>	-	3.145	3.388

**C. Other Program Funding Summary (\$ in Millions)**

N/A

**D. Acquisition Strategy**

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

**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.

