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Supporting Data FY 2011 Budget Estimate - February 2010

## **DESCRIPTIVE SUMMARIES OF THE**



### **RESEARCH, DEVELOPMENT, TEST AND EVALUATION Army Appropriation, Budget Activity 4**

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

*Persuasive in Peace, Invincible in War*

**VOLUME IV**

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**DESCRIPTIVE SUMMARIES FOR PROGRAM ELEMENTS  
OF THE  
RESEARCH, DEVELOPMENT, TEST AND  
EVALUATION, ARMY  
FY 2011  
BUDGET ESTIMATE SUBMISSION  
FEBRUARY 2010**

**VOLUME IV  
Budget Activity 4**

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

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**FY 2011 RDT&E, ARMY  
PROGRAM ELEMENT DESCRIPTIVE SUMMARIES**

**INTRODUCTION AND EXPLANATION OF CONTENTS**

**1. General.** The purpose of this document is to provide summary information concerning the Research, Development, Test and Evaluation, Army program. The Descriptive Summaries are comprised of R-2 (Army RDT&E Budget Item Justification – program element level), R-2A (Army RDT&E Budget Item Justification – project level), R-3 (Army RDT&E Cost Analysis), R-4 (Schedule Profile), R-4A (Schedule Profile Detail) and R-5 (Termination Liability Funding for MDAPs) Exhibits, which provide narrative information on all RDT&E program elements and projects for FY 2009 through FY 2011.

**2. Relationship of the FY 2011 Budget Submitted to Congress to the FY 2010 Budget Submitted to Congress.** This paragraph provides a list of program elements restructured, transitioned, or established to provide specific program identification.

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

<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>
0603308A/978	Long Endurance Multi-Intelligence Vehicle	0305205A/LE4
0604270A/L16	TROJAN – RH12-MIP	0303032A/RH5
0604802A/S23	SLAMRAAM	0605455A/S35
0604805A/589	Joint Battle Command – Platform (JBC-P)	0604805A/593
0604869A/M06	PAC-3/MSE Missile	0605456A/PA3
0303140/5PM	Biometrics Enabled Intelligence – MIP	0307665A/BI7
0303140/5PM	Intelligence Support to Cyber (ISC) – MIP	0203347A/CY7
0305204A/114	RQ-7 Shadow UAV	0305233A/RQ7
0305204A/D10	RQ-11 Raven (MIP)	0305232A/RA7
0307207A/024	Aerial Common Sensor – SDD	0605626A/AC5

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

<b><u>OLD</u></b>	<b><u>NEW PROJECT TITLE</u></b>	<b><u>NEW</u></b>
<b><u>PE/PROJECT</u></b>		<b><u>PE/PROJECT</u></b>
0305204A/D09	ER/MP Unmanned Aircraft System (MIP)	0604276A/TU1
0307207A/024	Aerial Common Sensor (ACS)	0605626A/AC5

**C. Establishment of New FY 2011 Program Elements/Projects.** There are no major system new starts.

<b><u>TITLE</u></b>	<b><u>PE/PROJECT</u></b>
Aerial Common Sensor – SDD	0605626A/AC5
Armed Scout Helicopter	0604220A/53Z
Army Integrated Air and Missile Defense (AIAMD)	0605457A/S40
Army Integrated Military Human Resources System (A-IRMS)	0605018A/HR5
Biometrics Enabled Intelligence – MIP	0307665A/BI7
ER/MP Unmanned Aircraft System (MIP)	0604276A/TU1
Intelligence Support to Cyber (ISC) – MIP	0203347A/CY7
Joint Battle Command - Platform (JBC-P)	0604805A/593
Long Endurance Multi-Intelligence Vehicle	0305205A/LE4
MQ-1 Sky Warrior – Army UAV (MIP)	0305219A/MQ1
PAC-3/MSE Missile	0605456A/PA3
RQ-7 Shadow UAV	0305233A/RQ7
RQ-11 Raven (MIP)	0305232A/RA7
SLAMRAAM	0605455A/S35
Suicide Prevention/Mitigation	0602787A/VJ4
TROJAN – RH12-MIP	0303032A/RH5
Advanced Geospatial Intelligence (AGI)	0304348A/NI7

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**D. FY 2011 programs for which funding existed in the FY 2010 President's Budget Submit (May 2009), but which are no longer funded in the FY 2011 President's Budget Submit.**

<b><u>PE/PROJECT</u></b>	<b><u>TITLE</u></b>	<b><u>BRIEF EXPLANATION</u></b>
0603004A/L94	Electric Gun System Demo	Program restructured
0604270A/L12	Signals Warfare Development (MIP)	Program moved to a separate MIP PE
0604270A/L16	TROJAN Development (MIP)	Program moved to a separate MIP PE
0604666A/FC7	FCS – Spin Out Technology/Capability Integration	Terminated
0604802A/S23	Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM)	Program moved to a separate missile defense PE
0604818A/C15	Mounted Battle Command On-The-Move (MBCOTM)	Terminated
0604818A/C39	Tactical Operations Center (TOCs)	Terminated
0303142A/562	Multi-band Integrated Satellite Terminal (MIST)	Terminated
0307207A/024	Aerial Common Sensor (MIP)	Program transitioned to BA 5 for proper execution

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

0203801A/DF8/DF9	0603005A/C66	0604328A
0203808A	0603006A/DF7	
0301359A	0603009A	
0304348A	0603020A	
0602122A	0603322A	

**4. Performance Metrics.** Performance metrics used in the preparation of this justification book may be found in the FY 2010 Army Performance Budget Justification Book, dated March 2009.

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Exhibit R-1

01-Feb-2010

Summary

<u>Summary Recap of Budget Activities</u>	Thousands of Dollars				
	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research	422,136	431,777	406,873	0	406,873
Applied Research	1,224,889	1,337,114	841,364	0	841,364
Advanced technology development	1,438,797	1,373,609	696,592	0	696,592
Advanced Component Development and Prototypes	1,010,485	932,004	746,248	57,900	804,148
System Development and Demonstration	5,025,850	4,454,743	5,021,546	13,500	5,035,046
Management support	1,470,157	1,196,744	1,142,383	0	1,142,383
Operational system development	1,482,756	1,823,380	1,473,939	79,506	1,553,445
<b>Total</b> RDT&E, Army	<b>12,075,070</b>	<b>11,549,371</b>	<b>10,328,945</b>	<b>150,906</b>	<b>10,479,851</b>

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Program				Thousands of Dollars				
Line	Element	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
1	0601101A	01	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	19,357	19,568	21,780		21,780
2	0601102A	01	DEFENSE RESEARCH SCIENCES	193,968	197,471	195,845		195,845
3	0601103A	01	UNIVERSITY RESEARCH INITIATIVES	87,485	99,400	91,161		91,161
4	0601104A	01	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	121,326	115,338	98,087		98,087
Tota Basic research				422,136	431,777	406,873	0	406,873
Applied Research								
5	0602105A	02	MATERIALS TECHNOLOGY	80,686	99,447	29,882		29,882
6	0602120A	02	SENSORS AND ELECTRONIC SURVIVABILITY	76,213	70,272	48,929		48,929
7	0602122A	02	TRACTOR HIP	17,659	14,250	14,624		14,624
8	0602211A	02	AVIATION TECHNOLOGY	46,232	49,273	43,476		43,476
9	0602270A	02	ELECTRONIC WARFARE TECHNOLOGY	20,058	22,303	17,330		17,330
10	0602303A	02	MISSILE TECHNOLOGY	57,502	70,924	49,525		49,525
11	0602307A	02	ADVANCED WEAPONS TECHNOLOGY	22,638	21,964	18,190		18,190
12	0602308A	02	ADVANCED CONCEPTS AND SIMULATION	18,205	27,330	20,582		20,582
13	0602601A	02	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	84,436	78,923	64,740		64,740
14	0602618A	02	BALLISTICS TECHNOLOGY	84,827	78,034	60,342		60,342
15	0602622A	02	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	8,873	13,622	5,324		5,324
16	0602623A	02	JOINT SERVICE SMALL ARMS PROGRAM	9,165	7,634	7,893		7,893
17	0602624A	02	WEAPONS AND MUNITIONS TECHNOLOGY	106,253	144,864	42,645		42,645
18	0602705A	02	ELECTRONICS AND ELECTRONIC DEVICES	99,118	134,532	60,859		60,859
19	0602709A	02	NIGHT VISION TECHNOLOGY	45,329	50,877	40,228		40,228
20	0602712A	02	COUNTERMINE SYSTEMS	27,827	23,621	19,118		19,118
21	0602716A	02	HUMAN FACTORS ENGINEERING TECHNOLOGY	42,208	30,446	21,042		21,042
22	0602720A	02	ENVIRONMENTAL QUALITY TECHNOLOGY	15,786	25,469	18,364		18,364
23	0602782A	02	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	45,350	30,036	25,573		25,573
24	0602783A	02	COMPUTER AND SOFTWARE TECHNOLOGY	7,786	5,609	6,768		6,768
25	0602784A	02	MILITARY ENGINEERING TECHNOLOGY	58,671	60,779	79,189		79,189
26	0602785A	02	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	16,096	16,614	22,198		22,198
27	0602786A	02	WARFIGHTER TECHNOLOGY	35,866	38,347	27,746		27,746

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Program				Thousands of Dollars				
Line No	Element Number	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
28	0602787A	02	MEDICAL TECHNOLOGY	198,105	221,944	96,797		96,797
Tota Applied Research				1,224,889	1,337,114	841,364	0	841,364
Advanced technology development								
29	0603001A	03	WARFIGHTER ADVANCED TECHNOLOGY	72,271	54,290	37,364		37,364
30	0603002A	03	MEDICAL ADVANCED TECHNOLOGY	329,258	339,752	71,510		71,510
31	0603003A	03	AVIATION ADVANCED TECHNOLOGY	102,207	112,388	57,454		57,454
32	0603004A	03	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	112,544	89,861	64,438		64,438
33	0603005A	03	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	270,195	240,190	89,499		89,499
34	0603006A	03	COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLOGY	11,307	12,352	8,102		8,102
35	0603007A	03	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	6,725	7,371	7,921		7,921
36	0603008A	03	ELECTRONIC WARFARE ADVANCED TECHNOLOGY	61,192	57,199	50,359		50,359
37	0603009A	03	TRACTOR HIKE	14,157	11,270	8,015		8,015
38	0603015A	03	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	24,769	25,362	15,334		15,334
39	0603020A	03	TRACTOR ROSE	11,216	14,493	12,309		12,309
40	0603103A	03	EXPLOSIVES DEMILITARIZATION TECHNOLOGY	17,213	12,495			
41	0603105A	03	MILITARY HIV RESEARCH	14,867	29,502	6,688		6,688
42	0603125A	03	COMBATING TERRORISM - TECHNOLOGY DEVELOPMENT	12,656	11,927	10,550		10,550
43	0603270A	03	ELECTRONIC WARFARE TECHNOLOGY	32,544	21,877	18,350		18,350
44	0603313A	03	MISSILE AND ROCKET ADVANCED TECHNOLOGY	74,967	86,559	84,553		84,553
45	0603322A	03	TRACTOR CAGE	12,037	12,090	9,986		9,986
46	0603606A	03	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	36,883	34,855	26,953		26,953
47	0603607A	03	JOINT SERVICE SMALL ARMS PROGRAM	8,568	8,949	9,151		9,151
48	0603710A	03	NIGHT VISION ADVANCED TECHNOLOGY	69,778	72,250	39,912		39,912
49	0603728A	03	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	16,782	16,121	15,878		15,878
50	0603734A	03	MILITARY ENGINEERING ADVANCED TECHNOLOGY	34,935	45,394	27,393		27,393
51	0603772A	03	ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECHNOLOGY	91,726	57,062	24,873		24,873
Tota Advanced technology development				1,438,797	1,373,609	696,592	0	696,592



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Line No	Element Number	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
Advanced Component Development and Prototypes								
52	0603024A	04	UNIQUE ITEM IDENTIFICATION (UID)	628	1,990			
53	0603305A	04	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	90,552	71,788	11,455		11,455
54	0603308A	04	ARMY SPACE SYSTEMS INTEGRATION	53,416	118,610	27,551		27,551
55	0603327A	04	AIR AND MISSILE DEFENSE SYSTEMS ENGINEERING	115,567	166,061			
56	0603619A	04	LANDMINE WARFARE AND BARRIER - ADV DEV	13,789	17,445	15,596		15,596
57	0603627A	04	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	3,721	4,894	2,425		2,425
58	0603639A	04	TANK AND MEDIUM CALIBER AMMUNITION	39,590	33,757	42,183		42,183
59	0603653A	04	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	76,072	89,828	136,302		136,302
60	0603747A	04	SOLDIER SUPPORT AND SURVIVABILITY	18,058	33,178	18,556	57,900	76,456
61	0603766A	04	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM - ADV DEV	12,235	12,164	17,962		17,962
62	0603774A	04	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	2,508				
63	0603779A	04	ENVIRONMENTAL QUALITY TECHNOLOGY - DEM/VAL	20,443	18,374	4,695		4,695
64	0603782A	04	WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL	392,138	169,783	190,903		190,903
65	0603790A	04	NATO RESEARCH AND DEVELOPMENT	4,883	5,022	5,060		5,060
66	0603801A	04	AVIATION - ADV DEV	26,507	8,492	8,355		8,355
67	0603804A	04	LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV	42,939	59,662	80,490		80,490
68	0603805A	04	COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION AN	17,267	9,817	14,290		14,290
69	0603807A	04	MEDICAL SYSTEMS - ADV DEV	29,572	35,886	28,132		28,132
70	0603827A	04	SOLDIER SYSTEMS - ADVANCED DEVELOPMENT	41,599	73,785	48,323		48,323
71	0603850A	04	INTEGRATED BROADCAST SERVICE	9,001	1,468	970		970
72	0305205A	04	ENDURANCE UAVS			93,000		93,000
Tota Advanced Component Development and Prototypes				1,010,485	932,004	746,248	57,900	804,148
System Development and Demonstration								
73	0604201A	05	AIRCRAFT AVIONICS	60,781	89,508	89,210		89,210
74	0604220A	05	ARMED, DEPLOYABLE HELOS	63,017	66,169	72,550		72,550
75	0604270A	05	ELECTRONIC WARFARE DEVELOPMENT	38,256	281,570	172,269	5,400	177,669
76	0604280A	05	JOINT TACTICAL RADIO			784		784
77	0604321A	05	ALL SOURCE ANALYSIS SYSTEM	13,211	13,039	22,574	8,100	30,674

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Program				Thousands of Dollars				
Line	Element	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
78	0604328A	05	TRACTOR CAGE	16,300	16,201	23,194		23,194
79	0604601A	05	INFANTRY SUPPORT WEAPONS	57,677	83,178	80,337		80,337
80	0604604A	05	MEDIUM TACTICAL VEHICLES	2,169	5,653	3,710		3,710
81	0604609A	05	SMOKE, OBSCURANT AND TARGET DEFEATING SYS - ENG DEV	5,428	973	5,335		5,335
82	0604611A	05	JAVELIN			9,999		9,999
83	0604622A	05	FAMILY OF HEAVY TACTICAL VEHICLES	4,550	9,826	3,519		3,519
84	0604633A	05	AIR TRAFFIC CONTROL	16,092	7,538	9,892		9,892
85	0604642A	05	LIGHT TACTICAL WHEELED VEHICLES			1,990		1,990
86	0604646A	05	NON-LINE OF SIGHT LAUNCH SYSTEM	253,684	91,223	81,247		81,247
87	0604647A	05	NON-LINE OF SIGHT CANNON	87,038	47,964			
88	0604660A	05	FCS MANNED GRD VEHICLES & COMMON GRD VEHICLE	760,744	275,116			
89	0604661A	05	FCS SYSTEMS OF SYSTEMS ENGR & PROGRAM MGMT	1,022,165	912,399	568,711		568,711
90	0604662A	05	FCS RECONNAISSANCE (UAV) PLATFORMS	55,923	75,107	50,304		50,304
91	0604663A	05	FCS UNMANNED GROUND VEHICLES	104,571	124,962	249,948		249,948
92	0604664A	05	FCS UNATTENDED GROUND SENSORS	20,135	26,778	7,515		7,515
93	0604665A	05	FCS SUSTAINMENT & TRAINING R&D	819,721	655,745	610,389		610,389
94	0604666A	05	SPIN OUT TECHNOLOGY/CAPABILITY INSERTION	122,788				
95	0604710A	05	NIGHT VISION SYSTEMS - ENG DEV	96,678	57,111	52,549		52,549
96	0604713A	05	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	2,422	2,081	2,118		2,118
97	0604715A	05	NON-SYSTEM TRAINING DEVICES - ENG DEV	36,826	30,052	27,756		27,756
98	0604741A	05	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE - ENG D	21,737	28,785	34,209		34,209
99	0604742A	05	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	25,095	33,039	30,291		30,291
100	0604746A	05	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	17,020	15,240	14,041		14,041
101	0604760A	05	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - ENG DEV	18,999	15,645	15,547		15,547
102	0604778A	05	POSITIONING SYSTEMS DEVELOPMENT (SPACE)		9,396			
103	0604780A	05	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	32,541	26,107	27,670		27,670
104	0604783A	05	JOINT NETWORK MANAGEMENT SYSTEM	659				
105	0604802A	05	WEAPONS AND MUNITIONS - ENG DEV	101,823	87,022	24,345		24,345
106	0604804A	05	LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV	29,884	37,023	41,039		41,039
107	0604805A	05	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - ENG DEV	9,489	58,688	90,736		90,736
108	0604807A	05	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT	41,081	41,794	34,474		34,474
109	0604808A	05	LANDMINE WARFARE/BARRIER - ENG DEV	113,590	72,380	95,577		95,577
110	0604814A	05	ARTILLERY MUNITIONS - EMD	70,008	42,230	26,371		26,371
111	0604817A	05	COMBAT IDENTIFICATION	8,967	10,018	29,884		29,884

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Program				Thousands of Dollars				
Line	Element	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
112	0604818A	05	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	63,552	79,448	60,970		60,970
113	0604822A	05	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	50,308	23,777	13,576		13,576
114	0604823A	05	FIREFINDER	64,834	20,227	24,736		24,736
115	0604827A	05	SOLDIER SYSTEMS - WARRIOR DEM/VAL	20,086	19,683	20,886		20,886
116	0604854A	05	ARTILLERY SYSTEMS - EMD	32,261	115,811	53,624		53,624
117	0604869A	05	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)	454,665	566,215	467,139		467,139
118	0604870A	05	NUCLEAR ARMS CONTROL MONITORING SENSOR NETWORK	6,064	7,103	7,276		7,276
119	0605013A	05	INFORMATION TECHNOLOGY DEVELOPMENT	68,194	66,561	23,957		23,957
120	0605018A	05	ARMY INTEGRATED MILITARY HUMAN RESOURCES SYSTEM (A-IMHRS)			100,500		100,500
121	0605450A	05	JOINT AIR-TO-GROUND MISSILE (JAGM)	114,817	126,775	130,340		130,340
122	0605455A	05	SLAMRAAM			23,700		23,700
123	0605456A	05	PAC-3/MSE MISSILE			62,500		62,500
124	0605457A	05	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)			251,124		251,124
125	0605625A	05	MANNED GROUND VEHICLE		79,583	934,366		934,366
126	0605626A	05	AERIAL COMMON SENSOR			211,500		211,500
127	0303032A	05	TROJAN - RH12			3,697		3,697
128	0304270A	05	ELECTRONIC WARFARE DEVELOPMENT			21,571		21,571
Tota System Development and Demonstration				5,025,850	4,454,743	5,021,546	13,500	5,035,046
Management support								
129	0604256A	06	THREAT SIMULATOR DEVELOPMENT	22,015	25,091	26,158		26,158
130	0604258A	06	TARGET SYSTEMS DEVELOPMENT	13,124	13,544	8,614		8,614
131	0604759A	06	MAJOR T&E INVESTMENT	62,699	51,576	42,102		42,102
132	0605103A	06	RAND ARROYO CENTER	19,817	17,812	20,492		20,492
133	0605301A	06	ARMY KWAJALEIN ATOLL	169,367	162,662	163,788		163,788
134	0605326A	06	CONCEPTS EXPERIMENTATION PROGRAM	33,178	26,407	17,704		17,704
135	0605502A	06	SMALL BUSINESS INNOVATIVE RESEARCH	297,531				
136	0605601A	06	ARMY TEST RANGES AND FACILITIES	356,720	352,845	393,937		393,937
137	0605602A	06	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	84,905	84,389	59,040		59,040
138	0605604A	06	SURVIVABILITY/LETHALITY ANALYSIS	40,037	44,782	41,812		41,812
139	0605605A	06	DOD HIGH ENERGY LASER TEST FACILITY	6,772	7,352	4,710		4,710

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 Department of the Army  
 FY 2011 RDT&E Program  
 President's Budget FY 2011

Exhibit R-1

Appropriation: 2040 A RDT&E, Army 01-Feb-2010

Program				Thousands of Dollars				
Line	Element	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
140	0605606A	06	AIRCRAFT CERTIFICATION	5,001	3,746	5,055		5,055
141	0605702A	06	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	8,120	8,347	7,185		7,185
142	0605706A	06	MATERIEL SYSTEMS ANALYSIS	17,472	19,864	18,078		18,078
143	0605709A	06	EXPLOITATION OF FOREIGN ITEMS	3,908	5,403	5,460		5,460
144	0605712A	06	SUPPORT OF OPERATIONAL TESTING	76,231	77,471	68,191		68,191
145	0605716A	06	ARMY EVALUATION CENTER	61,461	67,555	61,450		61,450
146	0605718A	06	ARMY MODELING & SIM X-CMD COLLABORATION & INTEG	5,159	5,328	3,926		3,926
147	0605801A	06	PROGRAMWIDE ACTIVITIES	72,659	77,419	73,685		73,685
148	0605803A	06	TECHNICAL INFORMATION ACTIVITIES	44,051	51,351	48,309		48,309
149	0605805A	06	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	44,326	72,851	53,338		53,338
150	0605857A	06	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	9,966	5,165	3,195		3,195
151	0605898A	06	MANAGEMENT HQ - R&D	15,586	15,784	16,154		16,154
152	0909999A	06	FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS	52				
Tota Management support				1,470,157	1,196,744	1,142,383	0	1,142,383
Operational system development								
153	0603778A	07	MLRS PRODUCT IMPROVEMENT PROGRAM	53,954	27,549	51,619		51,619
154	0102419A	07	AEROSTAT JOINT PROJECT OFFICE	344,850	328,356	372,493		372,493
155	0203347A	07	INTELLIGENCE SUPPORT TO CYBER (ISC) MIP			2,360		2,360
156	0203726A	07	ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	16,200	29,174	24,622		24,622
157	0203735A	07	COMBAT VEHICLE IMPROVEMENT PROGRAMS	139,100	196,393	204,481		204,481
158	0203740A	07	MANEUVER CONTROL SYSTEM	36,072	21,283	25,540		25,540
159	0203744A	07	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAM	298,640	231,792	134,999		134,999
160	0203752A	07	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	326	788	710		710
161	0203758A	07	DIGITIZATION	7,835	10,636	6,329		6,329
162	0203759A	07	FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW (FBCB2)	22,688		3,935		3,935
163	0203801A	07	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	34,189	39,068	24,280		24,280
164	0203802A	07	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS	5,167	3,979			
165	0203808A	07	TRACTOR CARD	15,818	19,930	14,870		14,870
166	0208010A	07	JOINT TACTICAL COMMUNICATIONS PROGRAM (TRI-TAC)	892				
167	0208053A	07	JOINT TACTICAL GROUND SYSTEM	1,949	36,005	12,403		12,403

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 Department of the Army  
 FY 2011 RDT&E Program  
 President's Budget FY 2011

Exhibit R-1

Appropriation: 2040 A RDT&E, Army 01-Feb-2010

Program				Thousands of Dollars				
Line No	Element Number	Act	Item	FY2009	FY2010	FY2011	FY2011 OCO	FY2011 Total
Basic research								
168	0208058A	07	JOINT HIGH SPEED VESSEL (JHSV)	2,986	3,066	3,153		3,153
169	0301359A	07	SPECIAL ARMY PROGRAM					
170	0303028A	07	SECURITY AND INTELLIGENCE ACTIVITIES	3,189	9,777			
171	0303140A	07	INFORMATION SYSTEMS SECURITY PROGRAM	39,679	60,866	54,784	63,306	118,090
172	0303141A	07	GLOBAL COMBAT SUPPORT SYSTEM	107,693	143,979	125,569		125,569
173	0303142A	07	SATCOM GROUND ENVIRONMENT (SPACE)	46,799	39,889	33,694		33,694
174	0303150A	07	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	12,599	11,972	13,024		13,024
175	0303158A	07	JOINT COMMAND AND CONTROL PROGRAM (JC2)	13,228				
176	0305204A	07	TACTICAL UNMANNED AERIAL VEHICLES	100,454	202,116	54,300		54,300
177	0305208A	07	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	88,483	188,465	103,002	16,200	119,202
178	0305219A	07	MQ-1 SKY WARRIOR A UAV			123,156		123,156
179	0305232A	07	RQ-11 UAV			1,599		1,599
180	0305233A	07	RQ-7 UAV			7,805		7,805
181	0307207A	07	AERIAL COMMON SENSOR (ACS)		115,430			
182	0307665A	07	BIOMETRICS ENABLED INTELLIGENCE			14,114		14,114
183	0702239A	07	AVIONICS COMPONENT IMPROVEMENT PROGRAM	991				
184	0708045A	07	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	88,975	102,867	61,098		61,098
Tota Operational system development				1,482,756	1,823,380	1,473,939	79,506	1,553,445
Total: RDT&E, Army				12,075,070	11,549,371	10,328,945	150,906	10,479,851

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53	0603305A	Army Missile Defense Systems Integration	1
54	0603308A	Army Space Systems Integration	21
55	0603327A	Air and Missile Defense Systems Engineering	41
56	0603619A	Landmine Warfare and Barrier - Adv Dev	59
57	0603627A	Smoke, Obscurant and Target Defeating Sys-Adv Dev	69
58	0603639A	Tank and Medium Caliber Ammunition	79
59	0603653A	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	98
60	0603747A	Soldier Support and Survivability	120
61	0603766A	Tactical Electronic Surveillance System - Adv Dev	168
62	0603774A	Night Vision Systems Advanced Development	177
63	0603779A	Environmental Quality Technology - Dem/Val	183
64	0603782A	WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL	210
65	0603790A	NATO Research and Development	232
66	0603801A	Aviation - Adv Dev	249
67	0603804A	Logistics and Engineer Equipment - Adv Dev	266
68	0603805A	Combat Service Support Control System Evaluation and Analysis	359
69	0603807A	Medical Systems - Adv Dev	370
70	0603827A	Soldier Systems - Advanced Development	411
71	0603850A	Integrated Broadcast Service	462
72	0305205A	Long Endurance Multi-Intelligence Vehicle (LEMV)	467

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Line No.	Program Element	Program Element Title	Page
59	0603653A	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	98
55	0603327A	Air and Missile Defense Systems Engineering	41
53	0603305A	Army Missile Defense Systems Integration	1
54	0603308A	Army Space Systems Integration	21
66	0603801A	Aviation - Adv Dev	249
68	0603805A	Combat Service Support Control System Evaluation and Analysis	359
63	0603779A	Environmental Quality Technology - Dem/Val	183
71	0603850A	Integrated Broadcast Service	462
56	0603619A	Landmine Warfare and Barrier - Adv Dev	59
67	0603804A	Logistics and Engineer Equipment - Adv Dev	266
72	0305205A	Long Endurance Multi-Intelligence Vehicle (LEMV)	467
69	0603807A	Medical Systems - Adv Dev	370
65	0603790A	NATO Research and Development	232
62	0603774A	Night Vision Systems Advanced Development	177
57	0603627A	Smoke, Obscurant and Target Defeating Sys-Adv Dev	69
60	0603747A	Soldier Support and Survivability	120
70	0603827A	Soldier Systems - Advanced Development	411
61	0603766A	Tactical Electronic Surveillance System - Adv Dev	168
58	0603639A	Tank and Medium Caliber Ammunition	79
64	0603782A	WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL	210

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	90.552	71.788	11.455	0.000	11.455	38.712	90.476	109.586	110.512	Continuing	Continuing
TR4: <i>MISSILE DEFENSE INTEGRATION</i>	78.170	58.832	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
TR5: <i>MISSILE DEFENSE BATTLELAB</i>	12.382	12.956	7.159	0.000	7.159	17.409	16.279	15.907	16.506	Continuing	Continuing
TR7: <i>Protection Capability II - Intercept</i>	0.000	0.000	4.296	0.000	4.296	21.303	74.197	93.679	94.006	Continuing	Continuing

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

This Program Element funds missile defense systems integration efforts for both the US Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT) and the Program Executive Office for Missiles and Space (PEO-MS).USASMDC/ARSTRAT: Headquarters, Department of the Army General Order 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), the Army integrator for global missile defense, and the Army Service Component Command (ASCC) of the U.S. Strategic Command (USSTRATCOM). Army Regulation (AR) 10-87 Army Commands, Army Service Component Commands, and Direct Reporting Units, dated 4 September 2007 and AR 5-22 The Army Force Modernization Proponent System dated 19 August 2009 designates USASMDC/ARSTRAT as the Army specified proponent for Global Missile Defense and Space/High Altitude capabilities. As the Army proponent for space, high altitude and GMD, USASMDC/ARSTRAT is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organizations, Training, Material, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize the GMD capabilities. As the Army integrator for global missile defense, USASMDC/ARSTRAT is responsible to review programs managed by the Army, other Services, Defense agencies and National agencies to ensure that they are correctly synchronized and will ultimately provide the capabilities required by USSTRATCOM to execute its global missile defense responsibilities. Project TR4 funds the USASMDC/ARSTRAT to execute its proponent role for Ground-Based Missile Defense, and its role as the integrator for global missile defense. In fiscal year 2011, this project will be rolled into program element 0603308A project 990 in recognition of the increasing interrelationship between space operations, exo-atmospheric ballistic missile defense and global missile defense. Project TR5 funds USASMDC/ARSTRAT efforts to develop, analyze and mature warfighting concepts, focus military science and technology research, and conduct warfighting experiments associated with USASMDC/ARSTRAT's ASCC mission. Additionally, this project funds the delivery of innovations to the warfighter through prototyping, operational analysis, and experimentation in support of current and future Forces. Project TR7 funds the Cruise Missile Defense Systems Project Office/ Program Executive Office Missiles and Space efforts to develop Indirect Fire Protection Capability Increment II - Intercept capabilities required to execute the US Army's current and future air and missile defense responsibilities.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>
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**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	90.765	14.683	23.814	0.000	23.814
Current President's Budget	90.552	71.788	11.455	0.000	11.455
Total Adjustments	-0.213	57.105	-12.359	0.000	-12.359
• Congressional General Reductions		-0.375			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		57.480			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.213	0.000			
• Adjustments to Budget Years	0.000	0.000	-12.359	0.000	-12.359

**Change Summary Explanation**

Change Summary Explanation: Funding FY2010: Congressional Increase for various Congressional adds. FY2011: Funds realigned (\$12.359 million) to higher program priorities.

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>				<b>PROJECT</b> TR4: <i>MISSILE DEFENSE INTEGRATION</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
TR4: <i>MISSILE DEFENSE INTEGRATION</i>	78.170	58.832	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>Headquarters, Department of the Army General Order Number 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), and the Army integrator for global missile defense. This project funds efforts associated with those roles. As the Army proponent for GMD, USASMDC/ARSTRAT is responsible to develop and validate warfighting concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Materiel, Leadership &amp; Education, Personnel and Facilities (DOTMLPF) solutions to realize GMD capabilities. As the Army integrator for global missile defense, USASMDC/ARSTRAT is responsible to review programs managed by the Army, other Services, Defense agencies and National agencies to ensure that they are correctly synchronized and will ultimately provide the capabilities required by USSTRATCOM to execute its global missile defense responsibilities. After FY2010, this project is rolled into PE 0603308A, project 990 in recognition of the increasing interrelationship between space operations, exo-atmospheric ballistic missile defense and global missile defense.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  Continue combat development efforts to define DOTMLPF solutions for capabilities required to execute ground-based midcourse defense operations across the four domains of missile defense (passive defense, active defense, attack operations and battle management). Ensure that the various components of a global missile defense capability remain synchronized with USSTRATCOM's concept of operations.  <i>FY 2009 Accomplishments:</i> FY 2009							1.330	1.613	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>	<b>PROJECT</b> TR4: <i>MISSILE DEFENSE INTEGRATION</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2  Includes FY09/FY10 Congressional Adds for Adaptive Lightweight Materials for Missile Defense, Adaptive Robotics Technology for Space, Air, and Missiles (ART-SAM), Advanced Cavitation Power Technology, Advanced Electronics Rosebud Integration, Advanced Environmental Control System, Advanced Fuel Cell Research Program, Advanced Hypersonic Weapon Technology Demonstration, Advanced Standoff Technologies for National Security, Advanced Strap Down Seeker, Alternative Power Technology (APT) for Missile Defense, Biological Air Filtering System Technology, Compact Pulsed Power Initiative, Composite Structure Design, Continuous Threat Alert Sensins System (CTASS), Deployable Space and Electronic Warfare Analysis Tools, Detection Algorithms and Software for Force Protection, Detection Mitigation and Neutralization of High Explosive, Dielectrically Enhance Sensor System (DESS), Discriminatory Imaging and Network Advancement for Missiles, Aviation, and Space, Future TOC Hardware/Software Integration, Geospatial Airship Research Platform, Heat Dissipation for Electronic Systems & Enclosures, High Detail Architecture Analysis Tool, High Speed Digital Imaging, High Temp Polymers for Missile System Applications, Micro-Systems Nanotechnology for Advanced Technology Development, On-board Hybrid Power Unit (OBHPU), Orion High Altitude Long Loiter UAV, Processing DNA Data Using Classical Discrimination Techniques, Radiation Hardening Initiative (RHI), Remote Explosive Analysis and Detection System (READS), Standoff Hazardous Agent Detection & Evaluation System, Thermal and Electrical Nanoscale Transport (TENT), and Vertical Integration for Missile Defense Surveillance Data.		76.840	57.181	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems</i> <i>Integration</i>	<b>PROJECT</b> TR4: <i>MISSILE DEFENSE INTEGRATION</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 Small Business Innovative Research/Small Business Technology Transfer Programs		0.000	0.038	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		78.170	58.832	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems</i> <i>Integration</i>	<b>PROJECT</b> TR4: <i>MISSILE DEFENSE INTEGRATION</i>
<b><u>C. Other Program Funding Summary (\$ in Millions)</u></b> N/A		
<b><u>D. Acquisition Strategy</u></b> This project employs a mix of government employees and various contractors for different aspects of the combat development process to ensure a degree of independent thought, and to encourage the use of various analytic approaches. After FY2010, this project is rolled into PE 0603308A, project 990 in recognition of the increasing interrelationship between space operations, exo-atmospheric ballistic missile defense and global missile defense.		
<b><u>E. Performance Metrics</u></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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>	<b>PROJECT</b> TR4: <i>MISSILE DEFENSE INTEGRATION</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Execute Congressional Adds	C/Various	Various Location could not be determined.	292.042	57.181		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			292.042	57.181		0.000		0.000		0.000			0.000

Remarks

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Govt support & support contracts	C/Various	Various in Colorado Springs CO and Huntsville AL Location could not be determined.	11.562	1.651		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			11.562	1.651		0.000		0.000		0.000			0.000

Remarks

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>				<b>PROJECT</b> TR5: <i>MISSILE DEFENSE BATTLELAB</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
TR5: <i>MISSILE DEFENSE BATTLELAB</i>	12.382	12.956	7.159	0.000	7.159	17.409	16.279	15.907	16.506	Continuing	Continuing	
Quantity of RDT&E Articles												
<b>A. Mission Description and Budget Item Justification</b>												
Project TR5 funds USASMDC/ARSTRAT efforts to develop, analyze and mature warfighting concepts, focus military science and technology research, and conduct warfighting experiments. Additionally, this project funds the delivery of innovations to the warfighter through prototyping, operational analysis, and experimentation in support of current and future Forces. The concepts, experiments, analyses, and prototypes apply to all of the mission areas assigned to USASMDC/ARSTRAT in its role as an ASCC to USSTRATCOM: Missile Defense, Space, Information Operations (IO), Global Strike (GS), Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR).												
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Program #1						7.488	7.629	4.295	0.000	4.295		
FY09 accomplishments and planned FY10 activities include participation in numerous Integrated Capabilities Development Teams and providing concept development support for the Space Functional Needs Analysis (FNA), the Space Capabilities Integration Map (CIM) and the GMD Concept Capability Plan (CCP). Experimented with advanced prototype components of future operational- and tactical-level command and control (C2) systems to assess their impact on Doctrine, Organization, Training, Material, Leadership and Education, Personnel and Facilities (DOTMLPF) issues. Participated in major Army and Joint Experiments integrating space, missile defense, IO, GS and C4ISR integrating, functional and operational concepts into the Army Campaign Plan (ACP). USASMDC/ARSTRAT participated in several FY09 technology assessments, experiments, and demonstrations including Unified Quest 09, Schreiber V, STRATCOM MAST, Tactical Satellite (TacSat) 3 Joint Military Utility Assessment, High Altitude Enabled Capabilities Assessment, Earth Wind and Fire, Keen Edge 09, Coalition Warrior Interoperability Demonstration (CWID) 09, Coalition Warfighter Program (CWP) and the Intelligence, Surveillance and Reconnaissance (ISR) Warfighter Exercise. Experiments and Wargames scheduled in FY10												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>	<b>PROJECT</b> TR5: <i>MISSILE DEFENSE BATTLELAB</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>include Unified Quest 10, Schreiver Wargame 2010, Army Space Power Wargame II, Tactical Satellite (TacSat) 3 Joint Military Utility Assessment, High Altitude Assessment Part II, A Day Without Space, Bold Quest, Falcon Virgo, Eagle Resolve, Arctic Edge, Key Resolve, and other space and missile defense related exercises. In FY11 our planned program will be limited to what can be accomplished by Government employees; this will include minimum participation in Army and joint combat development activities similar to those described above. Government personnel will monitor ongoing experiments, wargames and analysis to document the impact of space, missile defense and high altitude on Army operations.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
Program #2	Operational Analysis/Tools, Modeling and Simulation (M&S) - Studies and Analysis FY09 accomplishments and planned FY10 activities include operational assessments of concepts, doctrine, organizations, technologies and tactics. Efforts also included examination of TacSAT III issues for space and missile defense including new doctrine for Space Superiority and Operational Analysis of High Altitude (HA) capabilities at the Tactical Level, Theater Missile Defense concepts, and Space ISR. Tools and M&S accomplishments include M&S for experimentation and operational assessments, and the maintenance of M&S tools including developing an operational representation of HA and space based capabilities into OneSAF and the development of the Joint	4.894	5.199	2.864	0.000	2.864

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems</i> <i>Integration</i>	<b>PROJECT</b> TR5: <i>MISSILE DEFENSE BATTLELAB</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Embedded Messaging System (JEMS) for translation and transfer of space-based information for M&amp;S and tactical systems. Analysis and M&amp;S for evolving space superiority and operationally responsive space concepts that address emerging needs will be initiated in FY11 and expanded in FY12 to ensure that combat development activities adequately address space, missile defense and high altitude doctrinal and material investments. Plans include minimal sustaining maintenance of M&amp;S tools and operation of the Space Missile Defense Battle Lab Collaborative Simulation Environment required to support experimentation and analysis.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #3 Small Business Innovative Research/Small Business Technology Transfer Programs</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	0.128	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems</i> <i>Integration</i>		<b>PROJECT</b> TR5: <i>MISSILE DEFENSE BATTLELAB</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				12.382	12.956	7.159	0.000	7.159
<b>C. Other Program Funding Summary (\$ in Millions)</b>								
N/A								
<b>D. Acquisition Strategy</b>								
Not applicable for this item.								
<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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>	<b>PROJECT</b> TR5: <i>MISSILE DEFENSE BATTLELAB</i>
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**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Experiments & technology enhancements of prototypes/tools and analysis.	C	Various Colorado Springs CO and Huntsville AL Location could not be determined.	30.327	4.923		0.000		0.000		0.000	Continuing	Continuing	0
Govt Support and Support Contracts	C	Various Colorado Springs CO and Huntsville AL Location could not be determined.	47.906	8.033		7.159		0.000		7.159	Continuing	Continuing	0
<b>Subtotal</b>			78.233	12.956		7.159		0.000		7.159			0.000

**Remarks**

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	78.233	12.956	7.159	0.000	7.159			0.000

**Remarks**

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>				<b>PROJECT</b> TR7: <i>Protection Capability II - Intercept</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
TR7: <i>Protection Capability II - Intercept</i>	0.000	0.000	4.296	0.000	4.296	21.303	74.197	93.679	94.006	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The mission of the Indirect Fire Protection Capability II-Intercept (IFPCII-I) is to provide a more robust complementary protection against indirect fires from rockets, artillery and mortars (RAM). It will be part of an overarching IFPC architecture and will seamlessly integrate with current Increment 0, Counter-Rockets, Artillery, and Mortar (C-RAM), and Increment 1, Enhanced Sense and Warn Capability. When implemented, IFPCII-I will provide 360 degree protection against RAM threats simultaneously attacking from multiple azimuths. IFPCII-I technologies may consist of kinetic and/or directed energy weapons, associated fire control sensors, and a technical fire control capability. Command and Control is external to the IFPCII-I program and will be provided by the supported forces. A joint Advanced Technology Objective (ATO) being executed by Aviation and Missile Research, Development and Engineering Center (AMRDEC) (US Army Aviation and Missile Command) is in the process of developing missile and bullet technologies necessary to implement an IFPCII-I capability. It is expected the ATO will culminate in prototype components that will flow into the IFPCII-I system concept.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1 Initiate Milestone A Documentation Development and Transition to Technology Development (TD) Phase.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							0.000	0.000	4.296	0.000	4.296

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>	<b>PROJECT</b> TR7: <i>Protection Capability II - Intercept</i>
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>					
	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	0.000	0.000	4.296	0.000	4.296

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>SSN WK5053, FAAD GBS</i>	0.000	0.000	91.467	0.000	91.467	7.948	7.935	0.000	0.000	Continuing	Continuing
• Ord. #2: <i>PE 0603327A, Proj S34, AMD System of System Engineering and Integration</i>	111.496	166.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**D. Acquisition Strategy**  
Begin transition to Milestone A FY2011 with Milestone A decision FY2012 for entry into Technology Development (TD) Phase. Will award multiple contracts during the TD Phase for competing teams to demonstrate system components and/ or key system components for government evaluation and final down select in FY2015. Transition to Milestone B will begin FY2014 with Milestone B decision FY2016 for entry into the Engineering and Manufacturing Development (EMD) 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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>	<b>PROJECT</b> TR7: <i>Protection Capability II - Intercept</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Cost Category Item is empty.	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000			0.000

Remarks

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Cost Category Item is empty.	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000			0.000

Remarks

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>				<b>PROJECT</b> TR7: <i>Protection Capability II - Intercept</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Cost Category Item is empty.	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000			0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Pre-Technology Development management support	C	Cruise Missile Defense Systems Project Office - Huntsville Alabama	0.000	0.000		4.296		0.000		4.296	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		4.296		0.000		4.296			0.000

**Remarks**

Management Services in FY2011 is for government preparation of pre-milestone A documentation and Systems Engineering planning for transition to Technical Development Phase. Contract award planned for FY2012.

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>	<b>PROJECT</b> TR7: <i>Protection Capability II - Intercept</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Transition to Milestone A								#	#	#	#	#	#	#														
Milestone A													#															
Technology Development (TD) Phase													#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Transition to Milestone B																					#	#	#	#	#	#	#	#
Milestone B																												#

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603305A: <i>Army Missile Defense Systems Integration</i>	<b>PROJECT</b> TR7: <i>Protection Capability II - Intercept</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Transition to Milestone A	4	2010	2	2012
Milestone A	2	2012	2	2012
Technology Development (TD) Phase	2	2012	4	2015
Transition to Milestone B	2	2014	4	2015
Milestone B	4	2015	4	2015

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	53.416	118.610	27.551	0.000	27.551	33.338	31.006	19.213	19.467	Continuing	Continuing
978: <i>SPACE CONTROL</i>	6.776	92.617	11.858	0.000	11.858	16.920	14.058	7.425	7.372	Continuing	Continuing
990: <i>Space and Missile Defense Integration</i>	46.640	25.993	15.693	0.000	15.693	16.418	16.948	11.788	12.095	Continuing	Continuing

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

This program element funds space systems integration efforts performed by the US Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT). USASMDC/ARSTRAT: Headquarters, Department of the Army General Order Number 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), the Army integrator for global missile defense, and the Army Service Component Command of U.S. Strategic Command (USSTRATCOM). As such, USASMDC/ARSTRAT is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize those space related capabilities. Army Regulation (AR) 10-87 Army Commands, Army Service Component Commands, and Direct Reporting Units, dated 4 September 2007 and AR 5-22 The Army Force Modernization Proponent System dated 19 August 2009 designates USASMDC/ARSTRAT as the Army specified proponent for Global Missile Defense and Space/High Altitude Capabilities. Project #978 funds Space Control capabilities which provide ground-based tactically-centric space information superiority capabilities to meet current Joint Requirements and validated Training and Doctrine Command capability gaps. Army Space Control will establish and maintain assured space data access and information superiority in support of tactical operations. In March 2009, the Army Acquisition Executive signed a Materiel Development Decision that designated Program Executive Office Intelligence, Electronic Warfare, and Sensors (PEO IEW&S) as the Milestone Decision Authority for the Space Control Materiel Development effort. In conjunction with Milestone A (May 2009), PEO IEW&S authorized program entry into the Technology Development Phase and chartered a Product Director for Tactical Data Terminals (Space) (TDT(S)) to lead the acquisition effort. The Product Office has subsequently awarded two competitive prototype contracts to retire maximum risk prior to the Engineering and Manufacturing Development Phase. Original Space Control funding was consistent with President's direction to enhance competition and DoD direction for competitive prototyping during Technology Development Phase. Failure to fund at the requested level does not allow us to continue executing consistent with this direction. Due to the \$10 million (43 percent) Congressional reduction in FY10, this R-form reflects the Program Office cancelling one of the competitive prototype contracts. Project #990 funds USASMDC/ARSTRAT to mature warfighting concepts, and validate concepts, identify capabilities needed to implement the validated concepts, and develop DOTMLPF solutions to realize those space and high altitude related capabilities. Also sustains Joint Friendly Force Tracking (J-FFT) Mission Management Center and its associated testbed for both operations and spiral development for 24/7 Friendly Force Tracking integration into a real-time common operating picture for Combatant Commanders, Joint Task Force Commanders and Coalition partners.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>
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**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	47.828	117.471	121.239	0.000	121.239
Current President's Budget	53.416	118.610	27.551	0.000	27.551
Total Adjustments	5.588	1.139	-93.688	0.000	-93.688
• Congressional General Reductions		-10.621			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		11.760			
• Congressional Directed Transfers		0.000			
• Reprogrammings	6.000	0.000			
• SBIR/STTR Transfer	-0.412	0.000			
• Adjustments to Budget Years	0.000	0.000	-93.688	0.000	-93.688

**Change Summary Explanation**

FY09: \$6 million reprogramming for High Altitude Airship.FY10: \$10 million Congressional reduction for project 978 Space Control; \$11.760 million increase for Congressional adds.FY11: \$93 million for Long Endurance Multi-Intelligence Vehicle moved to Program Element 0305205A.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>				<b>PROJECT</b> 978: <i>SPACE CONTROL</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
978: <i>SPACE CONTROL</i>	6.776	92.617	11.858	0.000	11.858	16.920	14.058	7.425	7.372	Continuing	Continuing
Quantity of RDT&E Articles											
<b>Note</b> FY 2011-2015 funding for the Long Endurance Multi-Intelligence Vehicle (LEMV) was moved from program element (PE) 0603308A to 0305205A.											
<b>A. Mission Description and Budget Item Justification</b> Army Space Control capabilities provide ground-based tactically-centric space information superiority capabilities to meet current Joint Requirements and validated Training and Doctrine Command capability gaps. Army Space Control will establish and maintain assured space data access and information superiority in support of tactical operations.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1 Space Control - Execute Program Management for Space Superiority materiel acquisition effort.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO							0.949	0.968	0.968	0.000	0.968

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>	<b>PROJECT</b> 978: <i>SPACE CONTROL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #2 Space Control - Perform risk reduction and technology maturation of sub-system and system prototype.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.679	4.469	5.128	0.000	5.128
Program #3 Space Control - Perform testing of sub-system and system prototype.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		4.148	7.233	5.762	0.000	5.762

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>		<b>PROJECT</b> 978: <i>SPACE CONTROL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #6</p> <p>LEMV - Conduct risk reduction efforts that include prototyping system representative command and control sub-elements to validate critical command and control connectivity and battle management functional processes early in development to show successful demonstration. Engineering testing includes characterization and demonstration of sub-system interfaces, demonstrations/validations of sub-subsystem functional interactions, validation of technology integration and performance objectives for sub-system processors, and collection of supportability related data required for development of the integrated logistic support package. Sub-system testing will be conducted to validate technology maturity.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>				0.000	5.760	0.000	0.000	0.000
<p>Program #7</p>				0.000	64.394	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>	<b>PROJECT</b> 978: <i>SPACE CONTROL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>LEMV - Award contract, design and fabricate platform, payload and ground station, conduct Preliminary Design Review and Critical Design Reviews, Developmental/Operational testing and sustainment.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #8</p> <p>Small Business Innovative Research/Small Business Technology Transfer Program</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		0.000	2.593	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>		<b>PROJECT</b> 978: <i>SPACE CONTROL</i>				
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Accomplishments/Planned Programs Subtotals				6.776	92.617	11.858	0.000	11.858
<b><u>C. Other Program Funding Summary (\$ in Millions)</u></b>								
N/A								
<b><u>D. Acquisition Strategy</u></b>								
Space Control - Retire maximum risk during Technology Development Phase through prototyping.								
<b><u>E. Performance Metrics</u></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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>				<b>PROJECT</b> 978: <i>SPACE CONTROL</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Space Control - Systems and technical architectures	C/Variou	Various Location could not be determined.	0.378	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Space Control - Concept Development and Engineering Trade Studies	C/Variou	Various Location could not be determined.	2.956	0.263		0.000		0.000		0.000	Continuing	Continuing	0
Space Control - Sub-system risk reduction, testing, and validation	C/Variou	Various Location could not be determined.	0.000	0.821		0.276		0.000		0.276	Continuing	Continuing	0
Space Control - Design, Development and sub-system integration	C/Variou	Various Location could not be determined.	0.000	6.230		4.773		0.000		4.773	Continuing	Continuing	0
LEMV - Systems and technical architectures	C/Variou	Various Location could not be determined.	0.000	4.320		0.000		0.000		0.000	Continuing	Continuing	0
LEMV - Concept development and engineering trade studies	C/Variou	Various Location could not be determined.	0.000	2.880		0.000		0.000		0.000	Continuing	Continuing	0
LEMV - Sub-system risk reduction, testing, and validation	C/Variou	Various Location could not be determined.	0.000	5.760		0.000		0.000		0.000	Continuing	Continuing	0
LEMV - Design, development, and sub-system integration	C/Variou	Various Location could not be determined.	0.000	56.394		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			3.334	76.668		5.049		0.000		5.049			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>				<b>PROJECT</b> 978: <i>SPACE CONTROL</i>					

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Space Control - Government support and support contracts	C/Various	Various Location could not be determined.	0.275	2.273		3.857		0.000		3.857	Continuing	Continuing	0
LEMV - Government support and support contracts	C/Various	Various Location could not be determined.	0.000	8.000		0.000		0.000		0.000	Continuing	Continuing	0
Small Business Innovative Research/Small Business Technology Transfer Programs	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	2.593		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.275	12.866		3.857		0.000		3.857			0.000

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Space Control - Test & Evaluation Support	C/Various	Various Location could not be determined.	0.250	1.949		0.928		0.000		0.928	Continuing	Continuing	0
<b>Subtotal</b>			0.250	1.949		0.928		0.000		0.928			0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>											<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>				<b>PROJECT</b> 978: <i>SPACE CONTROL</i>					
<b>Test and Evaluation (\$ in Millions)</b>													
				<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 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>Remarks</b>													
<b>Management Services (\$ in Millions)</b>													
				<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 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>
Space Control - Program and Security Management	C/Various	Various Location could not be determined.	1.311	1.072		2.024		0.000		2.024	Continuing	Continuing	0
Space Control - Security Facilities Upgrade	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.062		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			1.311	1.134		2.024		0.000		2.024			0.000
<b>Remarks</b>													
			<b>Total Prior Years Cost</b>	<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			5.170	92.617		11.858		0.000		11.858			0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>							<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>			<b>PROJECT</b> 978: <i>SPACE CONTROL</i>			
	<b>Total Prior Years Cost</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Remarks</b>									

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>	<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>
<b>PROJECT</b> 978: <i>SPACE CONTROL</i>	

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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)	#																											
Milestone (MS) A		#																										
Space Control - System Developmental and Operational Testing												#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
Space Control - Security Facilities Upgrade		#	#	#	#																							
LEMV - Contract Award			#	#	#																							
LEMV - Concept Development and Engineering Trade Studies			#	#	#	#	#																					
LEMV - Sub-System Risk Reduction, Testing and Validation				#	#	#	#	#	#																			
LEMV - Design, Development, and Sub-System Integration				#	#	#	#	#	#	#	#	#																
LEMV - System Development, Operational Testing, and Prototype Sustainment								#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>	<b>PROJECT</b> 978: <i>SPACE CONTROL</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Materiel Development Decision (MDD)	1	2009	1	2009
Milestone (MS) A	2	2009	2	2009
Space Control - System Developmental and Operational Testing	4	2011	3	2015
Space Control - Security Facilities Upgrade	2	2009	1	2010
LEMV - Contract Award	4	2009	2	2010
LEMV - Concept Development and Engineering Trade Studies	4	2009	4	2010
LEMV - Sub-System Risk Reduction, Testing and Validation	1	2010	2	2011
LEMV - Design, Development, and Sub-System Integration	1	2010	2	2012
LEMV - System Development, Operational Testing, and Prototype Sustainment	1	2011	3	2015

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>				<b>PROJECT</b> 990: <i>Space and Missile Defense Integration</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
990: <i>Space and Missile Defense Integration</i>	46.640	25.993	15.693	0.000	15.693	16.418	16.948	11.788	12.095	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>Headquarters Department of the Army (HQDA) General Order Number 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), the Army integrator for global missile defense, and the Army Service Component Command of the U.S. Strategic Command (USSTRATCOM). Army Regulation (AR) 10-87 Army Commands, Army Service Component Commands, and Direct Reporting Units, dated 4 September 2007 and AR 5-22 The Army Force Modernization Proponent System dated 19 August 2009 designates USASMDC/ARSTRAT as the Army specified proponent for Global Missile Defense and Space/High Altitude Capabilities. As such, USASMDC/ARSTRAT is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Materiel, Leadership &amp; Education, Personnel and Facilities (DOTMLPF) solutions to realize those space related capabilities. In recognition of the increasing interrelationship between space operations, exo-atmospheric ballistic missile defense and global missile defense, in fiscal year 2011 and out project 990 includes the efforts that were previously executed in program element 0603305A project TR4.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1							12.640	14.059	15.693	0.000	15.693
<p>Plan, develop, and execute concepts and DOTMLPF solutions for Army exploitation of space systems, space control capabilities, ballistic missile defense and High Altitude Systems. Represent Army positions and defend Army equities relative in Joint/DoD and inter-Service activities; e.g., National Security Space Architect (NSSA) Program Assessments, etc. Develop space modernization strategies and sponsor exploration of future space, high altitude, and missile defense warfighting concepts. Sustain Joint Friendly Force Tracking (J-FFT) Mission Management Center and its associated testbed for both operations and spiral development for 24/7 Friendly Force Tracking integration into a real-time common operating picture for Combatant Commanders, Joint Task Force Commanders and Coalition partners.</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>	<b>PROJECT</b> 990: <i>Space and Missile Defense Integration</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2  Includes FY09/FY10 Congressional Adds for Advanced Power Technologies for Nano-Satellites, Army Responsive Tactical Space, Geospatial Airship Research Platform (GARP), High Altitude Airship, High Altitude Integration Testbed, High Altitude Shuttle System for Battlespace Coverage, High Fidelity Imaging System, HiSentinel Stratospheric Airship, Low Cost Interceptor, Missile Attack Early Warning System, Multipurpose Nanosat Missile System, Nanocomposite Enhanced Radar and Aerospace Materials, Positron for Capture and Storage, Positron Sensors and Energy Applications, Small Agile Satellites, and Tactical Overwatch High Altitude System.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		34.000	11.699	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>	<b>PROJECT</b> 990: <i>Space and Missile Defense Integration</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 Small Business Innovative Research/Small Technology Transfer Programs		0.000	0.235	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		46.640	25.993	15.693	0.000	15.693
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A						
<b>D. Acquisition Strategy</b> Program is continuous. Various performers will conduct planned accomplishments.						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>	<b>PROJECT</b> 990: <i>Space and Missile Defense Integration</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-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>				<b>PROJECT</b> 990: <i>Space and Missile Defense Integration</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Various	C/Various	Various Location could not be determined.	104.521	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Execute Congressional adds	C/Various	Various Location could not be determined.	62.705	11.699		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			167.226	11.699		0.000		0.000		0.000			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
GOVT SUPPORT & SUPPORT CONTRACTS	C/Various	Various in Colorado Springs CO Washington DC, and Huntsville AL	53.796	14.294		15.693		0.000		15.693	Continuing	Continuing	0
<b>Subtotal</b>			53.796	14.294		15.693		0.000		15.693			0.000

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603308A: <i>Army Space Systems Integration</i>	<b>PROJECT</b> 990: <i>Space and Missile Defense Integration</i>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	221.022	25.993	15.693	0.000	15.693			0.000

**Remarks**

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2011 Army</b>									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	115.567	166.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	281.628
S25: <i>ARMY SIAP OPERATIONAL INTEGRATION</i>	4.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>	111.496	166.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

**Note**

On 23 December 2009 the Army Integrated Air & Missile Defense (AIAMD) program was approved for entry into the Engineering and Manufacturing Development phase as ACAT ID program. The approved program baseline represents a substantially lower risk approach from the initial program and resulted in a FY 2016 Initial Operational Capability (IOC). As a result of certification required by section 2366b of title 10, United States Code, the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) waived three certification elements (Affordability, Full Funding, and Preliminary Design Review (PDR) Completion) for the Army IAMD program. With submission of the FY 2011 budget, and the associated FY 2011 FYDP, two of these waivers (Affordability & Full Funding) will no longer be necessary. The third (PDR Completion) will require additional work and is expected to be satisfied before the end of FY 2010. Details on the waivers were provided in letters to Congress in January 2010 and will be included in the December 2009 Selected Acquisition Report due to the Congress in April 2010.

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

This program element provides funding for the integration of Army Integrated Air and Missile Defense (AIAMD). On 9 February 2006 the Army Systems Acquisition Review Council (ASARC) designated the IAMD program a Pre-Major Defense Acquisition Program (MDAP) and approved the stand-up of the IAMD Project Office (PO). Program Executive Office Missiles and Space (PEO MS) formally stood up the IAMD PO on 9 May 2006. On 23 December 2009 the Army Integrated Air & Missile Defense (AIAMD) program was approved for entry into the Engineering and Manufacturing Development phase as ACAT ID program. The mission of the AIAMD PO is twofold; To define, develop, acquire, field and sustain the Army's portion of the Joint IAMD system of systems capability to be deployed as integrated components in Army, Joint, interagency, and multi-national net-centric architectures; and to develop, acquire, field and sustain the AIAMD common battle command component of the architecture (replacing seven weapon system unique Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) components in an AMD Composite BN) and integrate externally developed sensors and shooters to provide an effective AIAMD capability. The Capability Development Document (CDD) was JROC approved on 11 December 2009 via JROCM 200-09. The AIAMD mission is derived from analysis of the Joint Air and Missile Defense (AMD) imperatives and the four mission sets that Army AMD performs. These mission sets are: Provide Air and Missile Defense, Contribute to AMD Situational Awareness/Situational Understanding, Contribute to Airspace Management, and Integrate/contribute to operational protection. The AIAMD PO is responsible for the development of an AIAMD Architecture comprised of components developed within the Project Office as well as by other PEO MS Project Offices (Phased Array Tracking to Intercept of Target (PATRIOT), Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM), Improved Sentinel, and Joint Land Attack Cruise Missile

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>
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Defense Elevated Netted Sensor Systems (JLENS)), PEO Command, Control and Communications - Tactical (C3T) Project Offices (Air and Missile Defense Command and Control Systems (AMDCCS)), Missile Defense Agency (MDA), and Joint organizations. As part of this responsibility, the AIAMD PO has responsibility for performing the overarching AIAMD System of Systems Architecture Systems Engineering. While the AIAMD Architecture is complex, it is itself part of a larger Joint System of Systems architecture. The AIAMD program provides the Army's part of this larger Joint IAMD Architecture.

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	118.816	209.531	250.426	0.000	250.426
Current President's Budget	115.567	166.061	0.000	0.000	0.000
Total Adjustments	-3.249	-43.470	-250.426	0.000	-250.426
• Congressional General Reductions		-45.870			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		2.400			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-3.249	0.000			
• Adjustments to Budget Years	0.000	0.000	-250.426	0.000	-250.426

**Change Summary Explanation**

FY2010: Congressional reduction of \$45.000 million for excessive project cost growth and large unobligated balances for IAMD Project S34. This was a result of the schedule slip to MS B. Army IAMD completed MS B in December 2010 and is on track to fully execute program funding to maintain an FY 2016 IOC. Congressional increase of \$2.400 million for Advanced Environmental Control Systems (\$1.600M) and Defense Systems Research (\$.800M) for SMDC Project S25. NOTE: Congressional increase of \$2.400 million for SMDC Project S25 was incorrectly added to Project S34. This funding will be moved to the correct project (S25) during FY 2010.FY2011: The Army IAMD Project S34 funding for FY 2011 and beyond was moved to Budget Activity 5 (PE 0605457A, Project Code S40) for the Engineering and Manufacturing Development phase of program.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>				<b>PROJECT</b> S25: <i>ARMY SIAP OPERATIONAL INTEGRATION</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
S25: <i>ARMY SIAP OPERATIONAL INTEGRATION</i>	4.071	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This project funds the coordination of the Single Integrated Air Picture (SIAP) requirements with the operational community: verification that operational requirements exist to support technical specifications and any subsequent changes; integration and coordination of Army SIAP operational requirements with the user community and multi-service sponsor(s); provide support to development and revision of SIAP acquisition strategy with respect to Army operational requirements. These products/tasks are required to ensure a specific, focused effort that integrates SIAP with weapons, sensors, Battle Management/Command, Control, Communications, and Computers (BMC4) and concepts of operations.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  Continued efforts to coordinate Integrated Air and Missile Defense (IAMD) analyses, planning, tools, and requirements for Single Integrated Air Picture (SIAP) development. Evaluated IAMD/SIAP-related acquisition strategy, operational requirements, engineering tools, and current and evolving doctrine. Assessed airspace awareness, combat identification, integrated fire control technologies, and risk mitigation approaches.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							2.476	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>		<b>PROJECT</b> S25: <i>ARMY SIAP OPERATIONAL INTEGRATION</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #2  Includes Congressional adds for Border Security and Defense System Research. This effort is focused on the identification and transition of dual usetechnologies to meet critical Department of Defense (DoD) and Departmentfor Homeland Security (DHS) requirements. Specific taskswill involve miniaturized 3D electronic sensors, as well as visual sensingand image dissemination for pervasive monitoring.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				1.595	0.000	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				4.071	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>								
N/A								
<b>D. Acquisition Strategy</b>								
N/A								

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>	<b>PROJECT</b> S25: <i>ARMY SIAP OPERATIONAL INTEGRATION</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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>	<b>PROJECT</b> S25: <i>ARMY SIAP OPERATIONAL INTEGRATION</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Execute Congressional adds	C/Various	Various Location could not be determined.	36.662	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			36.662	0.000		0.000		0.000		0.000			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government support & support contracts	C/CPFF	OGAs Inhouse, Contact spt.	13.750	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SIBR/STTR Costs	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			13.750	0.000		0.000		0.000		0.000			0.000

**Remarks**

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>				<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>	111.496	166.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	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, and the associated FY 2011 FYDP, two of these waivers (Affordability & Full Funding) will no longer be necessary. The third (PDR Completion) will require additional work and is expected to be satisfied before the end of FY 2010. Details on the waivers were provided in letters to Congress in January 2010 and will be included in the December 2009 Selected Acquisition Report due to the Congress in April 2010.

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

Funding in this project provides for the overarching Army Integrated Air and Missile Defense (AIAMD) Architecture and Army IAMD Battle Command System (IBCS) components necessary to produce an AIAMD capability. The AIAMD Program represents a shift from a traditional system-centric weapon systems acquisition to a component-based acquisition. This component-based acquisition will provide the most efficient way to acquire and integrate the components of the incremental AIAMD architecture. Unlike traditional acquisition programs that focus primarily on the development of a single system or platform, the AIAMD Program is structured to enable the development of an overarching system-of-systems capability with participating Air and Missile Defense (AMD) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD Program achieves this objective by establishing the incremental AIAMD architecture and developing the following products: the IBCS, the Integrated Fire Control (IFC) Network, and the Plug & Fight (P&F) Interface kits. The IBCS provides common Army IAMD Battle Command System (IBCS) Command Post (CP) that replaces seven weapon system unique Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) components in an AMD Composite BN. 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 (IBCS) in September 2008. During FY 2009, the two competing contractors developed prototypes of their respective designs and conducted an initial Preliminary Design Review (PDR). Competitive proposals were then submitted for the Engineering and Manufacturing Development (EMD) Phase of the program in May 2009. The down select to one contractor occurred after the Milestone B decision in December 2009. The FY 2010 funding represents the first full year of the EMD Phase of the program. During this phase,

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>	<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>				
<p>the IBCS contractor will be furthering their design efforts with respect to the command post, the common side of the Plug and Fight Kit, and the Integrated Fire Control Network. AIAMD funding also includes the contributing acquisition programs (Phased Array Tracking to Intercept of Target (PATRIOT), Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM), Improved Sentinel, and Joint Land Attack Cruise Missile Defense Elevated Netted Sensor Systems (JLENS)) to place their respective contractors under contract for the development of the unique side of the Plug and Fight Kit which enables the weapons and sensors to be placed on the Integrated Fire Control Network. An IBCS delta Preliminary Design Review (PDR) is planned for third quarter FY 2010 with the contributing programs delta PDRs and the AIAMD delta PDR in fourth quarter FY 2010. The Army IAMD Project S34 funding for FY 2011 and beyond was moved to Budget Activity 5 (PE 0605457A, Project Code S40) for the Engineering and Manufacturing Development phase of program. Congressional increase of \$2.400 million for SMDC Project S25 was incorrectly added to Project S34. This funding will be moved to the correct project (S25) during FY 2010.</p>						
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1		86.179	130.623	0.000	0.000	0.000
<p>Product Development for command post, the common and unique side of the Plug and Fight kits, and the Integrated Fire Control Network. Provides for an IBCS delta PDR, contributing programs delta PDRs and the AIAMD delta PDR</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
Program #2		13.020	14.464	0.000	0.000	0.000
Support Cost						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>	<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3  Provides for Modeling & Simulation, Joint Interoperability Test Support , Army Evaluation Center/ Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		12.297	14.110	0.000	0.000	0.000
Program #4		0.000	4.464	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>	<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Small Business Innovative Research/Small Business Technology Transfer Program (SBIR/STTR)						
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5 Advanced Environmental Control Systems/Center for Defense Systems Research		0.000	2.400	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>										<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>				<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>					
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Accomplishments/Planned Programs Subtotals						111.496	166.061	0.000	0.000	0.000		
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• Ord. #1: <i>PE 0604869A, Project M06, PATRIOT/MEADS Combined Aggregate Program (CAP)</i>	454.565	566.215	467.139	0.000	467.139	408.012	325.184	240.018	75.585	Continuing	Continuing	
• Ord. #2: <i>PE 0605456A, Project PA3, PAC-3/MSE Missile</i>	0.000	0.000	62.500	0.000	62.500	62.100	3.500	62.000	64.500	Continuing	Continuing	
• Ord. #3: <i>SSN C53101, MSE Missile</i>	0.000	0.000	0.000	0.000	0.000	607.796	534.022	516.479	503.786	Continuing	Continuing	
• Ord. #4: <i>SSN C53201, PATRIOT/MEADS GSE</i>	0.000	0.000	0.000	0.000	0.000	0.000	126.589	217.639	528.435	Continuing	Continuing	
• Ord. #5: <i>PE 0102419A, Proj E55, JLENS</i>	344.850	328.356	372.493	0.000	372.493	176.198	118.448	0.000	0.000	Continuing	Continuing	
• Ord. #6: <i>SSN BZ0525, JLENS Production</i>	0.000	0.000	0.000	0.000	0.000	470.661	419.801	427.731	394.325	Continuing	Continuing	
• Ord. #7: <i>PE 0604802A, Project S23, SLAMRAAM</i>	31.306	56.441	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
• Ord. #8: <i>PE 0605450A, Project S35, SLAMRAAM</i>	0.000	0.000	23.700	0.000	23.700	17.800	53.500	7.500	7.600	Continuing	Continuing	
• Ord. #9: <i>SSN C81002, SLAMRAAM Launcher</i>	40.349	0.000	116.732	0.000	116.732	83.302	233.762	241.691	248.895	Continuing	Continuing	
• Ord. #10: <i>SSN C81004, SLAMRAAM Missile</i>	0.000	0.000	0.000	0.000	0.000	0.000	39.542	39.426	15.416	Continuing	Continuing	
• Ord. #11: <i>PE 0603305A, Proj TR7, Protection Capability II - Intercept</i>	0.000	0.000	4.296	0.000	4.296	21.303	74.197	93.679	94.006	Continuing	Continuing	
• Ord. #12: <i>SSN WK5053, FAAD GBS</i>	0.000	0.000	91.467	169.260	260.727	7.948	7.935	0.000	0.000	Continuing	Continuing	

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>										<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>				<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>				
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #13: <i>PE 0605457A, Project S40, Army Integrated Air and Missile Defense (AIAMD)</i>	0.000	0.000	251.124	0.000	251.124	271.543	251.646	228.639	129.043	Continuing	Continuing
• Ord. #14: <i>BZ5075, Army IAMD Battle Command System (IBCS)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	24.045	99.102	Continuing	Continuing
• Ord. #15: <i>PE 0208053, Proj 635, JOINT TACT GRD STATION-P3I (MIP)</i>	1.949	36.005	12.403	0.000	12.403	12.630	13.038	7.982	7.947	Continuing	Continuing
• Ord. #16: <i>BZ8401, Joint Tactical Ground Station (JTAGS)</i>	0.000	6.682	9.279	0.000	9.279	0.000	0.000	9.415	4.658	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
<p>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 11 December 2009, and is defined as:- Increment 1 is a User-executed capability increment focused on realignment of current force systems into an AMD Composite Battalion (BN) organizational construct. (not part of the materiel development program) - Increment 2 provides the first increment of an integrated materiel solution, and is the initial acquisition program to develop the threshold AIAMD capability. The AIAMD incremental development approach provides the opportunity for technology insertions into the program throughout each increment as high-payoff technologies mature and are ready for integration. This enables an orderly and cost-effective migration from the current system-centric architecture to the AIAMD architecture. Key principles of the AIAMD acquisition approach are the following:- Migrate from system-based acquisition to component-based acquisition- Use system-of-systems acquisition approach with collaboration among AIAMD, PEO MS, PEO C3T, and Brigade Combat Team (BCT) Modernization Component Project Offices, Missile Defense Agency (MDA), and other Service Project Offices to network enable weapons and sensor components- Develop and procure common Army IAMD Battle Command System (IBCS) Command Post (CP) 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&amp;T) activities for an incremental fielded configuration of the AIAMD Integrated Fire Control (IFC) Network-compatible IBCS CP, weapons and sensor system components</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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>				<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Air Space and Missile Defense (ASMD) System of Systems (SOS) Hardware-in-the- Loop Testbed	C	Multiple OGA's Inhouse and Contractor, Huntsville, AL and variou	9.912	0.000		0.000		0.000		0.000	Continuing	Continuing	0
IAMD System Engineering & Integration	C	Contractor Huntsville, AL	0.000	21.922		0.000		0.000		0.000	Continuing	Continuing	0
IBCS Concept Development	C	Contractor Huntsville, AL/ Other Locations	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
IBCS Engineering Manufacturing and Development	C	Contractor Huntsville, AL/ other locations	0.000	102.151		0.000		0.000		0.000	Continuing	Continuing	0
Government Furnished Equipment	C	Multiple Location could not be determined.	0.000	9.583		0.000		0.000		0.000	Continuing	Continuing	0
US Army Aviation and Missile Research Development and Engineering Center (AMRDEC)	C	AMRDEC AL	0.000	3.831		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			9.912	137.487		0.000		0.000		0.000			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>				<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Army Evaluation Center/ Developmental Test Command/Operational Test Command	C	Various Location could not be determined.	0.000	0.780		0.000		0.000		0.000	Continuing	Continuing	0
White Sands Missile Range (WSMR)	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.075		0.000		0.000		0.000	Continuing	Continuing	0
Modeling & Sim/Joint Interoperability Test Spt	C	Huntsville AL	0.000	13.255		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	14.110		0.000		0.000		0.000			0.000

**Remarks**

Military Interdepartmental Purchase Request (MIPR)

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government System Engineering & Program Management (SEPM)	C	Multiple OGAs Inhouse and Contractor, Huntsville, AL	0.000	14.464		0.000		0.000		0.000	Continuing	Continuing	0

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>	<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>
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**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			0.000	14.464		0.000		0.000		0.000			0.000

Remarks

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
		Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
	9.912	166.061		0.000		0.000		0.000			0.000

Remarks

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>	<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				
	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 Reviews (PDRs) (IBCS Incr 2)	#																												
Preliminary Design Review (PDR) (IAMD Incr 2)			#																										
MS B (IAMD Incr 2)				#																									
Delta Preliminary Design Review (PDR) (IBCS Incr 2)							#																						
Delta Preliminary Design Review (PDR) (IAMD Incr 2)								#																					
OIPT								#																					
Critical Design Review (CDR) (IBCS Incr 2)											#																		
Critical Design Review (CDR) (IAMD Incr 2)												#																	
Post CDR Assessment												#																	
DAB IPR												#																	
Design Readiness Review (DRR)															#														
FDE/LUT																			#	#	#								
MS C																								#					

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603327A: <i>Air and Missile Defense Systems Engineering</i>	<b>PROJECT</b> S34: <i>AMD SYSTEM OF SYSTEMS ENGINEERING AND INTEGRATION</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Preliminary Design Reviews (PDRs) (IBCS Incr 2)	2	2009	2	2009
Preliminary Design Review (PDR) (IAMD Incr 2)	3	2009	3	2009
MS B (IAMD Incr 2)	4	2009	4	2009
Delta Preliminary Design Review (PDR) (IBCS Incr 2)	2	2010	2	2010
Delta Preliminary Design Review (PDR) (IAMD Incr 2)	3	2010	3	2010
OIPT	4	2010	4	2010
Critical Design Review (CDR) (IBCS Incr 2)	2	2011	2	2011
Critical Design Review (CDR) (IAMD Incr 2)	3	2011	3	2011
Post CDR Assessment	4	2011	4	2011
DAB IPR	4	2011	4	2011
Design Readiness Review (DRR)	4	2012	4	2012
FDE/LUT	1	2014	3	2014
MS C	4	2014	4	2014

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	13.789	17.445	15.596	0.000	15.596	19.293	19.724	17.433	17.901	Continuing	Continuing
606: <i>CNTRMN/BARRIER ADV DEV</i>	13.789	17.445	15.596	0.000	15.596	19.293	19.724	17.433	17.901	Continuing	Continuing

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

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

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	14.186	17.536	17.618	0.000	17.618
Current President's Budget	13.789	17.445	15.596	0.000	15.596
Total Adjustments	-0.397	-0.091	-2.022	0.000	-2.022
• Congressional General Reductions		-0.091			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.001	0.000			
• SBIR/STTR Transfer	-0.398	0.000			
• Adjustments to Budget Years	0.000	0.000	-2.022	0.000	-2.022

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>				<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
606: <i>CNTRMN/BARRIER ADV DEV</i>	13.789	17.445	15.596	0.000	15.596	19.293	19.724	17.433	17.901	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This project provides for component development of new countermine and counter Improvised Explosive Device (IED) systems for neutralizing, clearing, and detection concepts that will enhance the effectiveness of the Route Clearance Family of Systems capabilities. Two of these programs are planned for FY2011; they are the Autonomous Mine Detector System (AMDS) and the Husky Mounted Detection System (HMDS). AMDS provides stand-off detection for the dismounted soldier. AMDS consist of three payloads for a robotic platform. The payloads are for remote mine detection and marking, explosive hazard detection and marking, and neutralization. Additional technologies are planned to transition from on-going Advance Technology (ATOs) efforts in FY12 and beyond. The HMDS will transition advanced technologies from the Army's S&amp;T program into development to further enhance vehicle mounted mine detection capabilities. This project provides for component development and program transition from JUONS requirement to Army Acquisition Program. HMDS provides state of the art detection of IEDs and anti-tank mines for route clearance missions. HMDS is a mission equipment package on manned and unmanned route clearance vehicles. Next Generation Mine Detection and Neutralization (FY12 -15) will leverage technologies, currently in the Tech Base, designed to detect and confirm mines and Improvised Explosive Devices (IED) at far greater stand off distances than are achieved today. These will be designed as a payload on several vehicle platforms and robotic systems.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1							13.789	16.957	7.877	0.000	7.877
Build and test AMDS Brassboards (2)											
<i>FY 2009 Accomplishments:</i>											
FY 2009											
<i>FY 2010 Plans:</i>											
FY 2010											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>	<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2		0.000	0.000	2.323	0.000	2.323
AMDS Brassboard Testing						
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3		0.000	0.000	5.396	0.000	5.396
HMDS PM Transition						
<i>FY 2009 Accomplishments:</i> FY 2009						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>	<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4  Small Business Innovative Research/Small Business Technology Transfer Program  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.488	0.000	0.000	0.000
<b>Accomplishments/Planned Programs Subtotals</b>		13.789	17.445	15.596	0.000	15.596

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>	<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Ord. #1: <i>654808/D415 Mine Neutralization and Detection</i>	39.108	32.953	36.272	0.000	36.272	19.986	18.389	26.441	24.018	Continuing	Continuing

**D. Acquisition Strategy**

Autonomous Mine Detection Sensors (AMDS) - The AMDS is currently in a risk reduction effort that started in FY08 and will be completed in FY10. Future technical development effort will occur leading to a transition from Concept Development (6.4) to Engineering Manufacturing Development (6.5).HMDS - The acquisition strategy for HMDS supports a competitive effort. System maturity will be extremely high after combat fielding and real world mission accomplishment. Program should rapidly transition to MS C production in 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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>				<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Adv Mine Detection Sensors - BAAs	C/CPFF	Various Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Adv Mine Detectio Sensors Tech Dev	C/CPFF	To Be Selected Location could not be determined.	0.000	12.667		7.657		0.000		7.657	Continuing	Continuing	0
AMDS Other Component Development	C	Various Location could not be determined.	0.000	1.162		0.000		0.000		0.000	Continuing	Continuing	0
Husky Mounted Detection System	C	To Be Selected Location could not be determined.	0.000	0.000		3.835		0.000		3.835	Continuing	Continuing	0
<b>Subtotal</b>			0.000	13.829		11.492		0.000		11.492			0.000

Remarks

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Adv Mine Detection Sensors	C	Various OGAs Location could not be determined.	0.000	1.834		1.555		0.000		1.555	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>				<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>					

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Husky Mounted Detection System	C	To Be Determined Location could not be determined.	0.000	0.000		0.750		0.000		0.750	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.834		2.305		0.000		2.305			0.000

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AMDS	C	Various OGA Location could not be determined.	0.000	0.020		0.311		0.000		0.311	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.020		0.311		0.000		0.311			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>				<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>					

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management	C	PM Close Combat Systems Picatinny NJ/ Ft Belvoir VA Location could not be determined.	0.900	0.639		0.568		0.000		0.568	Continuing	Continuing	0
Program Management Contractor	C/FP	Millenium Arlington VA	0.000	0.350		0.370		0.000		0.370	Continuing	Continuing	0
Program Management Contractor Support	C/FP	FALCON Fairfax VA	0.122	0.285		0.550		0.000		0.550	Continuing	Continuing	0
SBIR/STTR	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.488		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			1.022	1.762		1.488		0.000		1.488			0.000

**Remarks**

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	1.022	17.445	15.596	0.000	15.596			0.000

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>	<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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 Mine Detection Sensors Technology Development	#	#	#	#	#	#	#	#	#	#	#	#	#	#														
AMDS Milestone A	#																											
Build Multiple Brassboards			#	#	#																							
Test Brassboards									#	#	#																	
AMDS MS A Preliminary Design Review							#																					
AMDS MS A Critical Design Review											#																	
AMDS Milestone B															#													
HMDS Milestone C															#													
HMDS LRIP																#												

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603619A: <i>Landmine Warfare and Barrier - Adv Dev</i>	<b>PROJECT</b> 606: <i>CNTRMN/BARRIER ADV DEV</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Advanced Mine Detection Sensors Technology Development	1	2009	2	2012
AMDS Milestone A	1	2009	1	2009
Build Multiple Brassboards	3	2009	1	2010
Test Brassboards	1	2011	3	2011
AMDS MS A Preliminary Design Review	3	2010	3	2010
AMDS MS A Critical Design Review	3	2011	3	2011
AMDS Milestone B	3	2012	3	2012
HMDS Milestone C	3	2012	3	2012
HMDS LRIP	1	2013	1	2013

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603627A: <i>Smoke, Obscurant and Target Defeating Sys-Adv Dev</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	3.721	4.894	2.425	0.000	2.425	4.436	0.000	0.000	0.000	Continuing	Continuing
E79: <i>SMOKE/OBSCURANT SYSTEM</i>	3.721	4.894	2.425	0.000	2.425	4.436	0.000	0.000	0.000	Continuing	Continuing

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

Project supports the development and improvement of an array of obscurant agents, munitions, and devices to improve survivability of the combined armed forces, support extended range capability, complement combined weapon systems, and enhance force effectiveness and combat power. This program element supports critical management studies and analyses that are conducted on a continuing basis to ensure that engineering and manufacturing development efforts are targeted against the emerging threat. US Forces must be able to effectively neutralize and degrade energy weapon systems and electro-optical systems/smart weapons that operate in the full range of the electromagnetic spectrum. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection large area and launched smoke systems.

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	3.826	4.920	2.438	0.000	2.438
Current President's Budget	3.721	4.894	2.425	0.000	2.425
Total Adjustments	-0.105	-0.026	-0.013	0.000	-0.013
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.105	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.013	0.000	-0.013
• Other Adjustments 1	0.000	-0.026	0.000	0.000	0.000

**Change Summary Explanation**

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

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603627A: <i>Smoke, Obscurant and Target Defeating Sys-Adv Dev</i>				<b>PROJECT</b> E79: <i>SMOKE/OBSCURANT SYSTEM</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
E79: <i>SMOKE/OBSCURANT SYSTEM</i>	3.721	4.894	2.425	0.000	2.425	4.436	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>Project supports the development and improvement of an array of obscurant systems to improve survivability of the combined armed forces, complement combined weapon systems, and enhance force effectiveness and combat power. This program element supports development of the Projected/Generated Obscuration Capability (PGOC), including the Screening Obscuration Devices (SOD) and the Screening Obscuration Module (SOM) initiatives. This program element supports critical management studies and analyses that are conducted on a continuing basis to ensure that engineering and manufacturing development efforts are targeted against the emerging threat. US Forces must be able to effectively neutralize and degrade energy weapon systems and electro-optical systems/smart weapons that operate in the full range of the electromagnetic spectrum. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection smoke systems.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1 Engineering, Modeling and Environmental Studies for SOD and SOM systems.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							0.115	0.937	0.450	0.000	0.450

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603627A: <i>Smoke, Obscurant and Target Defeating Sys-Adv Dev</i>	<b>PROJECT</b> E79: <i>SMOKE/OBSCURANT SYSTEM</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 SOD Development. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.605	0.000	0.000	0.000	0.000
Program #3 SOM Development. <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		1.513	2.972	1.575	0.000	1.575

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010							
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603627A: <i>Smoke, Obscurant and Target Defeating Sys-Adv Dev</i>		<b>PROJECT</b> E79: <i>SMOKE/OBSCURANT SYSTEM</i>							
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>			
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Program #4 Test and Evaluation of SOD and SOM systems.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.488	0.985	0.400	0.000	0.400			
Accomplishments/Planned Programs Subtotals				3.721	4.894	2.425	0.000	2.425			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>RDT&amp;E, BA5, PE 0604609A, Project 200 Smoke,</i>	0.000	0.973	2.910	0.000	2.910	0.000	0.000	0.000	0.000	0	3.883

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>										<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603627A: <i>Smoke, Obscurant and Target Defeating Sys-Adv Dev</i>				<b>PROJECT</b> E79: <i>SMOKE/OBSCURANT SYSTEM</i>				
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
<i>Obscurant and Target Defeating Sys - Eng Dev</i>											
• <i>Ord. #2: RDT&amp;E, BA5, PE 0604609A, Project 198 Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	5.428	0.000	2.425	0.000	2.425	0.000	0.000	0.000	0.000	0	7.853
<b>D. Acquisition Strategy</b>											
Acquisition Strategy: Development of SOD and SOM systems to include design, construction, modeling and testing of prototypes.											
<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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603627A: <i>Smoke, Obscurant and Target Defeating Sys-Adv Dev</i>				<b>PROJECT</b> E79: <i>SMOKE/OBSCURANT SYSTEM</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Hardware Development (SOM)	C	JPM NBCCA APG, MD	0.000	2.438		1.188		0.000		1.188	Continuing	Continuing	0
Hardware Development (SOD)	C	Various OGAs Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Hardware Development (SOM) - 2	C/TBD	C/CPFF Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	2.438		1.188		0.000		1.188			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
M&S Development/ Environmental Tox Studies	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.437		0.150		0.000		0.150	Continuing	Continuing	0
Engineering Studies	C	Nothing entered for Activity and Location.	0.000	0.500		0.300		0.000		0.300	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603627A: <i>Smoke, Obscurant and Target Defeating Sys-Adv Dev</i>				<b>PROJECT</b> E79: <i>SMOKE/OBSCURANT SYSTEM</i>					

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Location could not be determined.											
<b>Subtotal</b>			0.000	0.937		0.450		0.000		0.450			0.000

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SOD Test & Evaluation	C	OGA Various Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SOM Test & Evaluation	C	OGA Various Location could not be determined.	0.000	0.985		0.400		0.000		0.400	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.985		0.400		0.000		0.400			0.000

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603627A: <i>Smoke, Obscurant and Target Defeating Sys-Adv Dev</i>	<b>PROJECT</b> E79: <i>SMOKE/OBSCURANT SYSTEM</i>
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**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Management Personnel	C	JPMNBCCA APG, MD	0.000	0.534		0.387		0.000		0.387	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.534		0.387		0.000		0.387			0.000

**Remarks**

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
		Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
	0.000	4.894		2.425		0.000		2.425			0.000

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603627A: <i>Smoke, Obscurant and Target Defeating Sys-Adv Dev</i>	<b>PROJECT</b> E79: <i>SMOKE/OBSCURANT SYSTEM</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
SOM Schedule					#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#				
Design and Fabrication					#	#																						
Technology Feasibility Test #1						#	#																					
Redesign and Hardware Fabrication							#	#	#																			
Technology Feasibility Test #2									#	#																		
Milestone B											#																	
Contract Award												#																
Engineering and Design Test															#													
Redesign															#	#	#											
Fabrication																#	#											
Developmental Testing																	#	#										
Operational Assessment																			#									
Milestone C																				#								

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603627A: <i>Smoke, Obscurant and Target Defeating Sys-Adv Dev</i>	<b>PROJECT</b> E79: <i>SMOKE/OBSCURANT SYSTEM</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
SOM Schedule	1	2010	3	2014
Design and Fabrication	1	2010	2	2010
Technology Feasibility Test #1	2	2010	3	2010
Redesign and Hardware Fabrication	3	2010	1	2011
Technology Feasibility Test #2	1	2011	2	2011
Milestone B	3	2011	3	2011
Contract Award	4	2011	4	2011
Engineering and Design Test	1	2013	1	2013
Redesign	1	2013	3	2013
Fabrication	3	2013	4	2013
Developmental Testing	4	2013	1	2014
Operational Assessment	2	2014	2	2014
Milestone C	3	2014	3	2014

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	39.590	33.757	42.183	0.000	42.183	118.548	102.084	51.522	7.778	Continuing	Continuing
652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>	0.000	33.757	42.183	0.000	42.183	53.504	42.512	0.000	0.000	Continuing	Continuing
656: <i>FCS Mounted Combat System (MCS) Ammunition</i>	39.590	0.000	0.000	0.000	0.000	65.044	59.572	51.522	7.778	Continuing	Continuing

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

The Tank and Medium-caliber Ammunition (TMA) Program Element (PE) encompasses a comprehensive program to develop, rapidly transition to production, and field advanced tank, medium caliber, and other munitions. These programs will ensure continued battlefield overmatch and lethality of U.S. maneuver forces despite worldwide development and proliferation of enhanced armored vehicle protection technologies. To achieve this, TMA will identify and develop promising technologies through competitive development and streamlined acquisition procedures. All ammunition development funds within this PE are managed to facilitate transitions between phases, avoid administrative delays, and focus resources on the most promising areas. FY 2011 funding supports the completion of Engineering and Manufacturing Development (EMD) Phase I and Phase II initiation of the Advanced Kinetic Energy (AKE) cartridge, or model number M829E4. The AKE round is an unguided, direct fire, platform-delivered Line of Sight (LOS) munition that will provide fast response lethality to rapidly destroy threat targets with Explosive Reactive Armor (ERA) and Active Protection Systems (APS) in the close fight from 0-2km (T) and to 0-4km (O). The AKE will be compatible with both 120mm Current Force Abrams Main Battle Tank and future 120mm platforms. Funding in FY 2012 on Project 656 supports the initiation of Phase I of Engineering and Manufacturing Development (EMD) for the Advanced Multi-Purpose (AMP) cartridge program. The AMP is a platform delivered, multi-purpose cartridge that will provide the Abrams Tank and future 120mm platforms with the capability to defeat a multitude of targets throughout the joint battle space. The AMP will be optimized for use in urban environments in direct support of infantry. It will provide a new wall-breaching capability and the ability to engage and defeat dismounted enemy forces such as Anti-Tank Guided Missile teams at ranges from .3-2km (T); 0-4.5km (O). The AMP cartridge is a next generation multi-purpose round that will replace the M830 HEAT-MP-T, M830A1 HEAT MP-T, M1028 Canister, and M908 OR-T cartridges by consolidating the capabilities into a single round. The AMP round will utilize an airbursting, high explosive, fragmenting warhead with enhancements to achieve the multi-purpose capability. In FY 2010, the FCS Mounted Combat System (MCS) Ammunition was terminated due to restructuring of the MGVT portion of the FCS program and the refocusing to spin out FCS technologies faster to the IBCT.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>
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**B. Program Change Summary (\$ in Millions)**

	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011 Base</b></u>	<u><b>FY 2011 OCO</b></u>	<u><b>FY 2011 Total</b></u>
Previous President's Budget	40.731	33.934	42.426	0.000	42.426
Current President's Budget	39.590	33.757	42.183	0.000	42.183
Total Adjustments	-1.141	-0.177	-0.243	0.000	-0.243
• Congressional General Reductions		-0.177			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.141	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.243	0.000	-0.243

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>				<b>PROJECT</b> 652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>	0.000	33.757	42.183	0.000	42.183	53.504	42.512	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>FY 2011 supports the completion of Phase I and the start of Phase II of the Advanced Kinetic Energy (AKE) cartridge Engineering and Manufacturing Development (EMD). The AKE round is a platform-delivered Line of Sight (LOS) munition that will provide capability for the current force's Heavy Brigade Combat Team's (HBCT) commander to conduct decisive operations and destroy current and future Main Battle Tanks (MBTs) with Explosive Reactive Armor (ERA) and Active Protection Systems (APS) at ranges from 0-2km (T) and 0-4km (O). The AKE will provide the capability to destroy and or neutralize the adversary armor and capabilities, at any given time or place, while minimizing fratricide and noncombatant casualties in a joint environment. The AKE is the next generation premier Kinetic Energy (KE) round and will replace the current Abrams KE round (M829A3). The AKE will provide lethal overmatch against designated threats throughout all combat operations, to include Military Operation in Urbanized Terrain (MOUT), mountain, and non-traditional battlefields. The increased performance against standard armor, ERA, and APS will allow for the use of fewer rounds and will increase survivability of the platform with faster engagement of follow-on targets. AKE will be compatible with both 120mm Current Force Abrams main battle tank and future 120mm platforms.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1							0.000	30.542	2.000	0.000	2.000
Phase I Engineering and Manufacturing Development (EMD)											
<i>FY 2009 Accomplishments:</i>											
FY 2009											
<i>FY 2010 Plans:</i>											
FY 2010											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>	<b>PROJECT</b> 652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2  Intial Performance Test  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	2.270	0.000	0.000	0.000
Program #3  Demonstration Test  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	3.250	0.000	3.250

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>	<b>PROJECT</b> 652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Phase II EMD  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	36.933	0.000	36.933
Program #5 Small Business Innovative Research/Small Business Technology Transfer Program		0.000	0.945	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010							
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>		<b>PROJECT</b> 652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>							
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>			
<i>FY 2009 Accomplishments:</i> FY 2009											
<i>FY 2010 Plans:</i> FY 2010											
<i>FY 2011 Base Plans:</i> FY 2011 Base											
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Accomplishments/Planned Programs Subtotals				0.000	33.757	42.183	0.000	42.183			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>PAA, E88106, MCS, Advanced Kinetic Energy (AKE)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.182	36.788	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
<p>The M829E4, Advanced Kinetic Energy (AKE) cartridge is at Technology Readiness Level 6 (TRL6). The Milestone B Decision was made in 4Q FY 2009, and the program entered Engineering and Manufacturing Development (EMD) in FY 2010. EMD consists of two phases; the Phase I contracts will be awarded in 2Q FY 2010 and the Phase II contract will be awarded in 2Q FY 2011. During Phase I (12-15 months), the Government will award two separate Cost Plus Fixed Fee (CPFF) contracts culminating in a demonstration test and competitive source selection to down-select to one contractor for the 33 month Cost Plus Incentive Fee (CPIF) Phase II. The down-select will be based on the demonstrated performance of the cartridge design, proposed systems engineering and management approach for Phase II, and the total program cost estimate for each contractor at the time of the demonstration test. The selected contractor will be awarded the option to continue EMD Phase II until its conclusion in FY 2013. Upon successful completion of Milestone C, a Low Rate Initial Production (LRIP) option will be awarded to the EMD Phase II contractor in FY 2013. The contract will also contain options for two additional production years. All production options will be Firm Fixed Price (FFP).</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>	<b>PROJECT</b> 652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</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-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>				<b>PROJECT</b> 652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TBS (Phase I)	C/CPFF	TBS Location could not be determined.	0.000	12.000		1.000		0.000		1.000	Continuing	Continuing	0
TBS (Phase I) - 2	C/CPFF	TBS Location could not be determined.	0.000	12.000		1.000		0.000		1.000	Continuing	Continuing	0
PM-MAS	C	Picatinny Arsenal NJ	0.000	1.013		0.774		0.000		0.774	Continuing	Continuing	0
TBS (Phase II)	C/CPIF	TBS Location could not be determined.	0.000	0.000		33.000		0.000		33.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	25.013		35.774		0.000		35.774			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ARDEC	C	Picatinny Arsenal NJ	0.000	3.770		2.602		0.000		2.602	Continuing	Continuing	0
Army Research Lab	C	APG MD	0.000	0.500		0.800		0.000		0.800	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>				<b>PROJECT</b> 652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>					

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Miscellaneous	C	TBS Location could not be determined.	0.000	0.409		0.000		0.000		0.000	Continuing	Continuing	0
JMC	C	Rock Island IL	0.000	0.600		0.000		0.000		0.000	Continuing	Continuing	0
Watervliet	C	Troy NY	0.000	0.250		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	5.529		3.402		0.000		3.402			0.000

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Yuma Proving Ground	C	Yuma AZ	0.000	1.100		1.100		0.000		1.100	Continuing	Continuing	0
Aberdeen Proving Ground	C	APG MD	0.000	0.550		0.750		0.000		0.750	Continuing	Continuing	0
Army Research Lab	C	APG MD	0.000	0.500		1.157		0.000		1.157	Continuing	Continuing	0
ATEC	C	APG MD	0.000	0.120		0.000		0.000		0.000	Continuing	Continuing	0

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>	<b>PROJECT</b> 652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>
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**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			0.000	2.270		3.007		0.000		3.007			0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SBIR/STTR	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.945		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.945		0.000		0.000		0.000			0.000

**Remarks**

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
	0.000	33.757		42.183		0.000		42.183			0.000

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>	<b>PROJECT</b> 652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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			#																									
Phase I Contract Award					#																							
Engineering and Manufacturing Development (EMD)					#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#								
Engineering and Manufacturing Development (EMD) Phase I					#	#	#	#	#																			
Integrated Baseline Review (IBR)					#																							
System Functional Review (SFR)					#																							
Initial Performance Test					#	#																						
Preliminary Design Review (PDR)								#																				
Demonstration Testing						#	#	#																				
Phase II Contract Award									#																			
Engineering and Manufacturing Development (EMD) Phase II										#	#	#	#	#	#	#	#	#	#	#								
Integrated Baseline Review (IBR) - 2									#																			
Design Evaluation Testing													#	#	#													
Developmental Test & Evaluation (DT&E)														#	#	#	#	#	#	#								
Milestone C																				#								

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>	<b>PROJECT</b> 652: <i>ADVANCED KINETIC ENERGY (AKE) 120MM CARTRIDGE</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Milestone B	3	2009	3	2009
Phase I Contract Award	1	2010	1	2010
Engineering and Manufacturing Development (EMD)	1	2010	3	2013
Engineering and Manufacturing Development (EMD) Phase I	1	2010	1	2011
Integrated Baseline Review (IBR)	2	2010	2	2010
System Functional Review (SFR)	2	2010	2	2010
Initial Performance Test	2	2010	3	2010
Preliminary Design Review (PDR)	4	2010	4	2010
Demonstration Testing	3	2010	1	2011
Phase II Contract Award	1	2011	1	2011
Engineering and Manufacturing Development (EMD) Phase II	2	2011	3	2013
Integrated Baseline Review (IBR) - 2	2	2011	2	2011
Design Evaluation Testing	1	2012	3	2012
Developmental Test & Evaluation (DT&E)	3	2012	3	2013
Milestone C	3	2013	3	2013

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>				<b>PROJECT</b> 656: <i>FCS Mounted Combat System (MCS) Ammunition</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
656: <i>FCS Mounted Combat System (MCS) Ammunition</i>	39.590	0.000	0.000	0.000	0.000	65.044	59.572	51.522	7.778	Continuing	Continuing	
Quantity of RDT&E Articles												
<b><u>A. Mission Description and Budget Item Justification</u></b>												
In FY 2010, the FCS Mounted Combat System (MCS) Ammunition is terminated due to restructuring of the Manned Ground Vehicle (MGV) portion of the FCS program and the refocusing of spin out FCS technologies faster to the IBCT. The funding is zeroed out starting FY 2010. Funding in FY 2012-FY 2015 will be moved to Project 654, Advanced Multi-Purpose (AMP) program.												
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Program #1  Mid Range Munition (MRM) Engineering and Manufacturing Development (EMD) activities. Program Management activities consist of risk and Unit Production Price (UPP) management, finance/budgeting efforts, scheduling efforts, configuration management, and supply chain management. Systems Engineering activities consist of systems architecture efforts, functional analysis efforts, requirements allocation, interface definition, system design and performance efforts, system safety, and reliability/availability. Cartridge design activities include overall cartridge development/engineering activities. These are overall design architecture, airframe design, sensor suite design, guidance and electronics, lethality, and software. System Test and Evaluation activities include test architecture development, test facilities development and support, test equipment development/manufacture, engineering lab design, engineering field design, and test support. System Test and Evaluation will include Cartridge Integration Testing and Guided Flight Testing along with testing to include Live Fire Test and Evaluation (LFT&E) and armor/lethality testing. Manufacturing activities include manufacturing architecture development, material management and pilot production line development.						18.522	0.000	0.000	0.000	0.000		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>	<b>PROJECT</b> 656: <i>FCS Mounted Combat System (MCS) Ammunition</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 EMD Initial Cartridge Integration Test units (Qty=3) Leveraged use of S&T hardware.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.056	0.000	0.000	0.000	0.000
Program #3		0.225	0.000	0.000	0.000	0.000

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>		<b>PROJECT</b> 656: <i>FCS Mounted Combat System (MCS) Ammunition</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
EMD Initial Cartridge Integration Test  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #4 EMD Software Seeker Integration  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				8.691	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>	<b>PROJECT</b> 656: <i>FCS Mounted Combat System (MCS) Ammunition</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #5		3.099	0.000	0.000	0.000	0.000
EMD Producibility						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						
Program #6		7.597	0.000	0.000	0.000	0.000
EMD Prototype Manufacture (various components, subsystems, systems and assemblies, inspections)						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>	<b>PROJECT</b> 656: <i>FCS Mounted Combat System (MCS) Ammunition</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #7		1.400	0.000	0.000	0.000	0.000
Program Termination Costs						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						
Program #8		0.000	0.000	0.000	0.000	0.000
Small Business Innovative Research/Small Business Technology Transfer Programs						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>										<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>				<b>PROJECT</b> 656: <i>FCS Mounted Combat System (MCS) Ammunition</i>					
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Accomplishments/Planned Programs Subtotals						39.590	0.000	0.000	0.000	0.000		
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• Ord. #1: <i>0604646A F72 Non Line of Sight - Launch System</i>	208.009	88.660	0.000	0.000	83.402	60.572	28.396	0.000	0.000	0	542.740	
• Ord. #2: <i>0604647A F58 Non Line of Sight - Cannon</i>	89.545	58.216	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	147.761	
• Ord. #3: <i>0604660A FC1 FCS Manned Grd Vehicles &amp; Common Grd Vehicle Components</i>	782.664	368.557	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,151.221	
• Ord. #4: <i>0604661A FC2 FCS System of Systems Engr &amp; Program Management</i>	1,414.756	1,067.191	0.000	0.000	783.043	818.606	851.637	881.113	935.200	Continuing	Continuing	
• Ord. #5: <i>0604662A FC3 FCS Reconnaissance (UAV) Platforms</i>	57.190	68.701	0.000	0.000	9.006	4.425	1.292	2.677	0.000	Continuing	Continuing	
• Ord. #6: <i>0604663A FC4 FCS Unmanned Ground Vehicles</i>	102.976	125.616	0.000	0.000	42.517	26.085	3.463	0.000	0.000	Continuing	Continuing	
• Ord. #7: <i>0604664A FC5 FCS Unattended Ground Sensors</i>	17.011	26.919	0.000	0.000	16.337	0.000	0.000	0.000	0.000	Continuing	Continuing	
• Ord. #8: <i>0604665A FC6 FCS Network Hardware &amp; Software</i>	556.301	749.182	0.000	0.000	621.634	587.716	594.304	595.283	597.405	Continuing	Continuing	
• Ord. #9: <i>0604666A FC7 FCS Spin Out Tech/Capability Integ</i>	111.032	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
• Ord. #10: <i>WTCV G86100 Future Combat System</i>	154.127	0.000	0.000	0.000	693.479	2,228.327	6,032.684	7,083.614	9,087.860	0	233.059	
	67.268	0.000	0.000	0.000	539.087	851.783	894.734	1,274.240	1,245.538	0	68.638	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603639A: <i>Tank and Medium Caliber Ammunition</i>	<b>PROJECT</b> 656: <i>FCS Mounted Combat System (MCS) Ammunition</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Ord. #11: <i>WTCV G86200 FCS Spin Out</i>											

**D. Acquisition Strategy**

The Mid Range Munition (MRM) Program completed the Technology Development phase. MRM achieved Design Requirements in both autonomous and designated firing modes, and transitioned (Milestone B) to Engineering and Manufacturing Development (EMD) at the end of FY 2007. There were two competing technical concepts by Raytheon Inc. and Alliant Tech Systems. A single contractor, Raytheon with one design, was selected based on a full and open competition in the first quarter of FY 2008. The MRM schedule coincides with the Mounted Combat System's development schedule, supporting the Future Combat System (FCS) Initial Operational Capability (IOC) milestone. The EMD effort will integrate MRM into the Mounted Combat System. This strategy will deliver a proven, fully capable multi-mode munition that will meet the FCS MCS requirements and support the FCS IOC milestone. In FY 2010, the MRM is terminated due to restructuring of the MGCV portion of the FCS program and the refocusing of spin out FCS technologies faster to the IBCT.

**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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	76.072	89.828	136.302	0.000	136.302	230.561	220.000	190.000	110.000	Continuing	Continuing
C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>	13.082	29.116	2.502	0.000	2.502	2.561	0.000	0.000	0.000	Continuing	Continuing
C51: <i>STRYKER A1</i>	62.990	60.712	133.800	0.000	133.800	228.000	220.000	190.000	110.000	Continuing	Continuing

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

This Program Element (PE) supports the development of the Stryker Family of vehicles in two separate projects. A critical need exists to improve the deployability and operational effectiveness of rapid response/early entry forces. The Stryker equipped Brigade Combat Team (BCT) is capable of deployment to anywhere on the globe in a combat ready configuration. Immediate response by a lethal, versatile, tactically agile joint force capable of operational maneuver once in the Area of Operations has been essential in fulfilling the warfighting needs of the U. S. Army. The Stryker family includes: Infantry Carrier Vehicle (ICV), Reconnaissance Vehicle (RV), Mobile Gun System (MGS), Mortar Carrier (MC), Commander's Vehicle (CV), Fire Support Vehicle (FSV), Engineer Squad Vehicle (ESV), Medical Evacuation Vehicle (MEV), Anti-Tank Guided Missile Vehicle (ATGM), and Nuclear/Biological/Chemical Reconnaissance Vehicle (NBCRV). The original Project Code (C03) supports the use of the common platform/common chassis design reducing requirements for repair parts and logistics support in the area of operations. Funding in this project will continue to address Overseas Contingency Operations (OCO), survivability, and Operational Needs Statements (ONS) issues with the Stryker program. The Stryker A1 Modernization (SMOD) Project (C51) addresses current and evolving survivability concerns and results in retaining interoperability with other formations and the ability to integrate spin-outs and technologies. The first increment of the SMOD program will consist of two phases. Phase I will regain the operational envelope lost by the addition of survivability kits by eliminating size, power, and weight challenges caused by the kits. Phase I efforts consist of improved engine/transmission suspension, Height Management System (HMS), Central Tire Inflation System (CTIS), brakes, driveline, Hull structure, seats and environmental. Phase II will provide increased capability and address emerging requirements as well as provide for the mitigation of MGS long-term deficiencies. Phase II efforts consist of 360 degree situational awareness, shot detection, improved Remote Weapon Station (RWS), embedded training, and data/video network.

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>
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**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	79.350	90.299	76.704	0.000	76.704
Current President's Budget	76.072	89.828	136.302	0.000	136.302
Total Adjustments	-3.278	-0.471	59.598	0.000	59.598
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-0.471			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.000	0.000			
• SBIR/STTR Transfer	-2.175	0.000			
• Adjustments to Budget Years	0.897	0.000	59.598	0.000	59.598

**Change Summary Explanation**

Change Summary Explanation - Funding: FY11 reflects a funding increase to continue the Stryker Modernization (SMOD) Program.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>				<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>	13.082	29.116	2.502	0.000	2.502	2.561	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This project supports the development of the Family of Stryker vehicles. A critical need exists to improve the deployability and operational effectiveness of rapid response/early entry forces. The Stryker equipped Brigade Combat Team (BCT) is capable of deployment to anywhere on the globe in a combat ready configuration. Immediate response by a lethal, versatile, tactically agile joint force capable of operational maneuver once in the Area of Operations has been essential in fulfilling the warfighting needs of the U. S. Army. The Stryker family includes: Infantry Carrier Vehicle (ICV), Reconnaissance Vehicle (RV), Mobile Gun System (MGS), Mortar Carrier (MC), Commander's Vehicle (CV), Fire Support Vehicle (FSV), Engineer Squad Vehicle (ESV), Medical Evacuation Vehicle (MEV), Anti-Tank Guided Missile Vehicle (ATGM), and Nuclear/Biological/Chemical Reconnaissance Vehicle (NBCRV). The use of the common platform/common chassis design reduces requirements for repair parts and logistics support in the area of operations. Funding in this project will continue to address Overseas Contingency Operations (OCO), survivability, and Operational Needs Statements (ONS) issues with the Stryker program.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Program #1  NBCRV Control Damage Experiment started 1QFY10 and will be followed by the Operational Test and Evaluation (OT&E) in preparation for the upcoming NBCRV Milestone C Full-Rate Production Decision in 2QFY11.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010						0.510	5.369	0.000	0.000	0.000	

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Government testing of OCO, Survivability and ONS efforts.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.535	0.000	0.000	0.000	0.000
Program #3 Undergo development and engineering for OCO, survivability and ONS issues for the Stryker Base Vehicles.  <i>FY 2009 Accomplishments:</i> FY 2009		0.120	0.950	2.104	0.000	2.104

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Development and engineering for Remote Weapon System (RWS) Block II effort.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		3.171	0.000	0.000	0.000	0.000
Program #5 Undergo development and engineering of Stryker Reactive Armor Tiles II(SRAT II)		4.899	12.470	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 SRAT II Government testing begins in FY09, completes in FY10.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.647	9.022	0.000	0.000	0.000
Program #7		0.175	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Contractor support to tests. To include NBCRV Operational Test and Evaluation (OTE), OCO Testing and SRAT II Testing.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8 Government Systems Engineering and Program Management  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.425	0.500	0.398	0.000	0.398

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #9 Active Protection System (APS) Radar  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.600	0.000	0.000	0.000	0.000
Program #10 Small Business Innovative Research/Small Business Technology Transfer Program (SBIR/STTR)  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.805	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>						<b>DATE:</b> February 2010					
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>			<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>					
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Accomplishments/Planned Programs Subtotals						13.082	29.116	2.502	0.000	2.502	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>PA, WTCV, G85100 Stryker</i>	1,498.984	512.774	299.545	0.000	299.545	0.000	0.000	0.000	0.000	0	2,311.303
<b>D. Acquisition Strategy</b>											
Funding continues engineering and development efforts related to Overseas Contingency Operations (OCO), survivability, and Operational Needs Statements (ONS) issues. As the Stryker family of vehicles continues to be deployed, we will explore, enhance and increase the survivability of the Stryker. Examples of improvement are the vehicle's Hull Protection, Tire Fire Suppression Kits, Improved Common Ballistic Shields, Belly Armor, and Stryker Reactive Armor Tiles II (SRAT II) initiatives.											
<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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>				<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Stryker Development/Engineering	C/CPFF	GDLS Sterling Heights MI	382.255	13.420		2.104		0.000		2.104	Continuing	Continuing	406.774
Active Protection System (APS)Radar	C/CPFF	GSLS Sterling Heights MI	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	1.600
SBIR/SBTTP	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.805		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			382.255	14.225		2.104		0.000		2.104			408.374

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
NBCRV Operational Test & Evaluation	C	DPG UtahArmy Test & Evaluation Center	105.869	5.369		0.000		0.000		0.000	Continuing	Continuing	115.087
OCO and SRAT II Testing	C		0.000	9.022		0.000		0.000		0.000	Continuing	Continuing	9.933

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>
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**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Army Test & Evaluation Command DTC, MD, OTC, TX, AEC, VA											
Contractor Support to Test	C/CPFF	GM GDLS DG L.L.C. Shelby MI	22.269	0.000		0.000		0.000		0.000	Continuing	Continuing	22.671
<b>Subtotal</b>			128.138	14.391		0.000		0.000		0.000			147.691

Remarks

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Management Office (PMO)	C	TACOM Warren, MI	14.299	0.500		0.398		0.000		0.398	Continuing	Continuing	16.227
<b>Subtotal</b>			14.299	0.500		0.398		0.000		0.398			16.227

Remarks

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	524.692	29.116	2.502	0.000	2.502			572.292

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
NBCRV Extended LRIP Production		#	#	#	#	#	#	#	#	#	#	#	#	#														
NBCRV OT&E							#																					
NBCRV Full-Rate Production Decision (FRPD)									#																			
MGS Extended LRIP Production					#	#	#	#	#																			
MGS ECO Testing	#	#	#	#	#																							
MGS Full-Rate Production Decision (T)							#																					
Stryker Reactive Armor Tiles II (SRAT II) Development Effort	#	#	#	#																								
SRAT II Testing		#	#	#	#	#	#																					

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C03: <i>INTERIM ARMORED VEHICLE (IAV) FAMILY</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
NBCRV Extended LRIP Production	2	2009	2	2012
NBCRV OT&E	3	2010	3	2010
NBCRV Full-Rate Production Decision (FRPD)	1	2011	1	2011
MGS Extended LRIP Production	1	2010	1	2011
MGS ECO Testing	1	2009	1	2010
MGS Full-Rate Production Decision (T)	3	2010	3	2010
Stryker Reactive Armor Tiles II (SRAT II) Development Effort	1	2009	4	2009
SRAT II Testing	2	2009	3	2010

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>				<b>PROJECT</b> C51: <i>STRYKER A1</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
C51: <i>STRYKER A1</i>	62.990	60.712	133.800	0.000	133.800	228.000	220.000	190.000	110.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The Stryker Modernization (SMOD) Program will address current and evolving survivability concerns and result in retaining interoperability with other formations and the ability to integrate spin-outs and technologies. The first increment of the SMOD program will consist of two phases. Phase I will regain the operational envelope lost by the addition of survivability kits by eliminating size, power, and weight challenges caused by the kits. Phase I efforts consist of improved engine/transmission suspension, Height Management System (HMS), Central Tire Inflation System (CTIS), brakes, driveline, Hull structure, seats and environmental. Phase II will provide increased capability and address emerging requirements as well as provide for the mitigation of MGS long-term deficiencies. Phase II efforts consist of 360 degree situational awareness, shot detection, improved Remote Weapon Station (RWS), embedded training, and data/video network.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  Support the SMOD Program (Phase I and Phase II). SMOD target date for Phase I MS B is 4QFY10 and MS C is 4QFY14. SMOD target date for Phase II MS B is 4QFY13 and MS C is 3QFY17. Will develop system performance specifications, conduct trade studies, develop concept designs, undergo modeling and simulation activities and conduct technical demonstrations.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010							60.842	51.882	126.448	0.000	126.448

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C51: <i>STRYKER A1</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Government Testing of SMOD.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.373	1.294	0.000	0.000	0.000
Program #3 Government Systems Engineering and Program Management  <i>FY 2009 Accomplishments:</i> FY 2009		1.775	5.826	7.352	0.000	7.352

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>		<b>PROJECT</b> C51: <i>STRYKER A1</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #4  Small Business Innovative Research/Small Business Technology Transfer Program (SBIR/STTR).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	1.710	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals				62.990	60.712	133.800	0.000	133.800

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C51: <i>STRYKER A1</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Ord. #1: <i>No title specified</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0

**D. Acquisition Strategy**

Funding supports continuing Technology Development. Phase II funding also supports the mitigation of Mobile Gun System (MGS) long-term deficiencies as outlined in 5 Aug 08 ADM.

**E. Performance Metrics**

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

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>				<b>PROJECT</b> C51: <i>STRYKER A1</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Stryker Development/ Engineering SMOD and Mobile Gun System (MGS) Deficiencies	C/CPFF	GDLS Sterling Heights MI	95.859	51.882		126.448		0.000		126.448	Continuing	Continuing	336.741
SBIR/SBTPP	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	1.710		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			95.859	53.592		126.448		0.000		126.448			336.741

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Other Government Agencies	C	Various Location could not be determined.	0.508	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.508	0.000		0.000		0.000		0.000			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>				<b>PROJECT</b> C51: <i>STRYKER A1</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Stryker Modernization Testing	C	Various Location could not be determined.	0.000	1.294		0.000		0.000		0.000	Continuing	Continuing	1.667
<b>Subtotal</b>			0.000	1.294		0.000		0.000		0.000			1.667

Remarks

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Management Office (PMO)	C	TACOM Warren, MI	0.000	5.826		7.352		0.000		7.352	Continuing	Continuing	14.747
<b>Subtotal</b>			0.000	5.826		7.352		0.000		7.352			14.747

Remarks

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
		Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
	96.367	60.712		133.800		0.000		133.800			353.155

Remarks

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C51: <i>STRYKER A1</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Stryker Modernization Program (SMOD) Phase I Preliminary Design Review (PDR)							#																					
Stryker Modernization Program (SMOD) Phase I Milestone B								#																				
Stryker Modernization Program (SMOD) Phase I Critical Design Review (CDR)												#																
Stryker Modernization Program (SMOD) Phase I Milestone C																				#								
Stryker Modernization Program (SMOD) Phase I Testing															#	#	#	#	#	#	#	#	#	#	#	#	#	#
Stryker Modernization Program (SMOD) Phase II Preliminary Design Review (PDR)															#													
Stryker Modernization Program (SMOD) Phase II Milestone B																#												
Stryker Modernization Program (SMOD) Phase II Critical Design Review (CDR)																				#								

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603653A: <i>ADVANCED TANK ARMAMENT SYSTEM (ATAS)</i>	<b>PROJECT</b> C51: <i>STRYKER A1</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Stryker Modernization Program (SMOD) Phase I Preliminary Design Review (PDR)	3	2010	3	2010
Stryker Modernization Program (SMOD) Phase I Milestone B	4	2010	4	2010
Stryker Modernization Program (SMOD) Phase I Critical Design Review (CDR)	1	2012	1	2012
Stryker Modernization Program (SMOD) Phase I Milestone C	3	2014	3	2014
Stryker Modernization Program (SMOD) Phase I Testing	1	2013	4	2015
Stryker Modernization Program (SMOD) Phase II Preliminary Design Review (PDR)	1	2013	1	2013
Stryker Modernization Program (SMOD) Phase II Milestone B	3	2013	3	2013
Stryker Modernization Program (SMOD) Phase II Critical Design Review (CDR)	3	2014	3	2014

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	18.058	33.178	18.556	57.900	76.456	4.166	4.240	4.315	4.380	Continuing	Continuing
610: <i>FOOD ADV DEVELOPMENT</i>	3.767	4.186	4.234	0.000	4.234	4.166	4.240	4.315	4.380	Continuing	Continuing
C08: <i>RAPID EQUIPPING FORCE</i>	14.291	28.992	14.322	57.900	72.222	0.000	0.000	0.000	0.000	Continuing	Continuing

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

This program element supports component development and prototyping for organizational equipment, improved individual clothing and equipment that enhance Soldier battlefield effectiveness, survivability, and sustainment. This program element also supports the component development and prototyping of joint service food and combat feeding equipment designed to reduce logistics burden.

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	25.631	31.752	32.722	0.000	32.722
Current President's Budget	18.058	33.178	18.556	57.900	76.456
Total Adjustments	-7.573	1.426	-14.166	57.900	43.734
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		1.600			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-6.855	0.000			
• SBIR/STTR Transfer	-0.718	-0.174			
• Adjustments to Budget Years	0.000	0.000	-14.166	0.000	-14.166
• FY11 OCO Request	0.000	0.000	0.000	57.900	57.900

**Change Summary Explanation**

Change Summary Explanation: FY 2011: Funds realigned to higher priority Army programs.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>				<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
610: <i>FOOD ADV DEVELOPMENT</i>	3.767	4.186	4.234	0.000	4.234	4.166	4.240	4.315	4.380	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This project provides for the advanced component development and prototyping of joint service food and combat feeding equipment designed to reduce the logistics burden and Operation and Support (O&amp;S) costs of subsistence support to service personnel. Project supports development of rations and rapidly deployable field food service equipment. Project conducts demonstration and validation of improved subsistence and subsistence support items used to enhance soldier effectiveness and quality of life in all four Services, as part of an integrated Department of Defense (DoD) Food Research, Development, Test, Evaluation and Engineering Program. The Program is reviewed and validated twice annually by the DoD Combat Feeding Research and Engineering Board (CFREB) as part of the Joint Service Food Program. This project develops critical enablers that support the Joint Future Force Capabilities and the Joint expeditionary mindset by maintaining readiness through fielding and integrating new equipment. This equipment enhances the field soldier's well-being and provides the soldier with usable equipment, in addition to reducing sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, combat zone footprint, and costs for logistical support. This PE/Project supports Field Feeding Programs for all the services.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  FY10: Review and validate Ice usage/consumption requirements for Battlefield Ice Supply System (BISS) with Combined Arms Support Command (CASCOM) and the Joint Service Community. Perform market research to evaluate existing Commercial Off the Shelf / Non-Developmental (COTS/NDI) bulk Ice Making and bagging Systems. Develop a Draft Performance Specification or a Commercial Item Description (CID). Prepare a Request for Proposal/Statement of Work (SOW) to award a subsequent developmental contract to design and fabricate BISS prototype(s)  <i>FY 2009 Accomplishments:</i> FY 2009							0.000	0.070	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2  FY09: Transitioning Solar Refrigeration Technology from S&T to system development phase. Preparing solicitation for prototype and award contract. Initiate fabrication of prototype and transition to 6.5 for testing and evaluation.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.331	0.000	0.000	0.000	0.000
Program #3		0.000	0.200	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
FY10: Transitioning Solar Refrigeration Technology from S&T to system development phase. Preparing solicitation for prototype and award contract. Initiate fabrication of prototype and transition to 6.5 for testing and evaluation.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4  FY11: Transition Waste to Energy Converter (WEC) technology to advanced component development phase after successful demonstration of exit criteria outlined in the Technology Transition Agreement. Review and validate requirements outlined in the Capability Production Document (CPD) with CASCOC and Joint Service Community. Establish design and evaluation criteria to meet desired capability.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	0.000	0.290	0.000	0.290

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
<b>Program #5</b>  FY10: Transition Man-portable appliance technology to advanced component development phase to integrate into the Battlefield Kitchen (BK) after successful demonstration of exit criteria outlined in the Capability Development Document (CDD) with CASCOM and Joint Service Community. Establish design and evaluation criteria to meet desired capability. Initiate fabrication of prototype and initiate Developmental Testing (DT).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.390	0.000	0.000	0.000
<b>Program #6</b>  FY 11: Prepare solicitation for prototype and award contract. Initiate fabrication of prototype and initiate Developmental Testing (DT).		0.000	0.000	0.423	0.000	0.423

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #7 FY11: Transition Sanitation Solution Generator from 6.3 and implement approved system into fielding kitchens.		0.000	0.000	0.189	0.000	0.189
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8		0.941	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>FY09: Based on warfighter recommendations, identified and obtained Commercial-Off-The-Shelf/Non-developmental Item (COTS/NDI) and completed development of Meal, Ready-to-Eat (MRE) components and packaging innovations (for 2012 Date of Pack (DOP)) to improve acceptability, expand variety and improve consumption. Integrated packaging/food processing science and technology (S&amp;T) transitions to improve operational and functional performance. Completed procurements documents and transitioned to 6.5 for field testing.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #9</p> <p>FY10: Continue to identify suitable COTS/NDI candidate items and conduct in-house product development of food components for fielded individual operational rations (MRE 2013/2014 DOP) to enhance acceptability, increase consumption and improve nutritional intake. Conduct pilot scale in-house production to support engineering design, technology insertion, and producibility. Work with vendors and assemblers as needed to ensure feasibility and technology transition. Develop, integrate, and validate state-of-the-art science and technology, food processing and primary/secondary packaging innovations into individual ration platforms to increase operational effectiveness, functionality and improve logistics. processing and packaging to introduce targeted component items into individual ration platforms for enhanced acceptability, nutrition and performance.</p>		0.000	0.941	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>		<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #10</p> <p>FY11: Continue to identify suitable COTS/NDI candidate items and conduct in-house product development of food components for fielded individual operational rations (MRE 2013/2014 DOP) to enhance acceptability, increase consumption and improve nutritional intake. Conduct pilot scale in-house production to support engineering design, technology insertion, and producibility. Work with vendors and assemblers as needed to ensure feasibility and technology transition. Develop, integrate, and validate state-of-the-art science and technology, food processing and primary/secondary packaging innovations into individual ration platforms to increase operational effectiveness, functionality and improve logistics. processing and packaging to introduce targeted component items into individual ration platforms for enhanced acceptability, nutrition and performance.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>				0.000	0.000	0.649	0.000	0.649

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>		<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
<b>Program #11</b>  FY09: Increased availability and consumption of dietary fiber in combat rations in accordance with Surgeon General nutritional standards for operational rations based on Military Dietary Reference Intakes (MDRI) established through military nutrition research. Identified intake mechanisms and/or carriers to promote healthy diets, increase broad, beneficial health effects, and ensure warfighters health and fitness for optimal mission performance. Identified fiber types and formats, categorize and select suitable candidates, conducted menu adaptation or product reformulation, and developed prototype candidates. Transitioned to Fielded Individual ration improvement Program (FIRIP) and Assault and General Purpose Improvement Program (ASPIP) to complete validation and field testing prior to transition to procurement.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.101	0.000	0.000	0.000	0.000
<b>Program #12</b>				0.331	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>FY09: Analyzed field test results of new components for Meal Cold Weather (MCW)/Long Range Patrol (LRP). Recommended components and menu profiles to Services. Optimized development of S&amp;T components from Nutritionally Optimized First Strike Ration (FSR) project. Designed expanded FSR menus with developmental and non-developmental performance enhancing components. Evaluated range of developmental, non-developmental, and COTS components for modification and expansion of FSR menus based on warfighter feedback, R&amp;D progress, and product development. Completed prototype development and assembly, transitioned to 6.5 for field test. Completed procurement documents for new items and new assembly documentation for FSR and MCW/LRP. Conducted production testing of new components.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #13</p> <p>FY10: Continue identification and selection of new candidate items. Conduct in-house product development as needed; assemble test menus, select test site, and transition to 6.5 for field test. Complete procurement documents for new items and new assembly documentation for FSR and MCW/LRP. Conduct production testing of new components.</p>		0.000	0.310	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #14  FY11: Continue identification and selection of new candidate items. Conduct in-house product development as needed; assemble test menus, select test site, and transition to 6.5 for field test. Complete procurement documents for new items and new assembly documentation for FSR and MCW/LRP. Conduct production testing of new components.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		0.000	0.000	0.229	0.000	0.229

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #15  FY11: This effort will evaluate innovative packaging materials including high barrier, non-foil packaging structure for acidic condiments in order to increase condiment variety and warfighter acceptability for maximum consumption and nutritional intake. Packaging materials will be down-selected then integrated with new formulations of high demand acidic condiments. The effort involves reformulating and optimizing pH of acidic condiments for acceptability, then integrating those new formulations with the down-selected packaging material for evaluation of package integrity, product quality, and shelf life. Producibility testing will then be initiated for commercial scale-up of the reformulated high acid condiments in the new packaging materials. Technical data and prototypes will transition to individual & group ration improvement projects for field testing.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.121	0.000	0.121
Program #16  FY11: Transition from technology base advanced development effort highly acceptable, multi-component breakfast and bakery items to fielded combat rations. Supports frequently requested items that will increase		0.000	0.000	0.135	0.000	0.135

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010						
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>		<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>						
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>										
<p>consumption, caloric intake, and morale. Military nutritional and shelf life requirements necessitate application of novel processing, packaging, and stabilization and preservation technologies to bridge the gap between user needs and product availability. Identified specific analytical requirements, ingredient, and packaging specifications such as water activity, pH, moisture, and additives to increase sensory acceptability and extend shelf life (humectants, emulsifiers, water binding agents, and anti-staling agents) are needed. Items include self-heating egg, breakfast burritos, breakfast pizzas, turnovers, sausage, instant breakfast cereals, pita breads, English muffins, etc. Will demonstrate and validate product parameters in commercial scale production, identify critical process controls, determine analytical testing or new test procedures, initiate long term storage studies and sensory evaluation, conduct nutrient analysis and incorporate in menu planning to meet OTSG guidelines, and develop technical data to support transition to production.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Program #17</p> <p>FY09: Conducted field evaluation/test of prototypes. Identified and selected new commercial and in-house developmental and product improvements as well as science and technology insertions supporting scenario specific supplemental packs to optimize warfighter performance, high altitude, cold weather, and high intensity/ long duration. Established baseline for essential nutrients to maintain the proper energy levels, nutritional</p>						0.245	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>balance, body weight, mental and physical alertness within intended scenarios. Coordinated with USARIEM and OTSG to assess and determine optimal amounts of nutraceuticals, functional foods, and phytonutrients to maximize benefit and performance levels.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #18</p> <p>FY10: Complete product evaluations and product refinement as needed. Prepare final technical data for commercial production and transition to Defense Supply Center Philadelphia ration system procurement of final modular supplements.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	0.098	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #19</p> <p>FY09: Improved family of UGRs (H&amp;S (2012), A (2011), B and E (2012)) to increase overall Warfighter acceptability, and consumption. Based on Warfighter recommendations incorporated COTS, NDI, and developmental components into prototype menus, transitioned to 6.5 for field testing. Completed draft procurement documents. Integrated state of the art packaging and combat ration processing technologies for improved operational and functional performance. Transitioned from 6.3 and conducted advanced development of HOT PAC, a low-cost, disposable self-heating package for dispensing hot water in the field. Optimized performance of package via material, fitment, and self-heating technology changes. Completed performance-based procurement documents and transitioned to Procurement. Updated and improved the Medical Nutrition Supplement (MNS) for the family of UGRs to support the military requirement of meeting the unique nutritional needs of all hospitalized patients in a combat environment. Developed and tested MNS prototypes consisting of essential food items (broth, gelatin, high protein / high calorie liquid supplements) and supplies for patient diets, and unitized into a supplemental module.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		1.105	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #20  FY10: Revise performance-based documents and transition to Procurement. Improve family of UGRs (H&S (2013/2014), A (2012/2013), B and E (2013/2014)) to increase overall Warfighter acceptability, and consumption. Based on Warfighter recommendations, incorporate COTS, NDI, and developmental components into prototype menus. Select field test site and transition to 6.5 for field testing. Complete draft procurement documents. Integrate state of the art packaging and combat ration processing technologies for improved operational and functional performance.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.090	0.000	0.000	0.000
Program #21  FY11: Improve family of UGRs (H&S (2013/2014), A (2012/2013), B and E (2013/2014)) to increase overall Warfighter acceptability, and consumption. Based on Warfighter recommendations, incorporate COTS, NDI, and developmental components into prototype menus. Select field test site and transition to 6.5 for field testing.		0.000	0.000	0.730	0.000	0.730

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Complete draft procurement documents. Integrate state of the art packaging and combat ration processing technologies for improved operational and functional performance.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #22</p> <p>FY11: Conduct study of effects of extended consumption of military rations on warfighters</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>				0.000	0.000	0.070	0.000	0.070

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #25  FY09: Reviewed and validated shipboard refrigeration and ice consumption requirements with Navy. Conducted tradeoff and Front Analysis for comparing conventional bulk refrigerator/freezers with dual temperature capabilities. Conducted design analysis for incorporating ice-making capabilities into the dual temperature footprint to derive requirements for ice making capabilities.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.050	0.000	0.000	0.000	0.000
Program #26  FY10: Develop modular, hatchable, reconfigurable, dual temperature refrigerated and frozen space to support endurance requirements for legacy and future ships.		0.000	0.090	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #28  FY10: Procure equipment, develop test plans, and conduct land-based testing to support Navy goals. Standardize and optimize the food service equipment, reducing manpower requirements, and supporting NAVSUP's Standard Core Menu for submarines.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.310	0.000	0.000	0.000
Program #29  FY11: Transition Automated Shipboard Scullery project from the Navy Small Business Innovative Research (SBIR) Program to a Phase III effort. Combat Feeding Directorate (CFD) will partner with PEO Carriers on a cost sharing initiative to support a Phase III SBIR effort. During the Phase III effort, the Automated Shipboard Dishwashing System (ASDS) configuration will be demonstrated aboard a U.S. Navy ship. Prior to the demonstrating the system onboard a ship, a Ship Configuration Change Document (SCD) will be initiated and approved. This will allow the ASDS to be installed onboard a Navy vessel for evaluation.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	0.470	0.000	0.470

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #30  FY09: Collaborated with Naval Support Command (NAVSUP) to identify product segments for Navy Standard Core Menu (NSCM). Worked with commercial suppliers to research advanced foods and conducted sensory evaluation panels and nutrition research. Identified existing Trans Fats in the NSCM for modification of menu items. Prepared yearly product recommendations and supported NAVSUP field testing for new menu item introductions. Transitioned finding to NSCM.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.165	0.000	0.000	0.000	0.000
Program #31		0.000	0.209	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>FY10: Coordinate with NAVSUP to identify and collect information to determine menu goals and constraints; investigate emerging food preparation techniques to reduce labor for shipboard feeding; and provide annual reports and product recommendations.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #32</p> <p>FY11: Provide NAVSUP with continuous product identification, evaluations and menu development to support NSCM upgrades and revision changes.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.000	0.000	0.136	0.000	0.136

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #33  FY10: Complete transition (from a Technology Transition Initiative) of a fully functional alternate chemical heating technology for the UGR-E. Verify performance as drop-in component of the UGR-E. Revise performance-based procurement documents, field test under the FGRIP and transition procurement documents to DSCP.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.250	0.000	0.000	0.000
Program #34  FY11: Expanded Self-Heating Capabilities for Remote Feeding.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #35</p> <p>FY11: Initiate program to provide ration components in fully integrated, multi-functional, active packaging materials beyond traditional polymer laminate films and oxygen scavenger sachets to improve storage stability &amp; acceptability, reduce product waste, and increase consumption/nutrition. Performance oriented "smart" packaging materials protect food products from microorganisms, oxygen, moisture, and UV light, play an active role in preserving food throughout product shelf-life and improve product acceptability. Based on utility/functionality and technology readiness, primary technical focus will be on embedded oxygen scavenging, anti-oxidant, and olfactory/aromatic based innovative film structures that can be applied to combat ration components. Conduct market research and transition novel functional films from tech base effort. Produce limited scale production quantity of ration compatible films and/or pouches for further laboratory examination.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>				0.000	0.000	0.084	0.000	0.084

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>FY11: Improved Food Risk Assessment/Management, provide DoD Veterinary Services Agency and services a predictive modeling database and applicable training materials to provide science-based information to perform food safety risk assessment/management duties</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #38</p> <p>FY11: Develop a Joint Service Refrigerated Container System (JSRCS) to support group ration distribution and storage for multiple services</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.000	0.000	0.130	0.000	0.130

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #39  FY11: Evaluate and demonstrate state of the art insulation technology, like Aerogel Insulation to significantly improve refrigeration efficiency in the field and shipboard  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.150	0.000	0.150
Program #40  FY11: Develop a fully integrated refrigeration system for the Assault kitchen to allow the AK to support UGR-A ration feeding, and menu supplements  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	0.000	0.160	0.000	0.160

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #41  FY11: Air Force Basic Expeditionary Airfield Resources (BEAR) - Kitchen System Enhancements, provide AF with enhanced, state of the art all electric food service equipment; and continue to refine modular field feeding system  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.000	0.182	0.000	0.182
Program #42  Small Business Innovative Research/Small Business Technical Transfer Program (SBIR/STTR)  <i>FY 2009 Accomplishments:</i> FY 2009				0.000	0.118	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
<i>FY 2010 Plans:</i> FY 2010											
<i>FY 2011 Base Plans:</i> FY 2011 Base											
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Accomplishments/Planned Programs Subtotals						3.767	4.186	4.234	0.000	4.234	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>RDTE, 0604713.548,</i> <i>Military Subsistence System</i>	2.422	2.092	2.118	0.000	2.118	2.082	2.115	2.153	2.185	Continuing	Continuing
• Ord. #2: <i>OPA 3, M65801,</i> <i>Refrigerated Containers</i>	36.867	26.404	16.488	0.000	16.488	5.478	4.323	4.397	4.466	Continuing	Continuing
<b>D. Acquisition Strategy</b> Project development will transition to System Development & Demonstration and production.											
<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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Joint Service Food/Combat Feeding Equipment	C	RDECOM Natick, MA	26.784	1.637		1.660		0.000		1.660	Continuing	Continuing	0
Joint Service Food/Combat Feeding Equipment - 2	C	Various Location could not be determined.	15.066	1.606		1.625		0.000		1.625	Continuing	Continuing	0
<b>Subtotal</b>			41.850	3.243		3.285		0.000		3.285			0.000

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Joint Service Food/Combat Feeding Equipment	C	DTC Maryland & AEC, Virginia	6.421	0.539		0.545		0.000		0.545	Continuing	Continuing	0
<b>Subtotal</b>			6.421	0.539		0.545		0.000		0.545			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>				<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>					

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Combat Feeding Program Management	C	RDECOM Natick, MA	2.862	0.286		0.404		0.000		0.404	Continuing	Continuing	0
Small Business Innovative Research/Small Business Technical Transfer Program (SBIR/STTR)	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.118		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			2.862	0.404		0.404		0.000		0.404			0.000

**Remarks**

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
	51.133	4.186		4.234		0.000		4.234			0.000

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Award R&D contract to design and fabricate prototypes for the ADR P3I									#																			
Provide NAVSUP w/CPI, evaluations and menu development to support NSCM upgrades					#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Evaluate the SBIR automated scullery prototype onboard a Navy aircraft carrier									#	#	#																	
Quantify manning reductions for the scullery process based on testing results											#																	
Integrate control systems for diagnostics/prognostics of the automated scullery													#	#	#													
Award a contract to design and develop a prototype modular TriCon kitchen	#																											
Review Marine Corp Field Feeding Doctrine identify capability of current systems													#	#	#													
Award prototype contract for Battlefield Ice Supply								#																				
Fabricate prototype Solar Powered Refrigerations System								#	#	#																		
Test Vapor Compression Improvement prototype									#	#																		
Test prototype Battlefield Kitchen									#	#																		
Conduct Milestone C on Battlefield Kitchen																								#				
Transition HOT PAC procurement documents to DSCP								#	#	#																		
Transition MNS procurement documents to DSCP								#																				

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Transition Solar Power Refrigeration Technology to System Development phase						#																						
Test and evaluate Arctic Supplement for the UGR				#	#	#	#																					
Transition Arctic Supplement procurement docs to DSCP									#	#	#																	
Test and evaluate Culinary Kit for the UGR				#	#	#	#																					
Transition Culinary Kit procurement docs to DSCP									#	#	#																	
Test and evaluate Non-Retort ISPs for the UGR				#	#	#	#																					
Transition Non-Retort ISP procurement docs to DSCP									#	#	#																	
Test and evaluate Thermoformed Corrugated Trays for UGR									#	#	#	#																
Transition Thermoformed Corrugated Trays procurement docs to DSCP									#	#	#																	
Test and evaluate Common Box for UGR									#	#	#	#																
Transition Common Box procurement docs to DSCP													#	#	#													
Test and evaluate UGR-E Alternate Chemical Heater				#	#	#	#																					
Transition UGR-E Alternate Heater procurement docs to DSCP								#																				
Conduct DT on JP8 Fired Commerical Appliances																					#	#	#					

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
USMC Field Kitchen Modernization Effort																				#	#	#	#	#	#	#	#	#
Joint Service Refrigeration Systems Enhancement Effort																#	#	#	#	#	#	#	#	#	#	#	#	#
Conduct DT on Assault Kitchen Refrigeration System													#	#	#													
Conduct Milestone B on Waste to Energy Converter												#																

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Award R&D contract to design and fabricate prototypes for the ADR P3I	1	2011	1	2011
Provide NAVSUP w/CPI, evaluations and menu development to support NSCM upgrades	4	2009	3	2015
Evaluate the SBIR automated scullery prototype onboard a Navy aircraft carrier	1	2011	3	2011
Quantify manning reductions for the scullery process based on testing results	3	2011	3	2011
Integrate control systems for diagnostics/prognostics of the automated scullery	1	2012	3	2012
Award a contract to design and develop a prototype modular TriCon kitchen	1	2009	1	2009
Review Marine Corp Field Feeding Doctrine identify capability of current systems	1	2012	3	2012
Award prototype contract for Battlefield Ice Supply	3	2010	3	2010
Fabricate prototype Solar Powered Refrigerations System	3	2010	1	2011
Test Vapor Compression Improvement prototype	2	2011	3	2011
Test prototype Battlefield Kitchen	2	2011	3	2011
Conduct Milestone C on Battlefield Kitchen	4	2014	4	2014
Transition HOT PAC procurement documents to DSCP	4	2009	2	2010
Transition MNS procurement documents to DSCP	3	2010	3	2010
Transition Solar Power Refrigeration Technology to System Development phase	2	2010	2	2010
Test and evaluate Arctic Supplement for the UGR	4	2009	3	2010
Transition Arctic Supplement procurement docs to DSCP	4	2010	2	2011
Test and evaluate Culinary Kit for the UGR	4	2009	3	2010

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R-1 Line Item #60

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> 610: <i>FOOD ADV DEVELOPMENT</i>

Event	Start		End	
	Quarter	Year	Quarter	Year
Transition Culinary Kit procurement docs to DSCP	4	2010	2	2011
Test and evaluate Non-Retort ISPs for the UGR	4	2009	3	2010
Transition Non-Retort ISP procurement docs to DSCP	4	2010	2	2011
Test and evaluate Thermoformed Corrugated Trays for UGR	4	2010	3	2011
Transition Thermoformed Corrugated Trays procurement docs to DSCP	4	2010	2	2011
Test and evaluate Common Box for UGR	4	2010	3	2011
Transition Common Box procurement docs to DSCP	4	2011	2	2012
Test and evaluate UGR-E Alternate Chemical Heater	4	2009	3	2010
Transition UGR-E Alternate Heater procurement docs to DSCP	3	2010	3	2010
Conduct DT on JP8 Fired Commerical Appliances	1	2014	3	2014
USMC Field Kitchen Modernization Effort	4	2013	3	2015
Joint Service Refrigeration Systems Enhancement Effort	4	2012	3	2015
Conduct DT on Assault Kitchen Refrigeration System	1	2012	3	2012
Conduct Milestone B on Waste to Energy Converter	3	2011	3	2011

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>				<b>PROJECT</b> C08: <i>RAPID EQUIPPING FORCE</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
C08: <i>RAPID EQUIPPING FORCE</i>	14.291	28.992	14.322	57.900	72.222	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>Note</b> Note that: (a) Equipment mix and configuration may change based on changes in operational environment and circumstances. (b) REF- Resource Management Capabilities Needs equipment and funding execution details will be provided in the Secretary of Army report to the Congressional Defense Committee in March and October of each year(per HAC Report #108-553, DoD APPNs Bill 2005, June 18, 2004, page 134.)											
<b>A. Mission Description and Budget Item Justification</b> The US Army Rapid Equipping Force (REF) was established to provide urgently needed state-of-the-art technology to soldiers in the field to meet immediate warfighter needs under operational conditions in the current theaters. The REF Forward Teams in Iraq and Afghanistan work with Combatant Commanders and the soldiers to identify warfighter needs while REF Rear formulates solutions and rapidly delivers/fields new equipment to the deployed units. REF solutions are rapid responses to evolving, adaptable and changing threats, in any operational environment. REF Rear evaluates, utilizes or adapts currently available military or civilian items (COTS/GOTS) which typically have not been type classified for Army-wide use but are available and adaptable to the current Operational Combatant Commander's needs. For the REF, necessary materiel solutions can only be determined as "real time" threat modes are identified. Countermeasures to these evolving threats must be developed/purchased/modified, often within weeks, for the first cycle of spiral type responses. Specifically the REF is charged to: EQUIP operational commanders with off-the-shelf (government or commercial) solutions or near term developmental items that can be researched, developed and acquired quickly - ideally within 90 days. INSERT future force technology solutions that engaged and deploying forces require by developing, testing and evaluating key technologies and systems under operational conditions. ASSESS capabilities and advise Army stakeholders of findings that will enable forces to confront an adaptive enemy rapidly. The REF process rapidly provides capabilities to meet immediate warfighter needs and supports efforts to mitigate asymmetric and traditional threats. A key element of this process is the provision for execution flexibility. The REF process provides the mechanism to respond rapidly to an adaptive enemy who changes in days and months, not years. The REF focuses on finding effective capabilities to counter emerging and future threats. The REF works directly with operational commanders to find solutions to identified equipping requirements. These solutions may result in procurement of new or existing military/commercial materiel equipment, or accelerated development of a Future Force materiel solution for insertion into the current force now. The REF adaptive practices are at the forefront of Army modernization and serve as a catalyst and change agent for Army transformation. The REF accomplishes its mission by working in partnership with industry, academia, Army senior leaders, the Army Training and Doctrine Command (TRADOC), the Army acquisition community, and the Army Test and Evaluation Command (ATEC) to meet immediate warfighter needs. The REF ensures safety testing of all equipment prior to release to the soldier. All equipment must pass Safety Confirmation and have a Capabilities and Limitations Report completed prior to being issued to operational units/soldiers. The Asymmetric Warfare Group provides operational advisory assistance to Army and Joint Force Commanders to enhance the combat effectiveness of the operating force and enable the defeat of asymmetric threats.											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> C08: <i>RAPID EQUIPPING FORCE</i>				
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  FY09 Base: The REF was designed to bridge the gap between the lengthy acquisition process and warfighter equipping needs that should not be delayed. Specifically the Rapid Equipping Force is charged to: EQUIP operational commanders with off-the-shelf (government or commercial) solutions or near-term developmental items that can be researched, developed and acquired quickly - ideally, within 90 days. INSERT future force technology solutions that engaged and deploying forces require by developing, testing and evaluating key technologies and systems under operational conditions. ASSESS capabilities and advise Army stakeholders of findings that will enable forces to confront an adaptive enemy rapidly. The REF ensures safety testing of all equipment prior to release to the soldier. REF focuses on the development and testing of systems and mechanisms designed to detect, identify and defeat enemy equipment and actions designed to injure or kill and devices to help protect the warfighter. The REF continues to maintain our support to commanders to ensure that we provide a solution in the areas of Protecting the Force and Intelligence, Surveillance and Reconnaissance (ISR).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		11.646	0.000	0.000	0.000	0.000
Program #2		2.645	0.000	0.000	9.900	9.900

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> C08: <i>RAPID EQUIPPING FORCE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>FY09 Overseas Contingency Operation (OCO) - The AWG will focus efforts to investigate, evaluate, and assist in the development and improvement of existing jamming devices, Electro Magnetic Pulse emitting devices, and crew, vehicle, electronics disrupting devices. Specifically focus on enhancements to existing jamming devices as well as future developments. Provide RDTE with flexibility for working with industry, DoD assets, as well as technical institutes for the R&amp;D of new emerging technologies.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #3</p> <p>FY10 Base: The REF was designed to bridge the gap between the lengthy acquisition process and warfighter equipping needs that should not be delayed. Specifically the Rapid Equipping Force is charged to: EQUIP operational commanders with off-the-shelf (government or commercial) solutions or near-term developmental items that can be researched, developed and acquired quickly - ideally, within 90 days. INSERT future force technology solutions that engaged and deploying forces require by developing, testing and evaluating key technologies and systems under operational conditions. ASSESS capabilities and advise Army stakeholders of findings that will enable forces to confront an adaptive enemy rapidly. The REF ensures safety testing of all equipment prior to release to the soldier. REF focuses on the development and testing of systems and mechanisms designed to detect, identify and defeat enemy equipment and actions designed to injure or kill and devices to help</p>		0.000	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> C08: <i>RAPID EQUIPPING FORCE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>a solution in the areas of Protecting the Force and Intelligence, Surveillance and Reconnaissance (ISR). New Accomplishment</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #5</p> <p>FY11 Overseas Contingency Operation (OCO) - Supports the rapid asymmetric threat counter measure resolution development. The FY11 Overseas Contingency Operations (OCO) Supplement requested funding will provide the Asymmetric Warfare Group funding to accomplish its mission and allows the Asymmetric Warfare Group funding to execute an operational and advisory assistance mission to Army and Joint Force Commanders in order to enhance the effectiveness of the warfighter.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	26.625	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>		<b>PROJECT</b> C08: <i>RAPID EQUIPPING FORCE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #6 FY11 Overseas Contingency Operations: Ballistic Threat Identification/Hostile Fire Detection System (HFDS)  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.000	0.000	48.000	48.000
Program #7 Congressional Add - Squad Mission Support (SMSS)  <i>FY 2009 Accomplishments:</i> FY 2009				0.000	1.600	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> C08: <i>RAPID EQUIPPING FORCE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8  Small Business Innovative Research/Small Business Technology Transfer Program (SBIR/STTR) (Rapid Equipping Force)  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.767	0.000	0.000	0.000
<b>Accomplishments/Planned Programs Subtotals</b>		14.291	28.992	14.322	57.900	72.222

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>	<b>PROJECT</b> C08: <i>RAPID EQUIPPING FORCE</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>Other Procurement, Army</i>	496.023	13.350	42.229	58.590	100.819	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #2: <i>Operations and Maintenance, Army</i>	101.900	11.431	20.728	85.500	106.228	20.987	21.347	21.516	21.697	Continuing	Continuing

**D. Acquisition Strategy**

The REF provides urgently needed, state-of-the-art technology to soldiers in the field to meet immediate requirements. REF Rear evaluates, utilizes or adapts currently available military or civilian items (COTS/GOTS) which typically have not been type classified for Army-wide use but are available and adaptable to the current Operational Combatant Commander's needs.

**E. Performance Metrics**

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

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>				<b>PROJECT</b> C08: <i>RAPID EQUIPPING FORCE</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Base: Various Projects - Protect The Force in Counter Insurgency	C	Various Locations TBD Location could not be determined.	0.000	10.884		5.442		0.000		5.442	Continuing	Continuing	0
Base: Various Projects - Enhance Intelligence Surveillance Recon	C	Various Locations TBD Location could not be determined.	0.000	5.858		3.151		0.000		3.151	Continuing	Continuing	0
Base: Various Projects - Logistics/Medical in Counterinsurgency Opns	C	Various Locations TBD Location could not be determined.	0.000	1.066		0.573		0.000		0.573	Continuing	Continuing	0
Base: Various Projects - Timeliness of Analysis and Information Dissemination	C	Various Locations TBD Location could not be determined.	0.000	4.526		2.435		0.000		2.435	Continuing	Continuing	0
OCO: Asymmetric Warfare Group	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		9.900		9.900	Continuing	Continuing	0
FY11 Overseas Contingency Operations: Ballistic Threat Identification/Hostile Fire Detection System	C	Various Locations Location could not be determined.	0.000	0.000		0.000		48.000		48.000	Continuing	Continuing	0
Congressional Add - Squad Mission Support (SMSS)	C		0.000	1.600		0.000		0.000		0.000	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603747A: <i>Soldier Support and Survivability</i>				<b>PROJECT</b> C08: <i>RAPID EQUIPPING FORCE</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Nothing entered for Activity and Location. Location could not be determined.											
<b>Subtotal</b>			0.000	23.934		11.601		57.900		69.501			0.000

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATEC - Protect Force in Counterinsurgency Operations	C	Various locations Location could not be determined.	0.000	5.058		2.721		0.000		2.721	Continuing	Continuing	0
<b>Subtotal</b>			0.000	5.058		2.721		0.000		2.721			0.000

**Remarks**

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2011 Army</b>										<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	12.235	12.164	17.962	0.000	17.962	3.005	4.961	4.363	4.522	Continuing	Continuing
907: <i>Tactical Exploitation of National Capabilities-MIP</i>	12.235	12.164	17.962	0.000	17.962	3.005	4.961	4.363	4.522	Continuing	Continuing
<b>A. Mission Description and Budget Item Justification</b>											
<p>Execute the Congressionally-directed Tactical Exploitation of National Capabilities (TENCAP) program for the Army by leveraging multiple Intelligence Community (IC) National Agencies' technical development efforts for potential integration into Army tactical systems. TENCAP provides the technical expertise and support needed to protect Army equities in the IC and ensures that critical Army requirements are addressed in the development of: (1) new sensor capabilities; (2) data processing, exploitation, and dissemination architectures; and (3) Joint CONOPS. TENCAP also serves as the Army's centralized lead to evaluate, enhance, prototype, and transition new technologies/capabilities, developed in the Science &amp; Technology (S&amp;T) community, to Army tactical systems to include DCGS-A, Prophet, and WIN-T, and facilitates integration of these systems into a coherent enterprise solution that serves as a force multiplier for Intelligence, Surveillance, and Reconnaissance (ISR), Battle Command, and Force Protection capabilities. TENCAP emerging technologies (1) ensure continued access to current National and Theater sensors and supporting ground architectures; and (2) exploit new opportunities that focus on improving the tasking, analysis, processing, exploitation and dissemination of the data collected. This includes efforts to: (1) shorten targeting timelines down to Platoon level; (2) enhance target identification; (3) provide better target location (accuracy); (4) provide continued coverage of a target; and (5) develop in-theater analytic tools to exploit data in near-real-time to support contingency operations.</p>											

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i>
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**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	12.235	18.228	18.057	0.000	18.057
Current President's Budget	12.235	12.164	17.962	0.000	17.962
Total Adjustments	0.000	-6.064	-0.095	0.000	-0.095
• Congressional General Reductions		-6.064			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.095	0.000	-0.095

**Change Summary Explanation**

Change Summary Explanation: Funding - FY 2010: Funding decrease for unsubstantiated growth.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i>				<b>PROJECT</b> 907: <i>Tactical Exploitation of National Capabilities-MIP</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
907: <i>Tactical Exploitation of National Capabilities-MIP</i>	12.235	12.164	17.962	0.000	17.962	3.005	4.961	4.363	4.522	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>Execute the Congressionally-directed Tactical Exploitation of National Capabilities (TENCAP) program for the Army by leveraging multiple Intelligence Community (IC) National Agencies' technical development efforts for potential integration into Army tactical systems. TENCAP provides the technical expertise and support needed to protect Army equities in the IC and ensures that critical Army requirements are addressed in the development of: (1) new sensor capabilities; (2) data processing, exploitation, and dissemination architectures; and (3) Joint Concepts of Operations (CONOPS). TENCAP also serves as the Army's centralized lead to evaluate, enhance, prototype, and transition new technologies/capabilities, developed in the Science &amp; Technology (S&amp;T) community, to Army tactical systems to include Distributed Common Ground System - Army (DCGS-A), Prophet, and Warfigher Information Network - Tactical (WIN-T), and facilitates integration of these systems into a coherent enterprise solution that serves as a force multiplier for Intelligence, Surveillance, and Reconnaissance (ISR), Battle Command, and Force Protection capabilities. TENCAP emerging technologies (1) ensure continued access to current National and Theater sensors and supporting ground architectures; and (2) exploit new opportunities that focus on improving the tasking, analysis, processing, exploitation and dissemination of the data collected. This includes efforts to: (1) shorten targeting timelines down to Platoon level; (2) enhance target identification; (3) provide better target location (accuracy); (4) provide continued coverage of a target; and (5) develop in -theater analytic tools to exploit data in near-real-time to support contingency operations. FY2011 Base amount of \$17.9 million RDTE funds (1) development activities that exploit and facilitate the integration of advancing Joint and National space/airborne sensor capabilities (multiple Intelligence disciplines) to ensure Army Tactical Commanders have access to and use of those assets, and (2) development of TENCAP General Officer Steering Group (TGOSG) validated and prioritized emerging technologies to meet or accelerate ISR collection, targeting, and situational awareness requirements for contingency operations.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1 Collaborate, develop and exploit emerging Multi-INT and space-based technologies to satisfy/accelerate ISR, Battle Command and Force Protection requirements							1.950	3.993	9.042	0.000	9.042

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i>	<b>PROJECT</b> 907: <i>Tactical Exploitation of National Capabilities-MIP</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Develop simulations for TENCAP mission rehearsals, warfighter exercises, and CONOPS revision and development		1.100	0.686	1.205	0.000	1.205
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3		6.700	4.650	3.850	0.000	3.850

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i>	<b>PROJECT</b> 907: <i>Tactical Exploitation of National Capabilities-MIP</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Maintain a ready core competency of technical expertise to research and evaluate classified/unclassified commercial and government prototypes and emerging technologies  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Program Support  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		2.485	2.835	3.865	0.000	3.865

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i>		<b>PROJECT</b> 907: <i>Tactical Exploitation of National Capabilities-MIP</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Accomplishments/Planned Programs Subtotals				12.235	12.164	17.962	0.000	17.962
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A								
<b>D. Acquisition Strategy</b> The acquisition strategy for TENCAP begins with the TENCAP General Officer Steering Group (TGOSG), with representatives from the G2, G3, G6, G8 and ASAALT, who validate and prioritize proposed initiatives that address Army shortfalls or capability gaps. TENCAP coordinates with PEOs and Program Managers to facilitate transfer/integration of capabilities into Program of Record (POR) systems. Increase in funds from FY10 to FY11 is based upon the intent of the 2007 TENCAP Charter that directs TENCAP to serve as the Army's primary interface to National and Theater organizations and resources. The goal is to: (1) continue to leverage billions of dollars of investment in National and Theater sensor development and exploitation at minimal cost to the Army; (2) limit duplication of effort within Army programs; and (3) improve transition of S&T capabilities to Army Programs of Record (POR). In order to realize this goal, TENCAP needs to be funded at a consistent level to allow oversight of many S&T activities throughout the IC, at Battle Labs and institutions of higher learning and be familiar with system requirements from a multitude of Army programs. The FY11 funding level enables TENCAP to achieve the broader goal envisioned by the revised Charter and facilitate transition of the TENCAP General Officer Steering Group (TGOSG) prioritized critical capabilities that will significantly improve contingency operations in OEF.								
<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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i>				<b>PROJECT</b> 907: <i>Tactical Exploitation of National Capabilities-MIP</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Technology Insertion - Emerging Technologies	SS/CPAF	Multiple Location could not be determined.	94.258	3.993		9.042		0.000		9.042	Continuing	Continuing	0
<b>Subtotal</b>			94.258	3.993		9.042		0.000		9.042			0.000

Remarks

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management	C	ASPO Alexandria, VA	25.369	2.835		3.865		0.000		3.865	Continuing	Continuing	0
<b>Subtotal</b>			25.369	2.835		3.865		0.000		3.865			0.000

Remarks

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i>				<b>PROJECT</b> 907: <i>Tactical Exploitation of National Capabilities-MIP</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Exercises and Architecture	SS/CPAF	Multiple Location could not be determined.	0.000	0.686		1.205		0.000		1.205	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.686		1.205		0.000		1.205			0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Technology Insertion - Subject Matter Experts	C/CPAF	Northrup Grumman ASPO, Alexandria, VA	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Intelligence Subject Matter Experts and Engineering Services	C/CPAF	TBD Location could not be determined.	0.000	3.750		2.950		0.000		2.950	Continuing	Continuing	0
Imagery Intelligence Engineering Services	C	Army Geospatial Center (AGC) Alexandria, VA	0.000	0.900		0.900		0.000		0.900	Continuing	Continuing	0
<b>Subtotal</b>			0.000	4.650		3.850		0.000		3.850			0.000

**Remarks**

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603774A: <i>Night Vision Systems Advanced Development</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	2.508	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	2.508
131: <i>NIGHT VISION SYS A/DEV</i>	2.508	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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

This program addresses initiatives to develop and transition technologies from the laboratories and industry in order to improve fielded equipment in the current force as well as initiation, development, and engineering/program management support of systems for fielding to the Current, Modular, and Future Forces (FF). 3rd Generation Forward Looking Infrared (3rd Gen FLIR) high performance thermal imaging technology will allow significantly improved ranges for acquisition of enemy forces. A major thrust will be to transition technologies to acquisition programs that meet required, advanced sensor capabilities of the Modular Force, FF, and FCS requirements documents. This will include the ability for sensors to accomplish Advanced Unmanned Aerial Vehicle (UAV) Payload missions, and Close Surveillance Support System (CS3) for 360 degree situational awareness for vehicles. CS3 will allow vehicle occupants to see outside the vehicle in day or night with improved vision. This will allow much improved maneuvering in urban/complex terrain, tracking of friendly soldiers and vehicles, and detection and engagement of dismounted and vehicular threats. Overwatch and other technologies provide for detecting, classifying, and locating weapons based on firing signatures (snipers/hostile fires). Other emerging concepts resulting from ongoing operations will be supported by this program, to include route reconnaissance for road hazards, battle damage assessment including decoy and camouflage detection, detection of threat soldiers carrying Rocket Propelled Grenades (RPGs), and identification of Improvised Explosive Devices (IED) and suicide bombers. There are no FY 2010 funds.

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	2.580	0.000	0.000	0.000	0.000
Current President's Budget	2.508	0.000	0.000	0.000	0.000
Total Adjustments	-0.072	0.000	0.000	0.000	0.000
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	-0.072	0.000	0.000	0.000	0.000

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603774A: <i>Night Vision Systems Advanced Development</i>	
<b><u>Change Summary Explanation</u></b> Change Summary Explanation: FY08 funds (\$0.891) realigned to higher priority requirements. FY10 funds (\$5.644) realigned to higher priority requirements.		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603774A: <i>Night Vision Systems Advanced Development</i>				<b>PROJECT</b> 131: <i>NIGHT VISION SYS A/DEV</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
131: <i>NIGHT VISION SYS A/DEV</i>	2.508	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
Quantity of RDT&E Articles												
<b>A. Mission Description and Budget Item Justification</b>												
<p>This program addresses initiatives to develop and transition technologies from the laboratories and industry in order to improve fielded equipment in the current force as well as initiation, development, and engineering/program management support of systems for fielding to the Current, Modular, and Future Forces (FF). 3rd Generation Forward Looking Infrared (3rd Gen FLIR) high performance thermal imaging technology will allow significantly improved ranges for acquisition of enemy forces. A major thrust will be to transition technologies to acquisition programs that meet required, advanced sensor capabilities of the Modular Force, FF, and FCS requirements documents. This will include the ability for sensors to accomplish Advanced Unmanned Aerial Vehicle (UAV) Payload missions, and Close Surveillance Support System (CS3) for 360 degree situational awareness for vehicles. CS3 will allow vehicle occupants to see outside the vehicle in day or night with improved vision. This will allow much improved maneuvering in urban/complex terrain, tracking of friendly soldiers and vehicles, and detection and engagement of dismounted and vehicular threats. Overwatch and other technologies provide for detecting, classifying, and locating weapons based on firing signatures (snipers/hostile fires). Other emerging concepts resulting from ongoing operations will be supported by this program, to include route reconnaissance for road hazards, battle damage assessment including decoy and camouflage detection, detection of threat soldiers carrying Rocket Propelled Grenades (RPGs), and identification of Improvised Explosive Devices (IED) and suicide bombers. FY 2009 funding supports continuing UAV Advanced Payloads and Advanced Sensor Fusion efforts as well as emerging concepts for laser imaging, route reconnaissance, battle damage assessment, information on the firing of weapons (counter sniper/fires location and targeting), and detection of personnel with RPGs, IEDs, and suicide bombers.</p>												
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Program #1						0.480	0.000	0.000	0.000	0.000		
Emerging Concepts - Explore a range of potential technologies for FCS and the Future Force that will enable route reconnaissance, battle damage assessment, and detection of threats.												
<i>FY 2009 Accomplishments:</i> FY 2009												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603774A: <i>Night Vision Systems Advanced Development</i>	<b>PROJECT</b> 131: <i>NIGHT VISION SYS A/DEV</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
<b>Program #2</b>  UAV Advanced Payloads - Technology to sense the presence of personnel and man-made objects to include under natural foliage. Determine feasibility of integrating current processing technology development into Persistent Surveillance capabilities in-theatre and the Extended Range/Multi-Purpose (ER/MP) Program. This includes hyperspectral and laser imaging (Buckeye) for three dimensional display. FY07 Completed phase 1 of 2 phase Hyperspectral Study. FY08/FY09 investigates integration of Buckeye on ER/MP.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.575	0.000	0.000	0.000	0.000
<b>Program #3</b>		1.453	0.000	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification:** PB 2011 Army **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603774A: <i>Night Vision Systems Advanced Development</i>	<b>PROJECT</b> 131: <i>NIGHT VISION SYS A/DEV</i>
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>Advanced Sensor Fusion - develop and demonstrate a fused/blended sensor including but not limited to image intensification, day camera, infrared, and multi function laser. These applications are intended for Common Sensor Payload improvements for the ARH-70A, ER/MP, and FCS Class 4, among other platforms. FY08 investigates these capabilities with demonstrations in FY09.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>					
<b>Accomplishments/Planned Programs Subtotals</b>	2.508	0.000	0.000	0.000	0.000

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• Ord. #1: <i>PE 0602709A/Night Vision and Electro-Optical Technology</i>	25.647	26.381	0.000	0.000	26.905	26.929	26.974	0.000	0.000	Continuing	Continuing
• Ord. #2: <i>PE 0603710A/Night Vision Advanced Development</i>	39.916	40.595	0.000	0.000	43.985	45.653	46.756	0.000	0.000	Continuing	Continuing
• Ord. #3: <i>PE 0604710A/Night Vision Devices Engineering Development</i>	44.508	37.892	0.000	0.000	36.692	33.969	34.481	0.000	0.000	Continuing	Continuing
• Ord. #4: <i>K38300 LRAS3</i>	210.766	178.255	0.000	0.000	188.042	64.923	0.000	0.000	0.000	0	678.356

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603774A: <i>Night Vision Systems Advanced Development</i>	<b>PROJECT</b> 131: <i>NIGHT VISION SYS A/DEV</i>

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Ord. #5: <i>G86100 Future Combat System</i>	154.583	148.028	0.000	0.000	677.820	0.000	0.000	0.000	0.000	0	1,061.363
• Ord. #6: <i>BA0330 TUAV</i>	0.003	258.307	0.000	0.000	58.901	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #7: <i>B00302 Advanced TUAV Payloads</i>	141.988	162.602	0.000	0.000	149.436	123.076	116.698	0.000	0.000	Continuing	Continuing
• Ord. #8: <i>W61900 IAV</i>	231.651	197.154	0.000	0.000	124.513	100.987	71.299	0.000	0.000	Continuing	Continuing
• Ord. #9: <i>PE 654645 FCS (UGS)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #10: <i>K31300 DVE</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #11: <i>D15402 Truck Utility Heavy Variant 10000 LB</i>	946.734	0.000	0.000	0.000	0.000	0.000	288.472	0.000	0.000	Continuing	Continuing
• Ord. #12: <i>D15900 Truck, Tractor, Line Haul M915A2</i>	9.913	45.685	0.000	0.000	46.809	11.731	13.058	0.000	0.000	Continuing	Continuing
• Ord. #13: <i>G85100 Stryker Vehicle</i>	0.000	0.000	0.000	0.000	0.000	840.419	248.976	0.000	0.000	Continuing	Continuing
• Ord. #14: <i>GA0700 M1 Abrams Tank (MOD)</i>	341.569	253.231	0.000	0.000	334.989	261.041	25.673	0.000	0.000	Continuing	Continuing
• Ord. #15: <i>GA0730 System Enhancement Pgm Sep M1A2</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #16: <i>G80716 Bradley Base Sustainment (M2A2)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #17: <i>G80717 Bradley Base Sustainment (M2A3)</i>	171.989	144.813	0.000	0.000	162.470	7.426	8.120	0.000	0.000	Continuing	Continuing

**D. Acquisition Strategy**

The advances and technology improvements to UAV payloads, and advanced sensor fusion for Common Sensor Payload that will utilize various cost reimbursement development type contracts that were, and will continue to be, competitively awarded using best value source selection procedures.

**E. Performance Metrics**

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

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	20.443	18.374	4.695	0.000	4.695	4.770	4.848	4.932	5.008	Continuing	Continuing
035: NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE	8.371	5.541	4.695	0.000	4.695	4.770	4.848	4.932	5.008	Continuing	Continuing
E21: POLLUTION PREVENTION TECHNOLOGY DEM/VAL	0.510	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
E23: ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) PILOT IN DOD	0.399	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
EN4: PLASMA ENERGY PYROLYSIS SYSTEM (PEPS)	0.796	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
EP1: ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)	10.367	12.833	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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

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

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>
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**B. Program Change Summary (\$ in Millions)**

	<u><b>FY 2009</b></u>	<u><b>FY 2010</b></u>	<u><b>FY 2011 Base</b></u>	<u><b>FY 2011 OCO</b></u>	<u><b>FY 2011 Total</b></u>
Previous President's Budget	15.304	4.770	4.720	0.000	4.720
Current President's Budget	20.443	18.374	4.695	0.000	4.695
Total Adjustments	5.139	13.604	-0.025	0.000	-0.025
• Congressional General Reductions		-0.096			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		13.700			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.429	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.025	0.000	-0.025

**Change Summary Explanation**

FY10 Congressionally directed increases.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>				<b>PROJECT</b> 035: <i>NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
035: <i>NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE</i>	8.371	5.541	4.695	0.000	4.695	4.770	4.848	4.932	5.008	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>The National Defense Center for Energy and Environment(NDCEE) was established by Congress in 1990 with a directive to "serve as a national leadership organization to address high priority environmental problems for the Department of Defense (DoD), other government organizations, and the industrial community." The NDCEE Program is a national resource for developing and disseminating advanced environmental technologies. The NDCEE is used to demonstrate environmentally acceptable technology to industry; validate new technology prior to transferring that technology; and assist in the training of potential users as part of that technology transfer process. The NDCEE is a DoD resource for environmental quality management and technology validation. This program is managed by the Army on behalf of the Office of the Assistant Deputy Under Secretary of Defense for Environment (ADUSD-E). In May 2008, the program name was redesignated from the National Defense for Environmental Excellence to the National Defense Center for Energy and Environment to ensure that the Center's mission recognizes and addresses the strategic interdependence of energy and environmental technology requirements within an overall sustainability framework in support of our installations, weapons systems and war fighters. This name change also directly supports the DoD's proactive implementation of Executive Order 13423, "Strengthening Federal Environmental, Energy and Transportation Management."Our broadly encompassing and growing mobile, personal and stationary advanced energy technology requirements include infrastructure, alternative and synthetic fuels, surety, renewables, storage, distribution, advanced power, micro-grids, transportation, systems integration and others. Further, to train as we fight, validated energy and environmental technologies need to be available, and implemented at our power projection bases and training areas. The NDCEE will continue to research, demonstrate and transfer these technologies supporting our integrated Environment, Safety and Occupational Health (ESOH) and energy objectives with full consideration of the triple bottom line of mission, environment and community.</p>											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1 Management and operations of the NDCEE by the prime contractor.							2.255	1.513	1.325	0.000	1.325

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> 035: <i>NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2  Industrial base integration, operation of the NDCEE environmental technology facility, and environmental information analysis.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.625	0.500	0.500	0.000	0.500
Program #3		5.041	2.395	2.603	0.000	2.603

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> 035: <i>NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Conduct demonstration/validation of environmentally acceptable technologies that enhance military readiness and reduce production, operating, and/or disposal costs.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #4</p> <p>NDCEE Government program management during contract negotiations and execution and during project formulation, execution, and technology transfer.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.450	0.200	0.267	0.000	0.267

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> 035: <i>NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5 Small Business Innovative Research/Small Business Technology Transfer Programs  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.133	0.000	0.000	0.000
Program #6 Congressional Project - Renewable Energy Testing Center (intended for 643779EP1).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	0.800	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>		<b>PROJECT</b> 035: <i>NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				8.371	5.541	4.695	0.000	4.695
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A								
<b>D. Acquisition Strategy</b> The NDCEE is a national asset focused on DoD applications that include technology transfer to appropriate DoD organizations. The NDCEE fosters an outreach program to describe its products and capabilities that include publication of results and participation in professional meetings, symposia, conferences, and appropriate coordination with industry. The management strategy for the NDCEE centers on a DoD Executive Advisory Board (EAB) chaired by the DoD NDCEE Executive Agent on behalf of the ADUSD (ESOH) and composed of senior DoD leadership to oversee NDCEE operations. The EAB is supported by an EAB Working Group (EABWG) that includes staff members from each of the offices represented on the EAB. The EABWG coordinates all NDCEE activities and reports back to the EAB Principals. The EABWG is, in turn, supported by a Technical Working Group (TWG) that addresses the details of NDCEE program execution. The contracting strategy of the NDCEE is based on using an NDCEE Contracting Officer's Representative to validate all the contractual portions of the NDCEE and by technical monitors (TM) to oversee the technical aspects of each contracted task. A prime contractor operates NDCEE test facility(s) to validate environmentally compatible technologies on a representative "shop floor". The NDCEE accounts for and conducts work for: (1) direct funded Army tasks; (2) reimbursable tasks from within DoD and from other Government agencies; and (3) Congressionally directed and funded tasks.								
<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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> 035: <i>NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Cost Category Item is empty.	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	1.289		1.200		0.000		1.200	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.289		1.200		0.000		1.200			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Technical Data	C/CPFF	Concurrent Technologies Corporation (CTC) Johnstown, PA	12.500	1.140		1.120		0.000		1.120	Continuing	Continuing	0
<b>Subtotal</b>			12.500	1.140		1.120		0.000		1.120			0.000

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> 035: <i>NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE</i>
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**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Testing	C/CPFF	Concurrent Technologies Corp. Location could not be determined.	2.466	0.000		0.000		0.000		0.000	Continuing	Continuing	2.466
Development Testing - 2	C/CPFF	Concurrent Technologies Corp. Location could not be determined.	14.690	2.055		1.495		0.000		1.495	Continuing	Continuing	0
<b>Subtotal</b>			17.156	2.055		1.495		0.000		1.495			2.466

Remarks

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	C	Office of the Assistant Sec Army (Installations and Environment) Location could not be determined.	3.431	1.057		0.880		0.000		0.880	Continuing	Continuing	0
<b>Subtotal</b>			3.431	1.057		0.880		0.000		0.880			0.000

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> 035: <i>NATIONAL DEFENSE CNTR FOR ENVIRO EXCELLENCE-NDCEE</i>
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**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Remarks</b>													
			<b>Total Prior Years Cost</b>	<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			33.087	5.541		4.695		0.000		4.695			2.466

**Remarks**

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army									<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>				<b>PROJECT</b> E21: <i>POLLUTION PREVENTION TECHNOLOGY DEM/VAL</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
E21: <i>POLLUTION PREVENTION TECHNOLOGY DEM/VAL</i>	0.510	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
Quantity of RDT&E Articles												
<b><u>A. Mission Description and Budget Item Justification</u></b>												
<p>This project supports Advanced Component Development and Prototypes of new and reformulated paints, paint removers, cleaners and other surface coating materials and processes for weapon systems production and maintenance operations. The project increases operational sustainment and warfighter training capabilities by reducing soldier health risks, environmental impacts and compliance enforcement actions against installations while increasing coatings performance and standardization across the Army. Materials and processes demonstrated under this project are inherently compliant with all applicable National Emissions Standards for Hazardous Air Pollutants that regulate surface coating activities, thereby eliminating the need for Army installations to incur hundreds of millions of dollars in expenses to purchase, install and operate air pollution control devices. Together with project 0603804A, Logistics and Engineer Equipment - Adv Dev (K42), this project transitions advanced technologies developed under 0603728A, Environmental Quality Technology Demonstrations (025). The project tests and evaluates Sustainable Painting Operations for the Total Army (SPOTA) at facilities that produce and maintain Combat Support/Combat Service Support systems, Ground Combat Vehicles and other Army equipment. The project expedites technology transition from the laboratory to operational use by demonstrating the capabilities of new materials and processes to fulfill the performance requirements outlined in Material Specifications, Depot Maintenance Work Requirements, Technical Manuals and other technical data. Test and evaluation activities are executed by Research, Development and Engineering Command (RDECOM) centers and laboratories in cooperation with the affected Life Cycle Management Commands, Program Executive Offices and Program Managers. Materials and processes are being demonstrated at ten different Army facilities in order to minimize the disruption of materiel maintenance operations at any one facility.</p>												
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Program #1						0.110	0.000	0.000	0.000	0.000		
Qualify, validate and approve reformulated Chemical Agent Resistant Coating (CARC) systems and other non-CARC paints and surface coatings												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> E21: <i>POLLUTION PREVENTION TECHNOLOGY DEM/VAL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Qualify, validate and approve hazardous air pollutant (HAP) free solvents, thinners and cleaners		0.200	0.000	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3		0.150	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> E21: <i>POLLUTION PREVENTION TECHNOLOGY DEM/VAL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Qualify, validate and approve chemical paint removers containing no methylene chloride or other HAPs  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4  Qualify, validate and approve reformulated sealants and adhesives for high-use applications  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.050	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>										<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>				<b>PROJECT</b> E21: <i>POLLUTION PREVENTION TECHNOLOGY DEM/VAL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Accomplishments/Planned Programs Subtotals						0.510	0.000	0.000	0.000	0.000	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>0603728A, Environmental Quality Technology Demonstrations (025)</i>	3.610	3.640	3.799	0.000	3.799	3.883	3.968	0.000	0.000	0	10.661
• Ord. #2: <i>0603804A, Logistics and Engineer Equipment - Adv Dev (K42)</i>	5.190	2.951	0.480	0.000	0.480	0.000	0.000	0.000	0.000	.465	14.578
• Ord. #3: <i>0605857A, Environmental Quality Technology Mgmt Support (06I)</i>	0.267	0.274	0.042	0.000	0.042	0.000	0.000	0.000	0.000	.067	.650
<b>D. Acquisition Strategy</b>											
The project transitions demonstrated technology directly into the Army supply system by having National Stock Numbers assigned/reassigned and immediately made available for procurement by the Defense Logistics Agency and the General Services Administration. As acquisition program managers approve the new materials and processes for use on their systems, technical writers are specifying them in the appropriate technical publications. The project is managed by the Director of the Environmental Acquisition and Logistics Sustainment Program at the Headquarters, U.S. Army RDECOM.											
<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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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>				<b>PROJECT</b> E23: <i>ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) PILOT IN DOD</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
E23: <i>ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) PILOT IN DOD</i>	0.399	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing	
Quantity of RDT&E Articles												
<b>A. Mission Description and Budget Item Justification</b>												
The Environmental Management System (EMS) Pilot in Department of Defense (DOD) is a new Congressional interest project. The project is to demonstrate and validate EMS internet-based software applications at Defense sites in order to better manage environmental information and reduce compliance burdens of installations.												
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Program #1 Demonstrated and validated EMS internet-based software applications at Department of Defense (DoD) installation sites.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						0.399	0.000	0.000	0.000	0.000		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>		<b>PROJECT</b> E23: <i>ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) PILOT IN DOD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Accomplishments/Planned Programs Subtotals				0.399	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A								
<b>D. Acquisition Strategy</b> N/A								
<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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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>				<b>PROJECT</b> EN4: <i>PLASMA ENERGY PYROLYSIS SYSTEM (PEPS)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
EN4: <i>PLASMA ENERGY PYROLYSIS SYSTEM (PEPS)</i>	0.796	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>This project addresses the use of high temperature Plasma Energy Pyrolysis Systems (PEPS) gasification process, with the primary focus on converting opportunity feedstock(s) to high quality Synthesis Gas (syngas) that can be subsequently converted to usable fuels for the Army. The specific goal of the PEPS Clean Fuels Program is to build an operational unit to gather data to demonstrate the efficiency, environmental compliance, and cost competitiveness of the gasification process for fuel applications. The objective of this task - Phase 4, is to continue to perform additional Risk Reduction Testing needed to further demonstrate and validate the applicability of PEPS gasification technology to a range of applications requiring elevated pressures and alternate plasma torch gas compositions.</p>											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1 Perform risk reduction testing to demonstrate and validate the applicability of PEPS gasification technology.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							0.796	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> EN4: <i>PLASMA ENERGY PYROLYSIS SYSTEM (PEPS)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		0.796	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>D. Acquisition Strategy</b>						
N/A						
<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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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>				<b>PROJECT</b> EP1: <i>ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
EP1: <i>ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)</i>	10.367	12.833	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>Environmental Quality Technology Dem/Val Adds (CA) - Congressional directed Army Environmental quality technology projects that address critical requirements, reduce out-year costs, and support long-term sustainability. This includes compliance, conservation, restoration and installation pollution prevention technologies. Congressional interest projects totalling \$10.367 million in FY09: Battlefield Asset Decontamination System (BARDS)(\$1.600 million); Battlefield Plastic Biodiesel (\$1.600 million); Renewable Energy Testing Center (\$1.600 million); Hawaii Undersea Chemical Military Munitions Assessment Plan (\$4.000 million); and Western Hemisphere Security Analysis Center (\$1.600 million). Congressional directed Environmental Quality Technology (EQT) projects for FY10 totalling \$12.900 million: Cadmium Emissions Reduction \$1.000 million; Vanadium Technology \$2.400 million; Environmental Management Information System (EMIS) \$2.000 million (should be in APE 643779E23), and Program increase for National Defense Center for Energy and Environment (NDCEE) \$7.500 million (should be in APE 643779035).</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Program #1						1.595	0.000	0.000	0.000	0.000	
<p>Battlefield Asset Decontamination System (BARDS)- Development of products designed to reduce weight, shipping constraints, water usage and cost liquid decontamination products.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> EP1: <i>ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2  Battlefield Plastic Biodiesel-Develop a cost effective technology to recycle military plastic waster into useable fuel  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.595	0.000	0.000	0.000	0.000
Program #3  Renewable Energy Testing Center (RETC)-Provide metics on robustness, safety, energy efficiency and environmenatal effectiveness.  <i>FY 2009 Accomplishments:</i> FY 2009		1.595	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> EP1: <i>ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4  Hawaii Undersea Chemical Military Munitions Assessment Plan - Inspect, process and dispose of recovered military munitions and other related materials  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		3.988	0.000	0.000	0.000	0.000
Program #5  Western Hemisphere Security Analysis Center- Provide advice, analysis, and associated reports and recommendations to further advance U.S. national security objectives in the Western Hemisphere.		1.594	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> EP1: <i>ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 Cadmium Emissions Reduction -Letterkenny Army Depot		0.000	1.000	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #7		0.000	2.333	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> EP1: <i>ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Vanadium Technology Program  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8 Environmental Management Information System (EMIS)(should be in APE 643779E23).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	2.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> EP1: <i>ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #9  Program increase for National Defense Center for Energy and Environment (NDCEE) (should be in APE 643779035).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	7.500	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		10.367	12.833	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A						
<b>D. Acquisition Strategy</b> N/A						
<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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>				<b>PROJECT</b> EP1: <i>ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
New R3 Line	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	0	0	0
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000

Remarks

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
New R3 Line	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	0	0	0
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000

Remarks

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603779A: <i>Environmental Quality Technology - Dem/Val</i>	<b>PROJECT</b> EP1: <i>ENVIRONMENTAL QUALITY TECH DEM/VAL (CA)</i>
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**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Testing	C/TBD	Nothing entered for Activity and Location. Location could not be determined.	20.110	0.000		0.000		0.000		0.000	0	0	0
<b>Subtotal</b>			20.110	0.000		0.000		0.000		0.000	0.000	0.000	0.000

Remarks

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
New R3 Line	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	0	0	0
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000

Remarks

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2011 Army</b>										<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	382.139	169.783	190.903	0.000	190.903	175.504	83.793	163.431	206.425	Continuing	Continuing
367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>	81.299	18.952	17.413	0.000	17.413	3.000	0.000	0.000	0.000	Continuing	Continuing
372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>	300.840	150.831	173.490	0.000	173.490	172.504	83.793	163.431	206.425	Continuing	Continuing

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

The WIN-T program focus is to design, develop, produce and field the Future Modular Force transport network, while leveraging mature technologies that can enhance the Current Modular Force to operate in an emerging noncontiguous environment. WIN-T Inc 3 develops the mature technologies which will be inserted into Inc 2. The Defense Acquisition Executive (DAE), through the Nunn-McCurdy certification process, certified a restructured WIN-T program on June 5, 2007. The certification Acquisition Decision Memorandum (ADM) stated that the Army will restructure the WIN-T Major Defense Acquisition Program (MDAP) to absorb the former Joint Network Node (JNN) Network program. It further stated that the restructured program will consist of four Increments: Inc 1, Inc 2, Inc 3, and Inc 4.

**B. Program Change Summary (\$ in Millions)**

	<b><u>FY 2009</u></b>	<b><u>FY 2010</u></b>	<b><u>FY 2011 Base</u></b>	<b><u>FY 2011 OCO</u></b>	<b><u>FY 2011 Total</u></b>
Previous President's Budget	393.054	180.673	374.525	0.000	374.525
Current President's Budget	382.139	169.783	190.903	0.000	190.903
Total Adjustments	-10.915	-10.890	-183.622	0.000	-183.622
• Congressional General Reductions		-10.890			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-10.915	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments 1	0.000	0.000	-183.622	0.000	-183.622

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	
<b><u>Change Summary Explanation</u></b> Change Summary Explanation: Funding: FY11 - Funds realigned to higher priority Army requirements.		

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>				<b>PROJECT</b> 367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>	81.299	18.952	17.413	0.000	17.413	3.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>Increment 2 capability supports limited collaboration, mission planning and on-the-move. It enables distribution of information via voice, data, and real-time video from ground-to-ground and ground-to satellite communications. Increment 2 capitalizes on commercial off-the-shelf/Government off-the-shelf (COTS)/(GOTS), mature technologies and adds mobility to the Brigade Combat Team (BCT) including Battalions and Companies. Increment 2 initially enables planning, monitoring, controlling and prioritizing (PMCP) the Div Headquarters (HQs) and/or the Bde network. It will disseminate critical information in less than five seconds and time sensitive information in less than eight seconds. Mobile communications for select users are enabled at 256 kbps for speeds up to 25 mph. It provides vehicular personnel force protection. It extends wide area/Global Information Grid (GIG) network connectivity to the lower tactical subnets at the company level. Network survivability is enhanced by automatically reconfiguring the network due to node(s) or link loss(es). Spectrum reuse is accomplished with the Highband Network Waveform (HNW) and Net Centric Waveform (NCW). The Quality of Service (QoS) capability enables message trafficking prioritization by level of importance to the warfighter. This Increment provides commercial and military band satellite communications to Div, Bde, Bn and Company (Co). WIN-T Inc 3 develops the mature technologies which will be inserted into Inc 2. This program was not a new start in FY09, effort previously funded under PE# 0603782A, Project 355. Funds in FY2011 support platform integration and government test support for Production Qualification Test-Contractor (PQT-C), Logistics Demonstration, Force Development Test and Experimentation (FDT), PQT-Government (PQT-G) and New Equipment Training (NET).</p>											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Program #1						43.191	0.000	0.000	0.000	0.000	
<p>Increment 2 System Development and Demonstration Engineering Change Proposal (ECP) provides the productization of configuration items, test support/prototypes for Development Test, New Equipment Training, and Limited User Test. The contractor provides final architecture, Modeling &amp; Simulation (M&amp;S), and support for milestone efforts.</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Platform Integration of WIN-T Configuration Items		14.408	0.000	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3		4.500	2.241	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Technical Engineering Services and Research Studies  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Conduct of Developmental Test, Limited User Test, PQT-G and IOT; includes Modeling and Simulation  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		9.210	15.576	14.959	0.000	14.959

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #5		9.990	0.504	2.454	0.000	2.454
Program Management Support						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						
Program #6		0.000	0.631	0.000	0.000	0.000
Small Business Innovative Research/Small Business Technology Transfer Programs						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>		<b>PROJECT</b> 367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Accomplishments/Planned Programs Subtotals				81.299	18.952	17.413	0.000	17.413
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A								
<b>D. Acquisition Strategy</b> The Defense Acquisition Executive (DAE), through the Nunn-McCurdy certification process, certified a restructured WIN-T program on June 5, 2007. The certification Acquisition Decision Memorandum (ADM) stated that the Army will restructure the WIN-T Major Defense Acquisition Program (MDAP) to absorb the former Joint Network Node (JNN) Network program. It further stated that the restructured program will consist of four Increments: Incs 1, 2, 3, and 4. Inc 2 has completed Limited User Testing (LUT) and a Production Readiness Review (PRR). The program is on track to obtain MS C approval in February 2010. An increase in FY11 funding of \$6.908 (66%) will fund Production Qualification Test - Contractor (PQT-C), Production Qualification Test - Government (PQT-G), Force Development Test (FDT), and New Equipment Training (NET). An increase in FY12 funding of \$3.0 (100%) will fund Initial Operational Test (IOT) and Cold Region Testing.								
<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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Increment 2 ECP to the Inc 3 SDD	C/CPAF	General Dynamics C4 Systems Inc Taunton, MA	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Platform Integration	C/Various	Various Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Technical Engineering Services and Research Studies	C	General Dynamics C4 Systems Inc Taunton, MA	0.000	2.241		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	2.241		0.000		0.000		0.000			0.000

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>
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**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Modeling & Simulation	C/Various	Various Location could not be determined.	0.000	15.576		14.959		0.000		14.959	Continuing	Continuing	0
<b>Subtotal</b>			0.000	15.576		14.959		0.000		14.959			0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	C	Various Location could not be determined.	0.000	0.504		2.454		0.000		2.454	Continuing	Continuing	0
Small Business Innovative Research/Small Business Technology Transfer Programs	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.631		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.135		2.454		0.000		2.454			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>						<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>			<b>PROJECT</b> 367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>		
	<b>Total Prior Years Cost</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	0.000	18.952	17.413	0.000	17.413			0.000
<b>Remarks</b>								

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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 Equipment Training	#																											
Limited User Test	#																											
Milestone C					#																							
Contract Award for Low Rate Initial Production					#																							
Increment 2 Low Rate Initial Production					#	#	#	#	#	#	#	#	#															
Initial Operational Test													#															
Full Rate Production Decision Review													#															
First Unit Equipped																	#											

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 367: <i>WIN-T INCREMENT 2 -INITIAL NETWORKING-ON-THE-MOVE</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
New Equipment Training	1	2009	1	2009
Limited User Test	1	2009	1	2009
Milestone C	1	2010	1	2010
Contract Award for Low Rate Initial Production	1	2010	1	2010
Increment 2 Low Rate Initial Production	1	2010	1	2012
Initial Operational Test	4	2011	4	2011
Full Rate Production Decision Review	1	2012	1	2012
First Unit Equipped	2	2012	2	2012

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>				<b>PROJECT</b> 372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>	300.840	150.831	173.490	0.000	173.490	172.504	83.793	163.431	206.425	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>Warfighter Information Network - Tactical (WIN-T) Inc 3 is the Army's communications system for reliable, secure, and seamless video, data, imagery, and voice services that enables decisive combat actions. It will be focused on moving information in a manner that supports commanders, staffs, functional units, and capabilities - based formations - all mobile, agile, lethal, sustainable, and deployable. It will be optimized for offensive and Joint operations so that the theater combatant commander will have the capability to perform multiple missions simultaneously. WIN-T Increment 3 will provide the Commander/user within the tactical area of responsibility a mobile infrastructure that passes relevant information effectively and efficiently for combined arms capabilities in all required terrain and environmental conditions. WIN-T is implementing the Global Information Grid (GIG) NetCentric Vision including Information Assurance and Network Centric Enterprise Services. In addition, WIN-T is a key component of the tactical GIG. WIN-T provides dynamic bandwidth and enabling formations On-The-Move (OTM). WIN-T Inc 3 develops the mature technologies which will be inserted into Inc 2. Inc 3 introduces the aerial tier to complete the 3 tier objective architecture. This program was not a new start in FY09, previously funded under PE # 0603782A, Project 355. Funds in FY2011 continue the Inc 3 System Development and Demonstration effort to include software development engineering builds, continued development of Inc 3 mature technologies that will be inserted into Inc 2, development of an aerial tier, as well as continue to provide the objective transmission subsystem; JC4ISR radio and associated antennas.</p>											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1							267.871	122.309	144.111	0.000	144.111
<p>Increment 3 System Development and Demonstration continues development, Modeling and Simulation (M&amp;S), hardware and software development for Inc 2 technical inserts and an aerial tier.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Platform Integration  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.700	4.400	0.000	4.400
Program #3 Technical Engineering Services and Research Studies		4.500	4.558	4.633	0.000	4.633

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Support for Engineering Development Test and Limited User Test; includes M&S		2.005	0.000	0.103	0.000	0.103
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5		26.464	18.282	20.243	0.000	20.243

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program Management Support  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 Small Business Innovative Research/Small Business Technology Transfer Programs  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	4.982	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>		<b>PROJECT</b> 372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Accomplishments/Planned Programs Subtotals				300.840	150.831	173.490	0.000	173.490
<b>C. Other Program Funding Summary (\$ in Millions)</b>								
N/A								
<b>D. Acquisition Strategy</b>								
<p>The Defense Acquisition Executive (DAE), through the Nunn-McCurdy certification process, certified a restructured WIN-T program on June 5, 2007. The certification Acquisition Decision Memorandum (ADM) stated that the Army will restructure the WIN-T Major Defense Acquisition Program (MDAP) to absorb the former Joint Network Node (JNN) Network program. It further stated that the restructured program will consist of four Increments: Incs 1, 2, 3, and 4. An FY11 decrease of \$190.530 (52%) was due to realignment to higher priority requirements. An FY12 decrease of \$137.296 (44%) was due to realignment to higher priority requirements. An FY14 increase of \$77.357 (90%) will fund the Critical Design Review (CDR), Developmental Test (DT), and Limited User Test (LUT). An FY15 increase of \$138.024 (202%) will continue funding the System Development and Demonstration (SDD) phase of Increment 3.</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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Increment 3 System Development and Demonstration	C/CPAF	General Dynamics C4 Systems Inc Taunton, MA	0.000	122.309		144.111		0.000		144.111	Continuing	Continuing	0
Platform Integration	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.700		4.400		0.000		4.400	Continuing	Continuing	0
<b>Subtotal</b>			0.000	123.009		148.511		0.000		148.511			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Technical Engineering Services and Research Studies	C	General Dynamics C4 Systems Inc Taunton, MA	0.000	4.558		4.633		0.000		4.633	Continuing	Continuing	0
<b>Subtotal</b>			0.000	4.558		4.633		0.000		4.633			0.000

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>
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**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Testing and Modeling & Simulation	C/Various	Various Location could not be determined.	0.000	0.000		0.103		0.000		0.103	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.103		0.000		0.103			0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	C	Various Location could not be determined.	0.000	18.282		20.243		0.000		20.243	Continuing	Continuing	0
Small Business Innovative Research/Small Business Technology Transfer Programs	C	Various Location could not be determined.	0.000	4.982		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	23.264		20.243		0.000		20.243			0.000

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Critical Design Review																					#							
Engineering Development Test																												#
New Equipment Training																												#
Limited User Test																												#

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603782A: <i>WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL</i>	<b>PROJECT</b> 372: <i>WIN-T INCREMENT 3 - FULL NETWORKING ON THE MOVE</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Critical Design Review	1	2014	1	2014
Engineering Development Test	3	2015	3	2015
New Equipment Training	4	2015	4	2015
Limited User Test	4	2015	4	2015

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	4.883	5.022	5.060	0.000	5.060	5.129	5.193	5.182	5.160	Continuing	Continuing
691: <i>NATO RSCH &amp; DEVEL</i>	4.883	5.022	5.060	0.000	5.060	5.129	5.193	5.182	5.160	Continuing	Continuing

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

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

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	5.025	5.048	5.087	0.000	5.087
Current President's Budget	4.883	5.022	5.060	0.000	5.060
Total Adjustments	-0.142	-0.026	-0.027	0.000	-0.027
• Congressional General Reductions		-0.026			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.142	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.027	0.000	-0.027

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>				<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
691: <i>NATO RSCH &amp; DEVEL</i>	4.883	5.022	5.060	0.000	5.060	5.129	5.193	5.182	5.160	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This program implements the provisions of Title 10 U.S. Code, Section 2350a, Cooperative Research and Development (R&amp;D) Projects: Allied Countries. The objective is to improve, through the application of emerging technologies, the conventional defense capabilities of the United States and our cooperative partners, including the North Atlantic Treaty Organization (NATO), U.S. major non-NATO allies and Friendly Foreign countries. Through technology sharing and joint equipment development these projects help reduce U.S. acquisition costs and leverage important technologies for the Army Transformation and the development of the Future Combat system. Cooperative efforts also improve multinational force compatibility with potential coalition partners through the development and use of similar equipment and improved interfaces. The program focuses specifically on international cooperative technology demonstration, validation, and interoperability of Army weapon and command, control, communications and information (C3I) systems, including the NATO Defense Against Terrorism initiatives. Projects are implemented through international agreements with foreign partners that define scope, cost and work sharing arrangements, management, contracting, security, data protection and third party transfers. Funds are used to pay for only the U.S. work share that occurs in the United States at U.S. Government and U.S. contractors facilities.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Program #1  Scientific and Technology Enterprise Management (STEM)/International Online (IOL) Development and Implementation NATO/International Cooperative R&D (AR 70-41) and International Acquisition (AR 70-1, AR 70-3)  <i>FY 2009 Accomplishments:</i> FY 2009						0.815	0.825	0.840	0.000	0.840	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>	<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
<b>Program #2</b>  Multilateral Interoperability Program (MIP) (Partners: Germany, France, United Kingdom, Canada, Italy): Continued integration work from the Command and Control Systems Interoperability Program (C2SIP) into an Advanced Concept Technology Demonstration (ACTD) to achieve NATO levels four (messaging) and five (database) interoperability and also extend the effort into a sustainable program to incorporate lessons learned into national systems (e.g. AFATDS, FADC2).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.665	0.686	0.667	0.000	0.667
<b>Program #3</b>		0.212	0.220	0.225	0.000	0.225

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>		<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Low Level Air Defense Interoperability (LLAPI) (Partners: Major NATO Allies): The objective of this program is to successfully demonstrate Command and Control (C2) interoperability among the participant nations' Short Range Air Defense (shared) assets for automated air picture exchange.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #4</p> <p>Multi-National Network Enabled Capabilities (MNNEC) related Command, Control, Communications, Computers, Intelligence Surveillance and Reconnaissance (C4ISR)(Potential Partners: United Kingdom, France, Italy, Germany and major NATO Allies) MNNEC would focus on developing a single solutions standard avoiding development of multiple unique solutions and leverage existing interoperability standards developed by NATO as well as other international forums such as the Five Power Net Centric PA. A single solution standard will include common doctrine, technical and procedural specifications to make better use of existing information, shared data, leverage national operating picture capabilities and enable the development of interoperability of data, databases, applications, security domains and national networks architectures. The MNNEC is more than interoperability of information systems; it is the complete networking of information systems with sensors and shooters focusing on building Net-Centric interoperability among coalition tactical land components operating in a Joint Environment, focused at the Brigade and Below level, but not excluding using the services provided at higher echelons. The</p>				0.543	0.547	0.540	0.000	0.540

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>	<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6  Senior National Representatives (Army) (SNR-(A)) Projects (Partners: France, Germany, United Kingdom and Italy): Supports harmonization of programs at various levels: exchanging information, identifying knowledge gaps and conducting feasibility studies to further promote cooperative development; standardizing, fielding and roadmapping various processes; distributing the workload among the different nations. Technology Demonstrations hosted by the U.S. reps to Land Group 6, NATO Army Armaments Group (NAAG), will provide and opportunity to observe and demonstrate the current and future capability of participating NATO nations with a view to assisting future operational and materiel interoperability. Army support of NAAG studies, analysis and technology demonstrations.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		0.819	0.738	0.873	0.000	0.873

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>	<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
<b>Program #7</b> Technology Research and Development Projects (TRDP) (Partners: United Kingdom, Germany, France, Canada, Australia, Netherlands, Korea, Norway): The scope of this MOU encompasses R&D collaboration on basic, exploratory and advanced Land Warfare Concepts and Technologies that are focused on Future Combat System enabling technologies, the maturation of which may lead to the development of technologically superior conventional weapon systems.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.950	0.965	0.980	0.000	0.980
<b>Program #8</b> Joint Tactical Radio System (JTRS) (Partners: Japan, Sweden, UK): The participants in these programs will develop and implement Software-enabled radios as replacements to current radio systems. The projects shall be focused on maintaining interoperability as the countries pursue their own separate software radio programs. The project agreements (PAs) will include a joint development of software radio specifications, separate development		0.300	0.300	0.270	0.000	0.270

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>	<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>and testing of software waveforms, and joint interoperability testing using the system assets developed as part of the agreements.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #9</p> <p>Artillery Command and Control Interoperability (ASCA) (Partners: France, Germany, Italy, UK): The Participants in this program will develop an automated software interface between their national field artillery command and control systems. The nations will be able to receive and provide mutual fire support (i.e. cannon and rocket fire) in combined operations more rapidly and with minimal errors.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.344	0.350	0.365	0.000	0.365

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>	<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
<b>Program #10</b>  Force Protection Projects (FPP) (Partners: United Kingdom, France, Germany, Italy, Sweden, Canada): Force Protection Projects will include R&D collaboration on technologies such as Counter Rocket and Mortar (C-RAM) and Counter Improvised Explosive Devices (C-IED). Programs include Military Operations in Urban Terrain (MOUT) and a variety of Defense Against Terrorism (DAT) initiatives such as Defense Against Mortar Attacks (DAMA) and Joint Precision Air Drop System (JPADS).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.135	0.200	0.250	0.000	0.250
<b>Program #11</b>  Small Business Innovative Research/Small Business Technology Transfer Program		0.000	0.141	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>	<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		4.883	5.022	5.060	0.000	5.060
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A						
<b>D. Acquisition Strategy</b> All projects are test or technical demonstrations to feed into potential new requirements in support of Army Transformation to the Future Force or as product improvements to the Current Force.						
<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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>				<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Multilateral Interoperability Program (MIP)	C/CPFF	C3S CSC Fort Washington, PA	1.376	0.165		0.186		0.000		0.186	Continuing	Continuing	0
STEM-IOL	C/CPFF	LSS/GDIT Fairfax, VA	3.440	0.545		0.595		0.000		0.595	Continuing	Continuing	0
Low Level Air Defense Interoperability (LLAPI)	C	AMCOM Redstone Ars, AL	0.825	0.117		0.120		0.000		0.120	Continuing	Continuing	0
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	C	CECOM Ft. Monmouth, VA	1.107	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Combat Identification	C	CECOM Ft. Monmouth, VA	0.867	0.050		0.025		0.000		0.025	Continuing	Continuing	0
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	C	CECOM Ft. Monmouth, VA	1.797	0.452		0.455		0.000		0.455	Continuing	Continuing	0
Senior National Representatives (Army) (SNR[A])	C/TBD	ARDEC Dover, NJ	5.794	0.590		0.619		0.000		0.619	Continuing	Continuing	0
TRDP	C/CPFF	Batelle/LMI McClean, VA	1.163	0.305		0.332		0.000		0.332	Continuing	Continuing	0
Artillery Command and Control Interoperability (ASCA)	C	CECOM Ft. Monmouth, NJ	1.156	0.217		0.220		0.000		0.220	Continuing	Continuing	0
	C	PM JTRS	0.503	0.118		0.108		0.000		0.108	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>				<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Joint Tactical Radio System (JTRS)		San Diego, CA											
Force Protection Projects (FPP)	C	RDECOM Ft. Belvoir, VA	0.000	0.100		0.125		0.000		0.125	0	.357	0
<b>Subtotal</b>			18.028	2.659		2.785		0.000		2.785			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MIP	C	CECOM Ft. Monmouth NJ	0.663	0.195		0.200		0.000		0.200	Continuing	Continuing	0
STEM/IOL	C	RDECOM Ft. Belvoir, VA	0.793	0.125		0.130		0.000		0.130	Continuing	Continuing	0
Low Level Air Defense Interoperability (LLAPI)	C	AMCOM Redstone Ars, AL	0.432	0.048		0.049		0.000		0.049	Continuing	Continuing	0
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	C	CECOM Ft. Monmouth, VA	0.246	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>	<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>
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**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Combat Identification	C	CECOM Ft. Monmouth NJ	0.539	0.025		0.000		0.000		0.000	Continuing	Continuing	0
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	C	CECOM Ft. Monmouth NJ	0.567	0.091		0.080		0.000		0.080	Continuing	Continuing	0
SNR(A)	C	ARL APG, MD	1.303	0.190		0.145		0.000		0.145	Continuing	Continuing	0
TRDP	C	RDECOM Fort Belvoir, VA	1.163	0.315		0.333		0.000		0.333	Continuing	Continuing	0
Joint Tactical Radio System (JTRS)	C	PM JTRS San Diego, CA	0.170	0.115		0.117		0.000		0.117	Continuing	Continuing	0
Artillery Command and Control Interoperability (ASCA)	C	CECOM Ft. Monmouth NJ	0.277	0.075		0.083		0.000		0.083	Continuing	Continuing	0
Force Protection Projects (FPP)	C	RDECOM Ft. Belvoir, VA	0.000	0.010		0.022		0.000		0.022	0	.062	0
Small Business	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		0.000		0.000	0	.141	0
<b>Subtotal</b>			6.153	1.189		1.159		0.000		1.159			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>				<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MIP	C	CECOM Ft Monmouth NJ	0.662	0.155		0.160		0.000		0.160	Continuing	Continuing	0
STEM/IOL	C	RDECOM Ft. Belvoir, VA	0.530	0.090		0.100		0.000		0.100	Continuing	Continuing	0
Low Level Air Defense Interoperability (LLAPI)	C	AMCOM Redstone Ars, AL	0.176	0.017		0.019		0.000		0.019	Continuing	Continuing	0
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	C	AMSAA Aberdeen Proving Ground, NJ	0.134	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Combat Identification	C	CECOM Ft Monmouth NJ	0.509	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	C	CECOM Ft Monmouth NJ	0.443	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SNR(A)	C	AMSAA APG, MD	0.824	0.125		0.120		0.000		0.120	Continuing	Continuing	0
TRDP	C	TBD Location could not be determined.	0.000	0.000		0.000		0.000		0.000	0	0	0
ASCA	C	CECOM Ft Monmouth NJ	0.174	0.040		0.040		0.000		0.040	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>				<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Joint Tactical Radio System (JTRS)	C	CECOM Ft Monmouth NJ	0.060	0.067		0.075		0.000		0.075	Continuing	Continuing	0
Force Protection Projects (FPP)	C	RDECOM Ft. Belvoir, VA	0.000	0.012		0.028		0.000		0.028	0	.095	0
<b>Subtotal</b>			3.512	0.506		0.542		0.000		0.542			0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MIP	C	PEO C3S Ft. Monmouth, NJ	0.501	0.150		0.140		0.000		0.140	Continuing	Continuing	0
STEM/IOL	C	RDECOM Ft. Belvoir, VA	0.258	0.055		0.000		0.000		0.000	Continuing	Continuing	0
Low Level Air Defense Interoperability (LLAPI)	C	AMCOM Redstone, Ars, AL	0.290	0.030		0.032		0.000		0.032	Continuing	Continuing	0
Shared Tactical GroundPicture (STGP)/ Single Integrated Ground Picture (SIGP)	C	CECOM Ft. Monmouth, VA	0.072	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
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**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Combat Identification	C	CECOM Ft. Monmouth, NJ	0.447	0.025		0.025		0.000		0.025	Continuing	Continuing	0
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	C	CECOM Ft. Monmouth, NJ	0.317	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SNR(A)	C	ARL APG, MD	0.431	0.053		0.045		0.000		0.045	Continuing	Continuing	0
TRDP	C	REDCOM Fort Belvoir, VA	1.096	0.330		0.300		0.000		0.300	Continuing	Continuing	0
Artillery Command and Control Interoperability (ASCA)	C	CECOM Ft. Monmouth, NJ	0.084	0.012		0.007		0.000		0.007	Continuing	Continuing	0
JTRS	C	PM JTRS San Diego, CA	0.065	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Force Protection Projects (FPP)	C	RDECOM Ft. Belvoir, VA	0.000	0.013		0.025		0.000		0.025	0	.071	0
<b>Subtotal</b>			3.561	0.668		0.574		0.000		0.574			0.000

**Remarks**

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	31.254	5.022	5.060	0.000	5.060			0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>							<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603790A: <i>NATO Research and Development</i>			<b>PROJECT</b> 691: <i>NATO RSCH &amp; DEVEL</i>			
	<b>Total Prior Years Cost</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 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-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	7.223	8.492	8.355	0.000	8.355	7.704	9.085	8.705	7.808	Continuing	Continuing
B32: <i>ADV MAINT CONCEPTS/EQ</i>	7.223	8.492	8.355	0.000	8.355	7.704	9.085	8.705	7.808	Continuing	Continuing

**Note**

Not applicable for this item

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

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

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	9.822	8.537	8.399	0.000	8.399
Current President's Budget	7.223	8.492	8.355	0.000	8.355
Total Adjustments	-2.599	-0.045	-0.044	0.000	-0.044
• Congressional General Reductions		-0.045			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.324	0.000			
• SBIR/STTR Transfer	-0.275	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.044	0.000	-0.044

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>				<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
B32: <i>ADV MAINT CONCEPTS/EQ</i>	7.223	8.492	8.355	0.000	8.355	7.704	9.085	8.705	7.808	Continuing	Continuing
Quantity of RDT&E Articles											
<b>Note</b> Not applicable for this item.											
<b>A. Mission Description and Budget Item Justification</b> This PE provides advanced development aviation support of programs that include advanced maintenance concepts and equipment. The FY 2011 budget request funds Aviation Advanced Development which supports Aviation Ground Support Equipment development prototypes that will enhance the functionality of current and future aircraft by improving the effectiveness of maintenance and servicing operations through validating new maintenance concepts to improve man and machine interfaces, improve aircraft maintenance processes, reduce Operation and Support (O&S) cost, and insert diagnostics technologies to replace obsolete and unsupportable equipment. This program provides for development of rapid battle repair procedures, tools development to speed the return of aircraft to a full mission status and development of new equipment for aerial recovery of damaged aircraft. Included in this program are projects such as: diagnostics/prognostic monitoring systems, Battle Damage Assessment and Repair (BDAR) Block II procedures and tools, Flexible Engine Diagnostic System (FEDS), Unit Maintenance Aerial Recovery Kit (UMARK), Aviation Light Utility Mobile Maintenance Cart (ALUMMC), Shop Equipment Contact Maintenance (SECM), Aviation - Sets, Kits, Outfits and Tools (A-SKOT) redesign, development of the modular Aviation Ground Power Unit (AGPU), Hand Held Fire Extinguisher (HHFE), and development support for tools needed to provide maintenance support to modernized/future force aircraft.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Program #1						1.110	0.750	0.830	0.000	0.830	
Hand Held Fire Extinguisher (HHFE)											
<i>FY 2009 Accomplishments:</i> FY 2009											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>	<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Battle Damage Assessment and Repair System (BDAR) Block II  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.300	0.400	0.000	0.000	0.000
Program #3 Standard Aircraft Towing System (SATS)		0.450	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>	<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Flexible Engine Diagnostics (FEDS)		1.542	3.079	0.400	0.000	0.400
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5		1.056	0.219	1.290	0.000	1.290

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>		<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Shop Equipment Contact Maintenance (SECM)								
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #6				0.000	1.985	1.095	0.000	1.095
Aviation Ground Power Unit (AGPU)								
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>		<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #7 Aviation Light Utility Mobile Maintenance Cart (ALUMMC)  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.224	0.705	0.000	0.705
Program #8 Unit Maintenance Aerial Recovery Kit (UMARK)  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.900	0.604	1.898	0.000	1.898

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>	<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #9 Aviation - Sets, Kits, Outfits and Tools (A-SKOT)  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.163	0.000	1.117	0.000	1.117
Program #10 Management Support Services  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.354	0.146	0.501	0.000	0.501

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>	<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #11		0.112	0.273	0.317	0.000	0.317
Technical Engineering Services						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						
Program #12		0.236	0.575	0.202	0.000	0.202
RDTE Project Test Support						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010								
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>		<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>							
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>					
Program #13 Small Business Innovative Research (SBIR)/ Small Business Technology Transfer Programs (STTR)  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.237	0.000	0.000	0.000					
Accomplishments/Planned Programs Subtotals		7.223	8.492	8.355	0.000	8.355					
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>Aircraft Procurement, Army(APA) SSN AZ3100</i>	95.726	111.110	76.129	65.627	141.756	176.525	117.618	99.565	101.261	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
<p>This project is an aggregate of advanced maintenance concepts related projects. While the detailed acquisition strategy varies from project to project, the general strategy for each individual project is to complete the development effort through Government test (developmental and operational). Program documentation for milestone decision is prepared, as appropriate, concurrently with the development effort.</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>	<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</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-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>				<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
HHFE	C/Various	AEC Aberdeen Proving Ground, MD,AMCOM G-4, Redstone A	1.145	0.750		0.830		0.000		0.830	Continuing	Continuing	0
BDAR BLOCK II	C	AMRDEC Redstone Arsenal, AL.	0.230	0.400		0.000		0.000		0.000	Continuing	Continuing	.930
SATS	C	AMCOM Redstone Arsenal, AL; AATD, Ft Eustis, VA.	2.196	0.000		0.000		0.000		0.000	Continuing	Continuing	2.545
FEDS	C/Various	AMRDEC Redstone Arsenal AL; RTTC, Redstone Arsenal, AL.	1.837	3.079		0.400		0.000		0.400	Continuing	Continuing	6.858
SECM	C/Various	TACOM Detroit, MI; ATEC, Alexandria, VA; ARDEC, Picatin	3.653	0.219		1.290		0.000		1.290	Continuing	Continuing	0
ALUMMC	C	AATD Ft. Eustis, VA.	0.000	0.224		0.705		0.000		0.705	Continuing	Continuing	0
AGPU	C/Various	AMDREC Redstone Arsenal, AL;UAH, Huntsville, AL	10.236	1.985		1.095		0.000		1.095	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>				<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
UMARK	C/Various	AMRDEC Redstone Arsenal, AL; UAH, Huntsville, AL	1.163	0.604		1.898		0.000		1.898	Continuing	Continuing	3.512
A-SKOT	C/Various	RDECOM Ft Monmouth NJ; AMRDEC, Redstone Arsenal, AL; BEL	1.040	0.000		1.117		0.000		1.117	Continuing	Continuing	0
<b>Subtotal</b>			21.500	7.261		7.335		0.000		7.335			13.845

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Technical Engineering Services	C	AATD Ft Eustis, VA	5.976	0.273		0.317		0.000		0.317	Continuing	Continuing	0
<b>Subtotal</b>			5.976	0.273		0.317		0.000		0.317			0.000

**Remarks**

None

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>	<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>
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**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
RDT&E Project Test Support	C	AEC Aberdeen Proving Ground, MD	0.512	0.575		0.202		0.000		0.202	Continuing	Continuing	0
<b>Subtotal</b>			0.512	0.575		0.202		0.000		0.202			0.000

**Remarks**

None

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Support Services	C	AGSE Redstone Arsenal, AL; Science Applications Intl C	2.549	0.146		0.501		0.000		0.501	Continuing	Continuing	0
SBIR/STTR Reductions	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.237		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			2.549	0.383		0.501		0.000		0.501			0.000

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>	<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>
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**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks

None

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	30.537	8.492	8.355	0.000	8.355			13.845

Remarks

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>	<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015							
	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				
Aviation Light Utility Mobile Maintenance Cart					#	#	#	#	#	#	#	#	#	#	#																	

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603801A: <i>Aviation - Adv Dev</i>	<b>PROJECT</b> B32: <i>ADV MAINT CONCEPTS/EQ</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Aviation Light Utility Mobile Maintenance Cart	1	2010	3	2012

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	42.939	59.662	80.490	0.000	80.490	14.147	11.580	11.963	12.139	Continuing	Continuing
526: <i>MARINE ORIEN LOG EQ AD</i>	2.983	3.017	2.990	0.000	2.990	2.941	2.995	3.046	3.095	Continuing	Continuing
G11: <i>ADV ELEC ENERGY CON AD</i>	3.256	2.622	2.618	0.000	2.618	1.324	0.456	0.643	0.644	Continuing	Continuing
G14: <i>MATERIALS HANDLING EQUIPMENT - AD</i>	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
K39: <i>Field Sustainment Support AD</i>	10.576	15.911	18.908	0.000	18.908	5.414	5.271	5.365	5.447	Continuing	Continuing
K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>	0.427	3.208	2.586	0.000	2.586	4.468	2.858	2.909	2.953	Continuing	Continuing
K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</i>	5.044	2.936	0.463	0.000	0.463	0.000	0.000	0.000	0.000	Continuing	Continuing
L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>	20.541	31.968	52.925	0.000	52.925	0.000	0.000	0.000	0.000	Continuing	Continuing

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

This program element supports advanced component development and prototypes of new and improved technologies for combat support and combat service support equipment essential to sustaining combat operations. Advancements in watercraft, bridging, electric power generators and batteries, potable water, material-handling, environmental control, shelter systems, cargo aerial delivery, field service systems, mortuary affairs equipment and petroleum equipment are necessary to improve safety and increase the tactical mobility, operational capability, lethality and survivability on the digital battlefield and to provide for greater sustainment while reducing the logistics support burden. Increase from FY 2009 to FY 2010 reflects additional funds to support the Field Sustainment Support for Advanced Low Velocity Air drop System (ALVADS).

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>
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**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	43.995	56.373	80.915	0.000	80.915
Current President's Budget	42.939	59.662	80.490	0.000	80.490
Total Adjustments	-1.056	3.289	-0.425	0.000	-0.425
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		3.600			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.056	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.425	0.000	-0.425
• Other Adjustments 1	0.000	-0.311	0.000	0.000	0.000

**Change Summary Explanation**

Change Summary Explanation: FY11 funds of \$425 thousand realigned to higher priority requirements.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> 526: <i>MARINE ORIEN LOG EQ AD</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
526: <i>MARINE ORIEN LOG EQ AD</i>	2.983	3.017	2.990	0.000	2.990	2.941	2.995	3.046	3.095	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>FY11 funding supports project advanced component development and prototype equipment for the Army's Logistics-Over-The-Shore (LOTS) missions. The primary mission of Army Watercraft Systems is inherently tied to the required capability to move tonnage/cargo from major sea going vessels to the shore in support of LOTS/Joint Logistic over the Shore (JLOTS) and various watercraft missions. The Army utilizes a combination of Modular Causeway Systems (MCS), Barge Derricks (BD), Barges, Landing Crafts (Landing Crafts Utility (LCUs), Logistic Support Vessels (LSVs), Landing Crafts Mechanized (LCM-8s) and Tug Boats to offload deep draft vessels. The time phased mix of numbers and types of vessels outlined are essential in maintaining a given level of capability to support JLOTS operations. This capability is only as strong as the weakest link and takes the full combination of all assets to accomplish. FY11 Funding for the Joint Enable Theater Access-Sea Ports of Debarkation (JETA-SPOD) Advanced Concept Technology Demonstration (ACTD) will be used to support the Vessel-to-Shore Bridging (VSB) component of the program. This includes funding for VSB core developmental requirements and Operational Testing/Military Utility Assessment (MUA) and follow-on research and development funding to support the transition of VSB to an acquisition program. This funding will provide R&amp;D of the full scale operational prototype in addition to a broader and more robust MUA designed to adequately test and assess the VSB for military utility under the lead of the USPACOM ACTD Operational Manager (OM). Performance risk will be mitigated by ensuring the technology receives optimum test and evaluation to meet the warfighting operational requirements to include an extended user evaluation. Funding will also allow the development of an additional 50-60 foot section that will result in expanded technical development, testing, and utility assessment for the multiple operational uses and employment methods (eg. Army/Service Watercraft, Joint High Speed Vessel (JHSV), dry/wet gap crossings, and aerial delivery). VSB will optimize the throughput capabilities of the JHSV, current Army/USMC watercraft, and bridging requirements across extended mudflats/tidal estuaries by providing a more rapid and increased flow of combat power and sustainment through multiple austere theater access points. VSB is transported on and rapidly employed by these vessels to provide the Joint and Combined force commanders a means to mitigate threat anti-access activities and increases flexibility to conduct operational maneuver from strategic distances. The ACTD complements the JHSV program by optimizing throughput and warfighting operational capabilities not currently available in support of Lines of Communication (LOC) in the theater of operations.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Program #1						2.321	0.000	0.000	0.000	0.000	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>		<b>PROJECT</b> 526: <i>MARINE ORIEN LOG EQ AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
FY09: JETA-SPOD  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #2 FY10: JETA-SPOD  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	2.224	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> 526: <i>MARINE ORIEN LOG EQ AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #3		0.000	0.000	2.119	0.000	2.119
FY11: JETA-SPOD						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						
Program #4		0.662	0.000	0.000	0.000	0.000
FY09: Program Support.						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> 526: <i>MARINE ORIEN LOG EQ AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #5		0.000	0.405	0.000	0.000	0.000
FY10: Program Support						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						
Program #6		0.000	0.000	0.371	0.000	0.371
FY11: Program Support						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> 526: <i>MARINE ORIEN LOG EQ AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #7		0.000	0.000	0.000	0.000	0.000
FY09: Watercraft market surveys and business analysis  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8		0.000	0.304	0.000	0.000	0.000
FY10: Watercraft market surveys and business analysis  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> 526: <i>MARINE ORIEN LOG EQ AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #9		0.000	0.000	0.500	0.000	0.500
FY11: Watercraft market surveys and business analysis  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #10		0.000	0.000	0.000	0.000	0.000
FY09: Small Business Innovative Research/Small Business Technology Transfer Program  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010							
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>		<b>PROJECT</b> 526: <i>MARINE ORIEN LOG EQ AD</i>							
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>			
Program #11				0.000	0.084	0.000	0.000	0.000			
FY10: Small Business Innovative Research/Small Business Technology Transfer Program											
<i>FY 2009 Accomplishments:</i>											
FY 2009											
<i>FY 2010 Plans:</i>											
FY 2010											
<i>FY 2011 Base Plans:</i>											
FY 2011 Base											
<i>FY 2011 OCO Plans:</i>											
FY 2011 OCO											
Accomplishments/Planned Programs Subtotals				2.983	3.017	2.990	0.000	2.990			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>MA4500, Modification of In-Service Equipment (OPA3)</i>	35.405	53.713	103.046	0.000	103.046	85.293	83.674	82.143	76.613	0	519.887
<b>D. Acquisition Strategy</b>											
N/A											
<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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> 526: <i>MARINE ORIEN LOG EQ AD</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TSV - composite prototype hull design	C	Naval Underwater Warfare Center Newport, R.I.	4.211	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Watercraft market surveys/business analysis	C	Volpe DOT	0.100	0.304		0.500		0.000		0.500	Continuing	Continuing	0
HCCC Design	C	PEOC3T Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
JETA-SPOD-Vessel to Shore Bridging (VSB)	C	ERDC Vicksburg, MS	3.600	2.224		2.119		0.000		2.119	Continuing	Continuing	0
<b>Subtotal</b>			7.911	2.528		2.619		0.000		2.619			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TSV/Matrix Support	C	TACOM CBU Warren, MI	4.366	0.000		0.000		0.000		0.000	Continuing	Continuing	0
TSV - composite prototype hull design	C	CASCOM Ft. Lee, VA	5.240	0.000		0.000		0.000		0.000	Continuing	Continuing	0
TSV/Matrix Support - 2	C	TARDEC	0.170	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> 526: <i>MARINE ORIEN LOG EQ AD</i>					

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Warren, MI/ICI											
TSV/In-house	C	PM Force Projection Warren, MI	2.190	0.000		0.000		0.000		0.000	Continuing	Continuing	0
TSV-Demil	C	TACOM PSID, Warren, MI	0.424	0.000		0.000		0.000		0.000	Continuing	Continuing	0
JETA-SPOD-VSB	C	TACOM PSID, Warren, MI	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			12.390	0.000		0.000		0.000		0.000			0.000

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TSV	C	DTC/ATEC MD	1.071	0.000		0.000		0.000		0.000	Continuing	Continuing	0
TSV - 2	C	PM WIN-T Location could not be determined.	1.500	0.000		0.000		0.000		0.000	Continuing	Continuing	0
HCCC	C	USAFTCFE Ft. Eustis, VA	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> 526: <i>MARINE ORIEN LOG EQ AD</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
<b>Subtotal</b>			2.571	0.000		0.000		0.000		0.000			0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Support	C	PM Force Projection TACOM, Warren, MI	1.392	0.405		0.371		0.000		0.371	Continuing	Continuing	0
JETA-SPOD-VSB	C	PM Force Projection TACOM, Warren, MI	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SBIR/STTR	C	PM Force Projection TACOM, Warren, MI	0.000	0.084		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			1.392	0.489		0.371		0.000		0.371			0.000

**Remarks**

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
G11: <i>ADV ELEC ENERGY CON AD</i>	3.256	2.622	2.618	0.000	2.618	1.324	0.456	0.643	0.644	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The Mobile Electric Power (MEP) program was established by the Department of Defense to develop modernized, standard families of mobile electric power sources and power distribution systems for all Services throughout the Department of Defense. This Project Office derives concept and technology developments that will improve the performance, mobility, readiness and survivability of the next generation of tactical power sources in support of all Services. It supports initiatives that are essential to the development and fielding of modernized MEP sources from Watts to Megawatts level that comply with environmental statues and provide noise and signature-suppressed, energy-efficient, lightweight, deployable and reliable equipment. FY10 will fund test and evaluation of technologies for Small Tactical Electric Power (STEP), alternative energy, and Intelligent Power Distribution Systems; and initiate market surveys and begin evaluation of components for Large Advanced Mobile Power Sources.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  FY09: Evaluation and testing of various technologies related to Tactical Electric Power across the Army power spectrum aimed at technology gaps to meet Army User requirements. These efforts support the Small Tactical Electric Power (STEP) program and the Large Advanced Mobile Power Sources (LAMPS) program.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							3.167	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
<p>Program #2</p> <p>FY10: Evaluation and testing of various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. These efforts support the Small Tactical Electric Power (STP) program, the Large Advanced Mobile Power Sources (LAMPS) program, and the Tactical Electric Power Capabilities Production Document (TEP CPD). Specific efforts include evaluation of 1 kW JP-8 fueled generators, hybrid/alternative energy power sources, Intelligent Power Distribution systems, and market surveys for 100-200 kW generators.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		0.000	2.546	0.000	0.000	0.000
<p>Program #3</p> <p>FY11: Evaluation and testing of various technologies related to Tactical Electric Power and power distribution/management across the DoD power spectrum. Efforts will be aimed at resolving technology gaps to meet Army User requirements. These efforts support the Small Tactical Electric Power (STP) program, the Large Advanced</p>		0.000	0.000	2.618	0.000	2.618

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>		<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Mobile Power Sources (LAMPS) program, and the Tactical Electric Power Capabilities Production Document (TEP CPD).</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #4</p> <p>Small Business Innovative Research/Small Business Technology Transfer Programs</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>				0.089	0.076	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>							<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>			<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>					
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Accomplishments/Planned Programs Subtotals						3.256	2.622	2.618	0.000	2.618	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>RDT&amp;E:PE0604804A, Logistics and Engineer Equipment - Eng Dev 194</i>	6.190	1.344	7.985	0.000	7.985	3.961	1.544	1.570	1.601	Continuing	Continuing
• Ord. #2: <i>OPA 3, Generators and Associated Eq. MA9800</i>	240.609	212.600	151.052	0.000	151.052	127.919	18.080	10.625	10.778	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
Complete advanced development and transition to system development and demonstration phase (Milestone B) and subsequent transition to production (Milestone C).											
<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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
STEP Components	C	CERDEC -APG Location could not be determined.	1.721	0.390		0.200		0.000		0.200	Continuing	Continuing	0
AMMPS Components	C	CERDEC APG Location could not be determined.	3.264	0.000		0.000		0.000		0.000	Continuing	Continuing	0
LAMPS Components	C	CERDEC -APG Location could not be determined.	0.000	0.090		0.050		0.000		0.050	Continuing	Continuing	0
Alternative Energy	C	NREL Boulder CO	0.000	0.690		0.200		0.000		0.200	Continuing	Continuing	0
Power Distribution/ Management	C	Multiple Vendors Location could not be determined.	0.000	0.000		0.336		0.000		0.336	Continuing	Continuing	0
<b>Subtotal</b>			4.985	1.170		0.786		0.000		0.786			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
STEP Components	C	CERDEC-APG	1.651	0.100		0.200		0.000		0.200	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>					

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Location could not be determined.											
AMMPS Components	C	CERDEC-APG Location could not be determined.	0.942	0.050		0.000		0.000		0.000	Continuing	Continuing	0
LAMPS Components	C	CERDEC-APG Location could not be determined.	0.000	0.100		0.200		0.000		0.200	Continuing	Continuing	0
Alternative Energy	C	CERDEC-APG Location could not be determined.	0.000	0.140		0.500		0.000		0.500	Continuing	Continuing	0
Power Distribution/ Management	C	CERDEC-APG Location could not be determined.	0.000	0.140		0.500		0.000		0.500	Continuing	Continuing	0
<b>Subtotal</b>			2.593	0.530		1.400		0.000		1.400			0.000

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
STEP Components	C	CERDEC-APG	0.789	0.050		0.030		0.000		0.030	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Location could not be determined.											
AMMPS Components	C	CERDEC-APG Location could not be determined.	0.300	0.474		0.000		0.000		0.000	Continuing	Continuing	0
LAMPS Components	C	CERDEC-APG Location could not be determined.	0.000	0.025		0.000		0.000		0.000	Continuing	Continuing	0
Alternative Energy	C	CERDEC-APG Location could not be determined.	0.000	0.015		0.050		0.000		0.050	Continuing	Continuing	0
Power Distribution/ Management	C	CERDEC-APG Location could not be determined.	0.000	0.036		0.100		0.000		0.100	Continuing	Continuing	0
<b>Subtotal</b>			1.089	0.600		0.180		0.000		0.180			0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
STEP Components	C	PM MEP	0.459	0.096		0.080		0.000		0.080	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>					

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Ft Belvoir VA											
AMMPS Components	C	PM MEP Ft Belvoir VA	0.427	0.065		0.000		0.000		0.000	Continuing	Continuing	0
LAMP Components	C	PM MEP Ft Belvoir VA Location could not be determined.	0.000	0.035		0.070		0.000		0.070	Continuing	Continuing	0
Alternative Energy	C	PM MEP Ft Belvoir VA Location could not be determined.	0.000	0.075		0.050		0.000		0.050	Continuing	Continuing	0
Power Distribution/ Management	C	PM MEP Ft Belvoir VA Location could not be determined.	0.000	0.065		0.052		0.000		0.052	Continuing	Continuing	0
<b>Subtotal</b>			0.886	0.336		0.252		0.000		0.252			0.000

**Remarks**

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	9.553	2.636	2.618	0.000	2.618			0.000

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Develop Proof of Principle Prototype (Commercial Components)				#	#	#	#	#	#	#	#																	
Complete Proof of Principal Prototype (Comercial Components)											#																	
Complete Test and Evaluation											#																	
Transfer to Systems Development and Demonstartion												#																
Complete Proof of Principle Prototype							#																					
Complete Test and Evaluation - 2								#																				
Transfer to System Development and Demonstration								#																				
Develop Proof of Principle Prototypes											#																	
No label was entered																#												
Complete Proof of Principle Prototype (Commercial Components)																#												
Complete Test and Evaluation - 3																				#								
Transfer to Systems Development and Demonstration																								#				
Develop Proof of Principle Prototypes - 2											#																	
Complete Proof of Principle Prototype (Commercial Components) - 2																#												
Complete Test and Evaluation - 4																				#								

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015							
	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				
Transfer to Systems Development and Demonstration - 2																#																

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> G11: <i>ADV ELEC ENERGY CON AD</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Develop Proof of Principle Prototype (Commercial Components)	4	2009	3	2011
Complete Proof of Principal Prototype (Comercial Components)	2	2011	2	2011
Complete Test and Evaluation	3	2011	3	2011
Transfer to Systems Development and Demonstartion	4	2011	4	2011
Complete Proof of Principle Prototype	2	2010	2	2010
Complete Test and Evaluation - 2	3	2010	3	2010
Transfer to System Development and Demonstration	3	2010	3	2010
Develop Proof of Principle Prototypes	1	2011	1	2011
No label was entered	1	2012	1	2012
Complete Proof of Principle Prototype (Commercial Components)	1	2012	1	2012
Complete Test and Evaluation - 3	1	2013	1	2013
Transfer to Systems Development and Demonstration	3	2013	3	2013
Develop Proof of Principle Prototypes - 2	1	2011	1	2011
Complete Proof of Principle Prototype (Commercial Components) - 2	1	2012	1	2012
Complete Test and Evaluation - 4	3	2012	3	2012
Transfer to Systems Development and Demonstration - 2	3	2012	3	2012

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> G14: <i>MATERIALS HANDLING EQUIPMENT - AD</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
G14: <i>MATERIALS HANDLING EQUIPMENT - AD</i>	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
This project supports Advanced Component Development and Prototypes of Material Handling Equipment (MHE) and stays abreast of current needs and available technologies to be integrated into military MHE. This program develops selected technologies and transitions to procurement a series of MHE items. Categories of MHE include warehouse forklifts, cranes and tow tractors, rough terrain forklifts, container handlers and cranes as well as ancillary equipment.											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1 Rough Terrain Container Handler Crew Protection Kit Development.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO							0.204	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010								
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>		<b>PROJECT</b> G14: <i>MATERIALS HANDLING EQUIPMENT - AD</i>							
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>					
Program #2		0.006	0.000	0.000	0.000	0.000					
Small Business Innovative Research/Small Business Technology Transfer Programs											
<i>FY 2009 Accomplishments:</i>											
FY 2009											
<i>FY 2010 Plans:</i>											
FY 2010											
<i>FY 2011 Base Plans:</i>											
FY 2011 Base											
<i>FY 2011 OCO Plans:</i>											
FY 2011 OCO											
Accomplishments/Planned Programs Subtotals		0.210	0.000	0.000	0.000	0.000					
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: 0604804A, <i>Logistics and Engineer Equipment, Engineering Development (H14)</i>	0.452	0.501	0.000	0.000	0.960	1.068	1.208	1.229	1.249	0	6.667
<b>D. Acquisition Strategy</b>											
RDTE - Engineering efforts include: The completion of an engine obsolescence effort/investigation for the All Terrain Lifting Army System (ATLAS) as the system transitions from Tier II to Tier III powertrains; Conduct and complete engine feasibility studies and program support for ATLAS to ensure compatibility and testing of new engine into the existing engine compartment; The development of the Rough Terrain Container Handler Crew Protection Kit.											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> G14: <i>MATERIALS HANDLING EQUIPMENT - AD</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 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
K39: <i>Field Sustainment Support AD</i>	10.576	15.911	18.908	0.000	18.908	5.414	5.271	5.365	5.447	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This project supports development of critical soldier support and sustainment systems including shelter systems (rigid and soft wall), cargo aerial delivery, field service systems, mortuary affairs equipment, heaters, camouflage systems to counter emerging enemy threat techniques, and other combat service support equipment. These systems will fill identified theater distribution and services capability gaps, improve unit sustainability, and increase combat effectiveness. This project also supports Advanced Component Development and Prototyping of Critical Distribution Capabilities to include cargo aerial delivery systems; which provide improved safety and accuracy while increasing survivability of aircraft, personnel, and equipment. The project supports the development of tactical heater systems that support mobile Joint Service command and control, medical, and maintenance platforms. This project develops critical enablers that support the Quartermaster (QM) Force Transformation Strategy and The Army's Modular Capabilities by maintaining readiness through fielding and integrating new equipment. This project also ensures Army Expeditionary Forces are capable of rapid deployment through aerial delivery initiatives and reduces sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands in lift, combat zone footprint, and costs for logistical support.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  FY 09: Execute Low Cost Aerial Delivery System (LCADS) P3I efforts to include Type Classification of the Low Cost Low Altitude (LCLA) capability and transition to sustainment. Execute Low Cost Aerial Delivery System (LCADS) P3I efforts to include evaluating LCADS Hi-V and Low-V parachutes as options for expanded 5-10K pound, high altitude Improved Container Delivery System (CDS) capability.  <i>FY 2009 Accomplishments:</i> FY 2009							0.757	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2  FY 11: Continue execution of LCADS P3I effort to expand LCADS/LCLA capability based upon theater feedback and CASCOM guidance. (i.e. increased LCLA weights and additional a/c certifications).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.769	0.000	0.000	0.000
Program #3  FY 11: Continue execution of LCADS P3I effort to expand LCADS/LCLA capability based upon theater feedback and CASCOM guidance. (i.e. increased LCLA weights and additional a/c certifications).		0.000	0.000	1.000	0.000	1.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 FY 09: Complete Joint Precision Airdrop System (JPADS) 10K Design Validation (DV) and Development Testing (DT). <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010 <i>FY 2011 Base Plans:</i> FY 2011 Base <i>FY 2011 OCO Plans:</i> FY 2011 OCO		4.271	0.000	0.000	0.000	0.000
Program #5		0.000	1.414	0.000	0.000	0.000

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
FY 10: Complete Joint Precision Airdrop System (JPADS) 10K Design Validation (DV) and Development Testing (DT).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 FY 10: Execute JPADS 2K pre-planned product improvement efforts.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	2.400	0.000	0.000	0.000

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #7 FY 11: Execute JPADS 2K pre-planned product improvement efforts.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	1.500	0.000	1.500
Program #8 FY 09: Obtain Milestone B for Advanced Cargo Parachute Release System (ACPRS) and award competitive development contract.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		2.400	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #9 <i>FY 10: Conduct ACPRS DV and down-select to single contractor.</i>		0.000	3.800	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #10 <i>FY 11: Conduct Developmental Testing (DT) and Operational Testing for ACPRS.</i>		0.000	0.000	2.208	0.000	2.208
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>		<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #11  FY 10: Obtain MS B for Advanced Low Velocity Airdrop System Light (ALVADS-L) and award contracts and begin prototype fabrication for DV testing. FY 11: Complete ALVADS-L DV.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	1.854	0.000	0.000	0.000
Program #12  FY 11: Complete ALVADS-L DV.  <i>FY 2009 Accomplishments:</i> FY 2009				0.000	0.000	5.800	0.000	5.800

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #13  FY 09: Execute Enhanced Containerized Delivery System (ECDS) P3I efforts focused on expanding recovery parachute options to include G-11 recovery parachutes and a standard rigging configuration for C-130 and C-17 aircraft.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.687	0.000	0.000	0.000	0.000
Program #14		0.000	0.484	0.000	0.000	0.000

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>FY 10: Execute Enhanced Containerized Delivery System (ECDS) P3I efforts focused on expanding recovery parachute options to include G-11 recovery parachutes and a standard rigging configuration for C-130 and C-17 aircraft.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #15</p> <p>FY09: Obtained approval of Capability Development Document (CDD) and Milestone B for Space Heater Convective 120,000 BTUH (SHC 120K). Prepared contract solicitation and awarded Engineering Manufacturing Development (EMD) contract for SHC 120K.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.861	0.000	0.000	0.000	0.000

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>		<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #16  FY 10: Complete system design, fabricate EMD test units and conduct Developmental Testing for SHC 120K.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	1.005	0.000	0.000	0.000
Program #17  FY 11: Initiate Operational Field Evaluation for SHC 120K and transition to System Development and Demonstration (SDD).  <i>FY 2009 Accomplishments:</i> FY 2009				0.000	0.000	0.800	0.000	0.800

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #18  FY 10: Conduct Milestone B and award contract for development of prototypes and related documentation for next generation Human Remains Transfer Case.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.005	0.000	0.000	0.000
Program #19  FY 11: Fabricate prototypes and initiate DT for next generation Human Remains Transfer Case.		0.000	0.000	1.100	0.000	1.100

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #20		0.000	1.325	0.000	0.000	0.000
FY 10: Initiate program of record, obtain Milestone B and initiate competitive development contract for Joint Modular Intermodal Container System (JMICS).						
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #21		0.000	0.000	3.300	0.000	3.300

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #23 FY 10: Conduct Technology Development Efforts focused on maturing MBPS technologies for transitioning to Milestone B and EMD.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.510	0.000	0.000	0.000
Program #24 FY 11: Obtain Milestone B and initiate EMD effort for MBPS.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		0.000	0.000	0.900	0.000	0.900

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #25 <i>FY 11: Obtain MS B and award competitive contracts for prototype systems for Rapid Rigging and Derigging System (RRDAS).</i>  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	2.300	0.000	2.300
Program #26 <i>Small Business Innovative Research/Small Business Technical Transfer Program (SBIR/STTR)</i>  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	0.345	0.000	0.000	0.000

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**Exhibit R-2A, RDT&E Project Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>
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**B. Accomplishments/Planned Program (\$ in Millions)**

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 Base Plans:</i> FY 2011 Base					
<i>FY 2011 OCO Plans:</i> FY 2011 OCO					
Accomplishments/Planned Programs Subtotals	10.576	15.911	18.908	0.000	18.908

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• Ord. #1: <i>OPA 3, MA7806 Precision Airdrop</i>	17.953	19.743	0.000	0.000	21.527	14.970	14.555	14.822	15.072	Continuing	Continuing

**D. Acquisition Strategy**  
Accelerate Joint Precision Aerial Delivery System (JPADS) product improvements to transition to Production.

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

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Soldier Support Equipment	C	PM Force Sustainment Sys (FSS) Natick	6.254	2.674		2.866		0.000		2.866	Continuing	Continuing	0
Soldier Support Equipment - 2	C	NSC Natick	1.310	0.635		0.000		0.000		0.000	Continuing	Continuing	0
Soldier Support Equipment - 3	C	Various Location could not be determined.	5.192	0.621		0.000		0.000		0.000	Continuing	Continuing	0
LCADS P31 Effort	C	Various Location could not be determined.	0.000	0.300		0.300		0.000		0.300	Continuing	Continuing	0
JPADS 2K and 10K product improvements	C	Various Location could not be determined.	0.000	2.100		1.200		0.000		1.200	Continuing	Continuing	0
ALVADS/ACPRS Development	C	Various Location could not be determined.	0.000	1.600		4.000		0.000		4.000	Continuing	Continuing	0
RRDAS Development	C	Various Location could not be determined.	0.000	0.000		2.000		0.000		2.000	Continuing	Continuing	0
Next Generation Human Remains Transfer Case Development	C	Various Location could not be determined.	0.000	0.760		0.700		0.000		0.700	Continuing	Continuing	0
JMICS Development	C	Various Location could not be determined.	0.000	0.000		1.097		0.000		1.097	Continuing	Continuing	0

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Improved Environmental Control Unit (IECU)	C	CECOM Ft Belvoir	0.664	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			13.420	8.690		12.163		0.000		12.163			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Improved Environmental Control Unit (IECU)	C	CECOM Ft Belvoir	0.500	0.000		0.000		0.000		0.000	0	.500	0
<b>Subtotal</b>			0.500	0.000		0.000		0.000		0.000	0.000	0.500	0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Soldier Support Equipment	C	DTC MD and ATC, MD	0.856	0.901		0.000		0.000		0.000	Continuing	Continuing	0
Soldier Support Equipment - 2	C	Yuma Proving Ground (YPG) AZ, AEC	7.824	0.880		0.200		0.000		0.200	Continuing	Continuing	0
ALVADS/ACPRS Developmental Testing (DT)	C	YPG AZ	0.000	2.600		2.600		0.000		2.600	Continuing	Continuing	0
RRDAS Design Validation (DV) Testing	C	YPG AZ	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
LCADS P3I	C	DTC YPG, OTC, FT Bragg	0.000	1.000		1.500		0.000		1.500	Continuing	Continuing	0
ECDS P3I	C	DTC YPG, OTC, FT Bragg	0.000	0.350		0.350		0.000		0.350	Continuing	Continuing	0
JPADS Testing	C	YPG AZ	0.000	0.350		0.350		0.000		0.350	Continuing	Continuing	0
SHC 120K DT and Operational Field Evaluation	C	ATC MD	0.000	0.000		0.400		0.000		0.400	Continuing	Continuing	0
Human Remains Transfer Case DT	C	ATC MD	0.000	0.000		0.400		0.000		0.400	Continuing	Continuing	0
JMICS DT and OT	C	ATC MD	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
IECU	C	Various	0.643	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>
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**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Location could not be determined.											
<b>Subtotal</b>			9.323	6.081			5.800			0.000		5.800	0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Management Support	C	PM Force Sustainment Sys (FSS) Natick	0.589	0.795		0.945		0.000		0.945	Continuing	Continuing	0
Project Management Support - 2	C	PM MEP Ft Belvoir Location could not be determined.	0.557	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Small Business Innovative Research/Small Business Technical Transfer Program (SBIR/STTR)	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.345		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			1.146	1.140		0.945		0.000		0.945			0.000

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>
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**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

**Remarks**

	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	24.389	15.911		18.908		0.000		18.908			0.000

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Awarded EMD contract for SHC 120K	#																											
Conduct DT and Operational Field Evaluation for SHC 120K					#	#	#	#																				
Obtain Milestone B on ALVADS-Light					#																							
Milestone B on ACPRS	#																											
Obtain Milestone B on Helicopter External/Internal Cargo Delivery												#																
Conduct DT/OT on Helicopter External/Internal Cargo Delivery																#	#	#	#	#								
Execute FP P3I efforts to incorporate Zero-Base Camp capabilities											#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Conduct Milestone B on Mobile Integrated Shop Shelter System															#													
Conduct DT/OT on Mobile Integrated Shop Shelter System																#	#	#	#	#								
Conduct MS B on RRDAS									#																			
Conduct DV on RRDAS										#	#	#	#															
Conduct MS A for ALVADS (H)														#														
Conduct MS B for ALVADS (H)																				#								
Conduct DV on ALVADS (H)																					#	#	#	#				
Conduct Milestone B for Next Generation Human Remains Transfer Case					#																							

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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 Developmental Testing for Next Generation Human Remains Transfer Case									#	#																		
Obtain Milestone B for JMICS.							#																					
Conduct DT and OT on JMICS variants									#	#	#	#	#	#	#	#												
Complete DT for JPADS 10K					#	#	#																					
Execute JPADS P3I efforts	#	#	#	#	#	#	#	#	#	#	#	#																
Conduct DV for ALVADS (L)					#	#	#	#	#	#																		
Complete DV for ACPRS				#	#	#	#																					
Conduct DT for ACPRS						#	#																					
Obtained Milestone A for MBPS				#																								
Conduct Technology Development Effort for MBPS					#	#	#	#	#																			
Obtain Milestone B for MBPS										#																		
Conduct Milestone B on JMICS IPC														#														

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Awarded EMD contract for SHC 120K	2	2009	2	2009
Conduct DT and Operational Field Evaluation for SHC 120K	2	2010	1	2011
Obtain Milestone B on ALVADS-Light	2	2010	2	2010
Milestone B on ACPRS	2	2009	2	2009
Obtain Milestone B on Helicopter External/Internal Cargo Delivery	1	2012	1	2012
Conduct DT/OT on Helicopter External/Internal Cargo Delivery	4	2013	3	2014
Execute FP P3I efforts to incorporate Zero-Base Camp capabilities	4	2011	3	2015
Conduct Milestone B on Mobile Integrated Shop Shelter System	4	2012	4	2012
Conduct DT/OT on Mobile Integrated Shop Shelter System	3	2013	2	2014
Conduct MS B on RRDAS	2	2011	2	2011
Conduct DV on RRDAS	4	2011	3	2012
Conduct MS A for ALVADS (H)	1	2013	1	2013
Conduct MS B for ALVADS (H)	2	2014	2	2014
Conduct DV on ALVADS (H)	4	2014	3	2015
Conduct Milestone B for Next Generation Human Remains Transfer Case	1	2010	1	2010
Conduct Developmental Testing for Next Generation Human Remains Transfer Case	1	2011	2	2011
Obtain Milestone B for JMICS.	3	2010	3	2010
Conduct DT and OT on JMICS variants	2	2011	4	2012

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K39: <i>Field Sustainment Support AD</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
Complete DT for JPADS 10K	1	2010	3	2010
Execute JPADS P3I efforts	1	2009	3	2011
Conduct DV for ALVADS (L)	2	2010	2	2011
Complete DV for ACPRS	4	2009	2	2010
Conduct DT for ACPRS	3	2010	4	2010
Obtained Milestone A for MBPS	4	2009	4	2009
Conduct Technology Development Effort for MBPS	1	2010	1	2011
Obtain Milestone B for MBPS	2	2011	2	2011
Conduct Milestone B on JMICS IPC	1	2012	1	2012

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>	0.427	3.208	2.586	0.000	2.586	4.468	2.858	2.909	2.953	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This project develops and demonstrates the potential of prototype equipment and technologies to satisfy petroleum storage, distribution, and quality surveillance system requirements. The Concept and Technology Development program supports the development and enhancement of rapidly deployable Petroleum and Water equipment. The mission includes developing onboard fuels and lubrication quality analysis systems; achieving greater capabilities in the removal of Nuclear, Biological, Chemical (NBC) and other contaminants from water sources; reducing the logistics foot print; developing water reutilization systems to reduce the requirement for transport of water into the theater; and material systems to decrease the logistics foot print and employment time for the transfer of liquid logistics in the theater. The Army fights with clean fuel and drinking water. This vital equipment enables the Army to achieve its transformation vision by providing the Army with the means to be highly mobile and self-sustaining in very hostile theaters of operations. Future Force operations demand that combat systems be rapidly deployable to the theater, rapidly emplaced upon arrival, and rapidly relocated to support a fast moving non-linear battlefield.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Program #1						0.427	0.000	0.000	0.000	0.000	
<p>FY09: Evaluate performance and military usefulness of commercial ATG and metering systems and environmental testing. Conduct market investigations and identify design standardization requirements for common pump for both fuel and water distribution systems, conduct market research for automatic tank gauging (ATG) systems and flow volume metering devices, conduct evaluation of methods to extend operational life of collapsible fuel storage tanks and investigate technical and military suitability of portable berms to contain fuel spills. In FY09, evaluate performance and military usefulness of commercial ATG and metering systems and environmental testing.</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 FY 09: Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR).		0.000	0.000	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3		0.000	1.278	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5  FY10: Initiate effort to develop a mobile Water Packaging System. Conduct market surveys, prepare program documentation and develop Request for Proposal.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.550	0.000	0.000	0.000
Program #6  FY10: Develop in-line water monitoring equipment and improved hand-held water monitors for use on the TWPS, LWP and ROWPUs.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.350	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #7 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.090	0.000	0.000	0.000
Program #8 FY10: Camel II Operational Testing		0.000	0.500	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #9 FY11: Continue Fuel Systems improvements for Family of Fuel System Supply Points (FSSPs).		0.000	0.000	1.425	0.000	1.425
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #10		0.000	0.000	0.700	0.000	0.700

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
FY11:Develop in-line water monitoring equipment and improved hand-held water monitors for use on the TWPS, LWP and ROWPUs.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #11 FY11:Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #12  FY11: Initiate effort to develop a bulk water purification system. Conduct market surveys, prepare program documents and develop RFPs.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO	0.000	0.000	0.461	0.000	0.461
Accomplishments/Planned Programs Subtotals	0.427	3.208	2.586	0.000	2.586

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>RDTE, 0604804.L41, Logistics and Engineer Equipment - Engineering Development</i>	5.699	2.490	2.734	0.000	2.734	2.104	3.974	3.844	3.904	Continuing	Continuing
• Ord. #2: <i>OPA 3, R05600, Water Purification Systems</i>	50.636	10.168	3.597	12.086	15.683	3.539	4.280	4.643	0.000	Continuing	Continuing
	75.251	142.309	175.069	55.105	230.174	58.962	29.401	33.850	22.575	Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army							<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>			<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>					
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #3: <i>OPA 3, MA6000, Distribution Systems, Petroleum &amp; Water</i>											
<b>D. Acquisition Strategy</b> Develop engineering prototypes or select Non-Developmental Item based on market surveys and proposals from industry. Competitive; sole source contract.											
<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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Water Purification Components Improvements	C	NFESC Port Hueneme, CA	0.301	0.235		0.000		0.000		0.000	Continuing	Continuing	.551
Water Purification Components Improvements - 2	C	TBD Location could not be determined.	0.408	0.248		0.000		0.000		0.000	Continuing	Continuing	.658
Water Purification Components Improvements - 3	C	TARDEC Warren, MI	0.458	0.235		0.000		0.000		0.000	Continuing	Continuing	.515
Water Purification Components Improvements - 4	C/CPFF	MTC Dayton, OH	0.150	0.000		0.000		0.000		0.000	Continuing	Continuing	.150
Water Quality Monitoring	C	TARDEC Warren, MI	0.000	0.100		0.150		0.000		0.150	Continuing	Continuing	0
Bulk Water Treatment System	C	TARDEC Warren, MI	0.000	0.000		0.050		0.000		0.050	Continuing	Continuing	0
Bulk Water Treatment System - 2	C	NFESC Port Hueneme, CA	0.000	0.000		0.336		0.000		0.336	Continuing	Continuing	0
Packaged Water System	C	TARDEC Warren, MI	0.000	0.100		0.000		0.000		0.000	Continuing	Continuing	0
Packaged Water System - 2	C	NFESC Port Hueneme, CA	0.000	0.300		0.000		0.000		0.000	Continuing	Continuing	0
Advanced Petroleum Test Kit	C	TARDEC Warren, MI	0.829	0.000		0.000		0.000		0.000	Continuing	Continuing	.766
Advanced Petroleum Test Kit - 2	C	Micron Optical Incorporated Portsmouth, VA	0.025	0.000		0.000		0.000		0.000	Continuing	Continuing	.025

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Advanced Petroleum Test Kit - 3	C	NAV AIR Patuxent River, MD	0.084	0.000		0.000		0.000		0.000	Continuing	Continuing	.175
Petroleum Quality Analysis System Enhanced	C	TARDEC Warren, MI	0.155	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Petroleum Quality Analysis System Enhanced - 2	C	Rock Island Arsenal Rock Island, IL	0.877	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Fuel Systems Components Improvements	C	TARDEC Warren, MI	0.301	0.000		0.200		0.000		0.200	Continuing	Continuing	0
Fuel Systems Components Improvements - 2	C	TBD Location could not be determined.	0.150	0.400		0.000		0.000		0.000	Continuing	Continuing	0
Bulk Fuel Distribution	C	TBD Location could not be determined.	0.000	0.000		0.600		0.000		0.600	Continuing	Continuing	0
Future Fuel Storage System	C	TBD Location could not be determined.	0.000	0.000		0.550		0.000		0.550	Continuing	Continuing	0
<b>Subtotal</b>			3.738	1.618		1.886		0.000		1.886			2.840

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>
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**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Water Purification Components Improvements	C	TARDEC Warren, MI	0.753	0.100		0.000		0.000		0.000	Continuing	Continuing	.853
Water Quality Monitoring	C	TARDEC Warren, MI	0.000	0.150		0.150		0.000		0.150	Continuing	Continuing	0
Bulk Water Treatment System	C	TARDEC Warren, MI	0.000	0.000		0.150		0.000		0.150	Continuing	Continuing	0
Packaged Water System	C	TARDEC Warren, MI	0.000	0.150		0.000		0.000		0.000	Continuing	Continuing	0
Advanced Petroleum Test Kit (PTK)	C	TARDEC Warren, MI	0.110	0.000		0.000		0.000		0.000	Continuing	Continuing	.110
Fuel Systems Components Improvements	C	TARDEC Warren, MI	0.050	0.000		0.000		0.000		0.000	Continuing	Continuing	.100
Bulk Fuel Distribution System	C	TARDEC Warren, MI	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Future Fuel Storage System	C	TARDEC Warren, MI	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.913	0.400		0.300		0.000		0.300			1.063

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Water Purification Components Improvements	C	TARDEC Warren, MI	0.639	0.135		0.000		0.000		0.000	Continuing	Continuing	.889
Water Purification Components Improvements - 2	C	NFESC Port Hueneme, CA	0.305	0.165		0.000		0.000		0.000	Continuing	Continuing	.562
Water Purification Components Improvements - 3	C	Aberdeen Proving Ground Aberdeen, MD	0.000	0.200		0.000		0.000		0.000	Continuing	Continuing	.300
Water Quality Monitoring	C	TARDEC Warren, MI	0.000	0.100		0.100		0.000		0.100	Continuing	Continuing	0
Water Quality Monitoring - 2	C	Aberdeen Proving Ground Aberdeen, MD	0.000	0.000		0.300		0.000		0.300	Continuing	Continuing	0
Advanced Petroleum Test Kit (PTK)	C	TARDEC Warren, MI	0.562	0.000		0.000		0.000		0.000	Continuing	Continuing	.562
Fuel Systems Components Improvements	C	TARDEC Warren, MI	0.100	0.000		0.000		0.000		0.000	Continuing	Continuing	.220
Fuel Systems Components Improvements - 2	C	Yuma Proving Ground Yuma, AZ	0.209	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Unit Water Pod (Camel)	C	Yuma Proving Ground Yuma, AZ	2.049	0.500		0.000		0.000		0.000	Continuing	Continuing	1.939
Bulk Fuel Distribution System	C/TBD	TBD Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Future Fuel Storage System	C/TBD	TBD Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			3.864	1.100		0.400		0.000		0.400			4.472

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SBIR/STTR	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.090		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.090		0.000		0.000		0.000			0.000

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	8.515	3.208	2.586	0.000	2.586			8.375

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Bulk Water Treatment and System								#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#					
Camel II Operational Testing						#	#	#	#																			
Water Packaging System				#	#	#	#																					

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K41: <i>WATER AND PETROLEUM DISTRIBUTION - AD</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Bulk Water Treatment and System	4	2010	3	2014
Camel II Operational Testing	2	2010	1	2011
Water Packaging System	4	2009	3	2010

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</i>	5.044	2.936	0.463	0.000	0.463	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>This project supports Advanced Component Development and Prototypes of new and reformulated paints, paint removers, cleaners and other surface coating materials and processes for weapon systems production and maintenance operations. The project increases operational sustainment and warfighter training capabilities by reducing soldier health risks, environmental impacts and compliance enforcement actions against installations while increasing coatings performance and standardization across the Army. Materials and processes demonstrated under this project are inherently compliant with all applicable National Emissions Standards for Hazardous Air Pollutants that regulate surface coating activities, thereby eliminating the need for Army installations to incur hundreds of millions of dollars in expenses to purchase, install and operate air pollution control devices. Together with project 0603779A, Environmental Quality Technology Dem/Val (E21), this project transitions advanced technologies developed under 0603728A, Environmental Quality Technology Demonstrations (025). The project tests and evaluates Sustainable Painting Operations for the Total Army (SPOTA) at facilities that produce and maintain Combat Support/Combat Service Support systems, Ground Combat Vehicles and other Army equipment. The project expedites technology transition from the laboratory to operational use by demonstrating the capabilities of new materials and processes to fulfill the performance requirements outlined in Material Specifications, Depot Maintenance Work Requirements, Technical Manuals and other technical data. Test and evaluation activities are executed by Research, Development and Engineering Command (RDECOM) centers and laboratories in cooperation with the affected Life Cycle Management Commands, Program Executive Offices and Program Managers. Materials are being demonstrated at ten different Army facilities in order to minimize the disruption of materiel maintenance operations at any one facility.</p>											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Program #1						3.340	0.000	0.000	0.000	0.000	
<p>Qualify, validate and approve reformulated Chemical Agent Resistant Coating (CARC) systems and other non-CARC paints and surface coatings. In FY09 issued draft specifications for improved CARC primers, topcoats and powder coatings.</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2  Qualify, validate and approve reformulated CARC systems and other non-CARC paints and surface coatings. FY10: Complete qualification testing for improved CARC products and populate qualified products database.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.671	0.000	0.000	0.000
Program #3		0.000	0.000	0.251	0.000	0.251

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Qualify, validate and approve reformulated CARC systems and other non-CARC paints and surface coatings. FY11 Base: Will validate and approve non-chromate, low volatile organic compound pretreatments.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #4</p> <p>Qualify, validate and approve hazardous air pollutant (HAP) free solvents, thinners and cleaners. In FY09 - Completed demonstrations of alternative products in multiple cleaning applications.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.317	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5  Qualify, validate and approve HAP free solvents, thinners and cleaners. FY10 - Issue and coordinate draft of new joint, HAP-free cleaning specification to encompass all successfully demonstrated products.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.213	0.000	0.000	0.000
Program #6  Qualify, validate and approve HAP free solvents, thinners and cleaners. FY11 Base - Implement alternative products in approved applications.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	0.000	0.120	0.000	0.120

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>		<b>PROJECT</b> K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #7  Qualify, validate and approve chemical paint strippers containing no methylene chloride or other HAPs. In FY09: Completed demonstration/validation of alternative paint removers in two large depainting vat applications.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.657	0.000	0.000	0.000	0.000
Program #8  Qualify, validate and approve chemical paint strippers containing no methylene chloride or other HAPs. In FY10: Down select and demonstrate alternative products in remaining vat depainting applications.  <i>FY 2009 Accomplishments:</i> FY 2009				0.000	0.485	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>Qualify, validate and approve reformulated sealants and adhesives for high-use applications. In FY09: Approved and implemented HAP-free torque sealants and demonstrated HAP-free general purpose adhesives for aviation applications.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #11</p> <p>Qualify, validate and approve reformulated sealants and adhesives for high-use applications. In FY10: Demonstrate HAP-free adhesives for communications / electronics applications and complete first article testing for low HAP rubber-to-metal bonding products.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	0.485	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #12  Qualify, validate and approve reformulated sealants and adhesives for high-use applications. In FY11: Approve and implement all demonstrated alternative adhesives and sealants.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	0.021	0.000	0.021
Program #13  Small Business Innovation Research/Small Business Technology Transfer  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.082	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army										<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
<i>FY 2010 Plans:</i> FY 2010											
<i>FY 2011 Base Plans:</i> FY 2011 Base											
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Accomplishments/Planned Programs Subtotals						5.044	2.936	0.463	0.000	0.463	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>0603728A, Environmental Quality Technology Demonstrations (025)</i>	0.070	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	.070
• Ord. #2: <i>0603779A, Environmental Quality Technology Dem/Val (E21)</i>	1.251	0.510	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1.761
• Ord. #3: <i>0605857A, Environmental Quality Technology Mgmt Support (06I)</i>	0.267	0.274	0.042	0.000	0.042	0.000	0.000	0.000	0.000	0	.583
<b>D. Acquisition Strategy</b>											
The project transitions demonstrated technology directly into the Army supply system by having National Stock Numbers assigned/reassigned and immediately made available for procurement by the Defense Logistics Agency and the General Services Administration. As acquisition managers approve the new materials and processes for use on their systems, technical writers are specifying them in the appropriate technical publications. The project is managed by the Director of the Environmental Acquisition and Logistics Sustainment Program at the Headquarters, U.S. Army Research Development and Engineering Command (RDECOM).											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> K42: <i>MATERIEL SUSTAINMENT SUPPORT AD</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 2011 Army									<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>	20.541	31.968	52.925	0.000	52.925	0.000	0.000	0.000	0.000	Continuing	Continuing	
Quantity of RDT&E Articles												
<b><u>A. Mission Description and Budget Item Justification</u></b>												
<p>Joint Light Tactical Vehicles (JLTV): Funding supports the development and testing of the JLTV Family of Vehicles (FoV), which is being developed as a joint and international system between the Army and Marine Corps, and the Australian Army, participating under a Project Arrangement. The JLTV goal is a FoVs with companion trailers capable of performing multiple mission roles that will be designed to provide protected, sustained, networked mobility for personnel and payloads across the full Range of Military Operations (ROMO). JLTV objectives include increased protection and performance over the current fleet; minimizing ownership costs by maximizing commonality, fuel efficiency and other means; and maintaining effective competition throughout the lifecycle. The JLTV FoV includes ten (10) sub-configurations (and companion trailers) in three payload categories. Commonality of components, maintenance procedures, training, etc., between vehicles and trailers is expected to be inherent in FoV solutions within and across Payload Categories to minimize FoV total ownership cost. Unique service requirements have been minimized. During FY10, major budget activities will support completion of ballistic hull testing, vehicle performance testing, user evaluations, reliability testing and prototype live fire evaluations. FY11 funds complete the Technology Development phase testing and test report submissions and the initiation of Engineering and Manufacturing Development (EMD) phase. As the program progresses towards EMD, major budget activities will support staffing of the Capabilities Development Document, MS B document preparation, source selection activities, ballistic hulls to support source selection, MS B decision, and award multiple Engineering and Manufacturing Development contracts.</p>												
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Program #1						4.283	0.000	0.000	0.000	0.000		
JLTV Program Management												
<i>FY 2009 Accomplishments:</i>												
FY 2009												

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 JLTV Program Management  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	4.590	0.000	0.000	0.000
Program #3 JLTV Program Management		0.000	0.000	5.100	0.000	5.100

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 JLTV Variant Prototype Contract Design, Development and Fabrication		11.562	0.000	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5		0.000	17.483	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
JLTV Variant Prototype Contract Design, Development and Fabrication  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6 JLTV Variant Prototype Contract Design, Development and Fabrication  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.000	43.225	0.000	43.225

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #7		4.696	0.000	0.000	0.000	0.000
JLTV Developmental Test and Evaluation						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						
Program #8		0.000	9.000	0.000	0.000	0.000
JLTV Developmental Test and Evaluation						
<i>FY 2009 Accomplishments:</i>						
FY 2009						
<i>FY 2010 Plans:</i>						
FY 2010						
<i>FY 2011 Base Plans:</i>						
FY 2011 Base						
<i>FY 2011 OCO Plans:</i>						
FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>											<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>							
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>															
											<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Accomplishments/Planned Programs Subtotals											20.541	31.968	52.925	0.000	52.925
<b>C. Other Program Funding Summary (\$ in Millions)</b>															
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>				
• Ord. #1: <i>Joint Light Tactical Vehicle 0604804A, RDTE Project L50</i>	0.000	0.000	0.000	0.000	0.000	66.824	51.508	52.472	53.341	0	224.145				
• Ord. #2: <i>Joint Light Tactical Vehicle D15603A, OPA 1</i>	0.000	0.000	0.000	0.000	0.000	0.000	153.029	478.081	858.362	0	1,489.472				
• Ord. #3: <i>Marine Corps Ground Combat/Support Systems, JLTV RDTE 0603635M</i>	38.688	57.680	31.762	0.000	31.762	130.261	73.925	31.864	35.636	0	399.816				
• Ord. #4: <i>Marine Corps Ground Combat/Support Systems, JLTV Prod 0206211M</i>	0.000	0.000	0.000	0.000	0.000	0.000	33.828	516.752	713.794	0	1,264.374				
<b>D. Acquisition Strategy</b>															
<p>The JLTV Acquisition Strategy for the Technology Demonstration (TD) phase, FY08-11, is to competitively award multiple contracts. During this phase, the contractors will be required to design the JLTV Family of Vehicles (FoV) to the Preliminary Design Review level and fabricate and test selected prototypes and trailers for payload Categories A, B, and C. The TD phase contracts were awarded on October 29, 2008 under the full and open competition process to BAE Systems Land &amp; Armament Systems-Ground Systems Division; General Tactical Vehicles ( A Joint Venture of General Dynamics Land Systems, Inc. and AM General, LLC); and Lockheed Martin Systems Integration. The fabricated prototypes will undergo developmental testing, as well as limited user assessments, in a relevant environment at Government test facilities. The addition of Australian prototypes to the program will further reduce the risk. The goal is to ensure the family of prototypes is mature in terms of supporting technologies and full system integration for MS B approval and entry into Engineering and Manufacturing Development (EMD) phase. The program transitions from TD phase to EMD phase in FY11. During the EMD phase, FY11-13, two full and open competition contracts will be awarded to design, fabricate and test the full range of payload categories and 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, RAM, Limited User Test and Live Fire Testing. Funding will be provided under a new Program Element - 654804A, Project L50 for FY12 and out years.</p>															

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JLTV Technology Demonstration	C	BAE Systems Santa Clara CA	30.998	0.000		0.000		0.000		0.000	Continuing	Continuing	0
JLTV Technology Deomonstration	C	General Tactical Vehicles Sterling Heights MI	35.567	0.000		0.000		0.000		0.000	Continuing	Continuing	0
JLTV Technology Demonstration - 2	C/CPFF	Lockheed Martin Owego NY	26.447	0.000		0.000		0.000		0.000	Continuing	Continuing	0
JLTV Systems Engineering Design & Development / GFE	C	Nothing entered for Activity and Location. Location could not be determined.	1.124	11.996		0.000		0.000		0.000	Continuing	Continuing	0
JLTV Engineering & Manufacturing Development Contract/ GFE	C	TBD Location could not be determined.	0.000	0.000		15.175		0.000		15.175	Continuing	Continuing	0
JLTV Source Selection and Ballistic Hulls to support the evaluation process	C	TBD Location could not be determined.	0.000	0.000		21.400		0.000		21.400	Continuing	Continuing	0
JLTV Program Management	C	TACOM Warren, MI	3.980	4.590		5.100		0.000		5.100	Continuing	Continuing	0
SBIR/STTR	C	Nothing entered for Activity and Location.	0.000	0.895		0.000		0.000		0.000	Continuing	Continuing	0

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Location could not be determined.											
<b>Subtotal</b>			98.116	17.481			41.675			0.000		41.675	0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JLTV Variant Prototype Design	C	TACOM Warren MI	1.962	1.785		2.950		0.000		2.950	Continuing	Continuing	0
JLTV Variant Prototype Design - 2	C	TARDEC Warren MI	3.010	2.180		2.500		0.000		2.500	Continuing	Continuing	0
JLTV Variant Prototype Design - 3	C	Defense Technical Information Center Ft. Belvoir, VA	1.305	0.774		0.700		0.000		0.700	Continuing	Continuing	0
JLTV Variant Prototype Design - 4	C	Other Government Agencies Location could not be determined.	1.269	0.748		0.500		0.000		0.500	Continuing	Continuing	0
<b>Subtotal</b>			7.546	5.487		6.650		0.000		6.650			0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>											<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>				<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>					
<b>Support (\$ in Millions)</b>													
				<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 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>Remarks</b>													
<b>Test and Evaluation (\$ in Millions)</b>													
				<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 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 Developmental Test and Evaluation	C	APG/ATC MD	0.474	7.285		3.785		0.000		3.785	Continuing	Continuing	0
JLTV Developmental Test and Evaluation Support Costs	C	Various Location could not be determined.	0.298	1.315		0.515		0.000		0.515	Continuing	Continuing	0
JLTV Developmental Test and Evaluation - 2	C	YPG AZ	0.000	0.400		0.300		0.000		0.300	Continuing	Continuing	0
<b>Subtotal</b>			0.772	9.000		4.600		0.000		4.600			0.000
<b>Remarks</b>													
			<b>Total Prior Years Cost</b>	<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			106.434	31.968		52.925		0.000		52.925			0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>							<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>			<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>			
	<b>Total Prior Years Cost</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Remarks</b>									

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Prototype Development Design / Fabrication	#	#	#	#	#	#																						
JLTV Developmental Test and Evaluation / Reports			#	#	#	#	#	#	#	#																		
CDD Joint Req Oversight Com										#																		
Source Selection Process										#	#																	
MS B (Eng & Man Dvlpmnt)											#																	
EMD Contract Award											#																	
EMD Design and Fabrication										#	#	#	#	#														
EMD Test and Validation													#	#	#	#	#	#										
CPD Joint Req Oversight Com																	#											
MS C (Production & Deployment)																		#										
Low Rate Initial Production (LRIP)																			#	#	#	#	#	#	#	#	#	#
Full-Rate Production Decision Review																												#

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603804A: <i>Logistics and Engineer Equipment - Adv Dev</i>	<b>PROJECT</b> L04: <i>JOINT LIGHT TACTICAL VEHICLE (JLTV) - AD</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Prototype Development Design / Fabrication	1	2009	2	2010
JLTV Developmental Test and Evaluation / Reports	3	2009	2	2011
CDD Joint Req Oversight Com	2	2011	2	2011
Source Selection Process	2	2011	3	2011
MS B (Eng & Man Dvlpmnt)	3	2011	3	2011
EMD Contract Award	3	2011	3	2011
EMD Design and Fabrication	3	2011	3	2012
EMD Test and Validation	1	2012	2	2013
CPD Joint Req Oversight Com	2	2013	2	2013
MS C (Production & Deployment)	3	2013	3	2013
Low Rate Initial Production (LRIP)	4	2013	4	2015
Full-Rate Production Decision Review	4	2015	4	2015

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	17.729	9.817	14.290	0.000	14.290	0.000	2.184	0.000	0.000	0	58.310
091: <i>CBT SVC SPT CONTRL SYS</i>	17.267	9.817	14.290	0.000	14.290	0.000	0.000	0.000	0.000	Continuing	Continuing

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

The Battle Command Sustainment Support System (BCS3) is the logistics Command and Control (C2) solution for U.S. land forces. BCS3 provides commanders the capability to execute end-to-end distribution and deployment management and brings better situational awareness resulting in better decision-making capability to warfighters. It enables warfighters to target, access, scale and tailor critical logistics information in near-real time. BCS3 provides more effective means to gather and integrate asset and in-transit information to manage distribution and deployment missions. BCS3 combines distribution management to include commodity and convoy tracking, and deployment management into a logistics Common Operating Picture (COP) for one mission-focused visual display. BCS3 has been adopted and integrated into Joint and strategic logistics command and control processes. BCS3 is the only near-term end-to-end logistics COP solution for the Joint commander. BCS3 will maintain its core capabilities and continue to advance in development while integrating into the Joint command and control architecture. This continued development will enable decision superiority via advanced collaborative information sharing achieved through interoperability. BCS3 has immediate, high pay-off benefit to warfighters and additional future growth in its capabilities. BCS3 is a force multiplier, a precision tool for logistics planning and execution that provides warfighters with the necessary tools to succeed.

**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	17.729	9.868	0.000	0.000	0.000
Current President's Budget	17.729	9.817	14.290	0.000	14.290
Total Adjustments	0.000	-0.051	14.290	0.000	14.290
• Congressional General Reductions		-0.051			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	0.000	0.000	14.290	0.000	14.290

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>				<b>PROJECT</b> 091: <i>CBT SVC SPT CONTRL SYS</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
091: <i>CBT SVC SPT CONTRL SYS</i>	17.267	9.817	14.290	0.000	14.290	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The Battle Command Sustainment Support System (BCS3) is the logistics Command and Control (C2) solution for U.S. land forces. BCS3 provides commanders the capability to execute end-to-end distribution and deployment management and brings better situational awareness resulting in better decision-making capability to warfighters. It enables warfighters to target, access, scale and tailor critical logistics information in near-real time. BCS3 provides more effective means to gather and integrate asset and in-transit information to manage distribution and deployment missions. BCS3 combines distribution management to include commodity and convoy tracking, and deployment management into a logistics Common Operating Picture (COP) for one mission-focused visual display. BCS3 has been adopted and integrated into Joint and strategic logistics command and control processes. BCS3 is the only near-term end-to-end logistics COP solution for the Joint commander. BCS3 will maintain its core capabilities and continue to advance in development while integrating into the Joint command and control architecture. This continued development will enable decision superiority via advanced collaborative information sharing achieved through interoperability. BCS3 has immediate, high pay-off benefit to warfighters and additional future growth in its capabilities. BCS3 is a force multiplier, a precision tool for logistics planning and execution that provides warfighters with the necessary tools to succeed.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Program #1						0.748	0.755	0.769	0.000	0.769	
Program Office Management											
<i>FY 2009 Accomplishments:</i>											
FY 2009											
<i>FY 2010 Plans:</i>											
FY 2010											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>		<b>PROJECT</b> 091: <i>CBT SVC SPT CONTRL SYS</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #2 Battle Command (BC) Migration  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				14.845	7.803	11.371	0.000	11.371
Program #3 Systems Engineering and Test  <i>FY 2009 Accomplishments:</i> FY 2009				1.674	1.259	2.150	0.000	2.150

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>		<b>PROJECT</b> 091: <i>CBT SVC SPT CONTRL SYS</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #4  Small Business Innovative Research/Small Business Technology Transfer Programs.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.000	0.000	0.000	0.000	0.000
<b>Accomplishments/Planned Programs Subtotals</b>				17.267	9.817	14.290	0.000	14.290

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>	<b>PROJECT</b> 091: <i>CBT SVC SPT CONTRL SYS</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Ord. #1: <i>Procurement, OPA 2 (W34600)</i>	36.720	31.883	25.886	0.420	26.306	12.476	12.253	0.000	0.000	Continuing	Continuing

**D. Acquisition Strategy**

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

**E. Performance Metrics**

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

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>				<b>PROJECT</b> 091: <i>CBT SVC SPT CONTRL SYS</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development	SS	Northrop Grumman Carson, CA	136.812	7.354		0.000		0.000		0.000	Continuing	Continuing	168.482
Software Development - 2	C/CPAF	TBD Location could not be determined.	0.000	0.500		11.559		0.000		11.559	Continuing	Continuing	0
Software Development - 3	SS	Tapestry Solutions San Diego, CA	13.262	0.000		0.000		0.000		0.000	Continuing	Continuing	13.262
Training Development	C	Lockheed Martin Tinton Falls, NJ	13.514	0.000		0.000		0.000		0.000	Continuing	Continuing	13.514
ABCS SE&I Effort	C	PEO C3T Ft. Monmouth, NJ	7.686	0.000		0.000		0.000		0.000	Continuing	Continuing	7.686
GFE	C	Various Location could not be determined.	3.601	0.000		0.000		0.000		0.000	Continuing	Continuing	3.601
<b>Subtotal</b>			174.875	7.854		11.559		0.000		11.559			206.545

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Technical Support	C	L3	8.321	0.361		0.375		0.000		0.375	Continuing	Continuing	9.404

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>				<b>PROJECT</b> 091: <i>CBT SVC SPT CONTRL SYS</i>					

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Ft. Lee, VA											
CECOM, Matrix	C	Ft. Monmouth NJ & Ft. Belvoir, VA	5.154	0.000		0.000		0.000		0.000	0	5.154	5.154
Acquisition Support	C	LMI McLean, VA	1.075	0.000		0.000		0.000		0.000	0	1.075	1.075
<b>Subtotal</b>			14.550	0.361		0.375		0.000		0.375			15.633

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Systems Engineering and Test	SS	Northrop Grumman Carson, CA	0.000	1.259		0.000		0.000		0.000	Continuing	Continuing	5.479
Systems Engineering and Test - 2	C/CPAF	TBD Location could not be determined.	0.000	0.000		2.150		0.000		2.150	Continuing	Continuing	0
GOVT	C	VARIOUS Location could not be determined.	5.575	0.000		0.000		0.000		0.000	Continuing	Continuing	5.575
Dev. Testing & Eval.	C	EPG	1.028	0.000		0.000		0.000		0.000	Continuing	Continuing	1.028

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>				<b>PROJECT</b> 091: <i>CBT SVC SPT CONTRL SYS</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		VARIOUS											
Oper. Testing	C	ATEC VARIOUS	2.633	0.000		0.000		0.000		0.000	Continuing	Continuing	2.633
<b>Subtotal</b>			9.236	1.259		2.150		0.000		2.150			14.715

Remarks

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Office Management	C	Ft. Belvoir VA	27.647	0.394		0.394		0.000		0.394	Continuing	Continuing	31.561
<b>Subtotal</b>			27.647	0.394		0.394		0.000		0.394			31.561

Remarks

Project Cost Totals	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
		226.308	9.868	14.478	0.000	14.478		

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>							<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>			<b>PROJECT</b> 091: <i>CBT SVC SPT CONTRL SYS</i>			
	<b>Total Prior Years Cost</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Remarks</b>									

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>	<b>PROJECT</b> 091: <i>CBT SVC SPT CONTRL SYS</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
PM Battle Command Capability Set 13-14 Software Development					#	#	#	#	#	#	#	#	#															
PD BCS3 Capability Set 13-14 Software Development						#	#	#	#	#	#																	
PM Battle Command Capability Set 15-16 Software Development													#	#	#	#	#	#	#	#	#							
PM Battle Command Capability Set 17-18 Software Development																					#	#	#	#	#	#	#	#

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603805A: <i>Combat Service Support Control System Evaluation and Analysis</i>	<b>PROJECT</b> 091: <i>CBT SVC SPT CONTRL SYS</i>
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Schedule Details

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

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**Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	29.572	35.886	28.132	0.000	28.132	37.128	22.643	17.388	17.620	Continuing	Continuing
808: <i>DOD DRUG &amp; VACC AD</i>	5.535	6.829	7.225	0.000	7.225	12.332	9.361	8.931	9.014	Continuing	Continuing
811: <i>MIL HIV VAC&amp;DRUG DEV</i>	0.145	1.460	2.923	0.000	2.923	2.908	1.449	0.965	0.961	Continuing	Continuing
836: <i>Field Medical Systems Advanced Development</i>	13.343	22.822	17.984	0.000	17.984	21.888	11.833	7.492	7.645	Continuing	Continuing
837: <i>SOLDIER SYS PROT-AD</i>	6.561	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
CS4: <i>MEDICAL SYSTEMS ADV DEV INITIATIVES (CA)</i>	3.988	4.775	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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

This program element (PE) funds development of medical materiel at the start of an official program of record, within the early system integration portion of the System Development and Demonstration phase of the acquisition life cycle using 6.4 funding. Program efforts support transition of promising Science and Technology candidate medical technologies (drugs, vaccines, medical devices, diagnostics, and mechanisms for detection and control of disease carrying insects) to larger scale testing in humans for safety and effectiveness. Programs are aligned to meet Future Force (F2) requirements stressed within concept documents and organizational structures. The PE provides funding for Food and Drug Administration (FDA) regulated human clinical trials to gain additional information about safety and effectiveness on the path to licensure for use in humans. The major enablers supported by this PE are: Combat Casualty Care devices and biologics (products derived from living organisms), with two major focuses: 1) enhance forward care at the first responder level while reducing the footprint of medical organizations for greater mobility and easier sustainment, and 2) provide enhanced post-evacuation care and rehabilitation. The F2 concept places Soldiers into a more austere environment with lengthened evacuation times (both arrival and transit). Supporting medics and first responders require greater lifesaving and extended stabilization capability to save lives. Soldier Performance Enhancers in the form of drugs and diagnostics will allow commanders to manage a Soldier's mental and physical performance. Performance enhancers will increase Soldier capabilities and reduce casualties resulting from high operational tempo, extreme environmental exposure, and loss of cognitive ability. Infectious disease efforts include testing candidate vaccines and preventive and therapeutic drugs to reduce the risk of service members contracting debilitating or fatal diseases, and/or to shorten recovery time. Technologies for identifying disease threats and mechanisms for controlling disease-carrying insects will reduce risk of exposure. Disease and non-battle injuries (DNBI) are the largest contributors to the combat support hospital footprint, and significant reductions of the medical footprint in theater can be achieved by reducing the number of DNBI affected Soldiers. Military Human Immunodeficiency Virus (HIV) Vaccine and Drug Development funds militarily relevant HIV medical countermeasures. These include component development of candidate vaccines for large-scale field testing. 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.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>
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**B. Program Change Summary (\$ in Millions)**

	<b><u>FY 2009</u></b>	<b><u>FY 2010</u></b>	<b><u>FY 2011 Base</u></b>	<b><u>FY 2011 OCO</u></b>	<b><u>FY 2011 Total</u></b>
Previous President's Budget	30.207	31.275	31.721	0.000	31.721
Current President's Budget	29.572	35.886	28.132	0.000	28.132
Total Adjustments	-0.635	4.611	-3.589	0.000	-3.589
• Congressional General Reductions		-0.164			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		4.775			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.635	0.000			
• Adjustments to Budget Years	0.000	0.000	-3.589	0.000	-3.589

**Change Summary Explanation**

In FY 10, Funds increased (\$4611) due to Congressional directed research efforts. In FY 11, Funds realigned (\$3589) to higher priority requirements.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 808: <i>DOD DRUG &amp; VACC AD</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
808: <i>DOD DRUG &amp; VACC AD</i>	5.535	6.829	7.225	0.000	7.225	12.332	9.361	8.931	9.014	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This project funds development of candidate medical countermeasures for infectious diseases of military relevance. These efforts are in: vaccines, drugs, diagnostic kits/devices, and insect control measures. These funds support human clinical efficacy (capacity to produce a desired size of an effect under ideal or optimal conditions) trials of the drug/vaccine in larger groups that are designed to assess how well the drug/vaccine works, and to continue safety assessments in a larger group of volunteers. Funding supports both technical evaluations and human clinical testing to assure the safety and effectiveness of medical diagnostic kits and devices. This work, which is performed in military laboratories or civilian pharmaceutical firms, is directed toward the prevention of disease, early diagnosis, and speeding recovery once diagnosed. All clinical trials are conducted in accordance with U.S. Food and Drug Administration (FDA) regulations, a mandatory obligation for all military products placed into the hands of medical providers or service members. Product development priorities are determined based upon four major factors: (1) the extent and threat of the disease within the Combatant Commands theater of operations, (2) the clinical severity of the disease, (3) the technical maturity of the proposed solution, and (4) the affordability of the solution (development and production).</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1							5.535	0.000	0.000	0.000	0.000
<p>In FY 09, reviews evaluations, and human clinical trials of malarial/anti-malarial vaccines, drugs, diagnostics, insect repellents, and grouped infectious disease (Dengue [a severe debilitating disease caused by a virus and transmitted by a mosquito] and Leishmania [a skin-based disease caused by a parasite and transmitted by sand flies]) vaccines and drugs. For Tafenoquine, developed/validated new laboratory assay to determine levels of antibodies from malaria infection using blood samples from a mefloquine (current FDA-approved malaria drug) challenge clinical study (supported by project 849) and evaluated potential sites for future human safety/efficacy trial, and conducted a Critical Design Review (CDR). The Artesunate drug transitioned from project 810 and a Critical Design Review (CDR) was conducted. The Dengue Tetravalent Vaccine (DTV) vaccine continued FDA required vaccine potency and stability testing of the product and all other DTV activities are transitioned to project</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 808: <i>DOD DRUG &amp; VACC AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>849. The Topical Antileishmanial Cream opened a human treatment protocol in the U.S., the industry partner continued stability testing and produced new clinical drug lots, and project 849 supports the overseas human trials activities of this topical cream. The Leishmania Skin Test (LST), will complete follow-up and performe data analysis for the expanded human safety/dose ranging/sensitization trial in the U.S. and conducted a Critical Design Review (CDR). The Pentostam drug transitioned to project 849.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #2</p> <p>In FY10, for Tafenoquine, down-select to best site for human safety/efficacy trial and continue laboratory assay development/validation to understand the human body's immune responses when infected with malaria parasites and as tool for determining future clinical trial enrollment size, and transition the entire Tafenoquine program to project 849. Monitor progress of a new military topical insect repellent candidate in project 810 to determine its suitability for entry into advanced development. For the Infectious Disease Diagnostic (multiple candidates), conduct market research of selected developmental and commercial diagnostic platforms for select infectious diseases of military interest to determine suitability for entry into advanced development. The DTV vaccine continues FDA required vaccine potency and stability testing and all other DTV activities are transitioned to project 849. For the Topical Antileishmanial Cream, continue a human treatment protocol in the U.S., the partner</p>		0.000	6.687	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 808: <i>DOD DRUG &amp; VACC AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>will continue stability testing and produce new clinical drug lots, and project 849 supports the overseas human clinical trials activities of this topical cream. For LST, complete the final report for the expanded human safety dose ranging sensitization trial in the U.S., and conduct pre-trial activities for a large scale (&gt;200 subjects) human safety/efficacy trial in a Leishmania endemic region.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #3</p> <p>In FY11, will prepare to accept transition of a new military topical insect repellent from project 810 at Milestone B into Engineering &amp; Manufacturing Development phase. Will transition new malaria vaccine candidate from project 810 into Engineering &amp; Manufacturing Development phase. For the Infectious Disease Diagnostic (multiple candidates), will prepare to accept transition of project into the Engineering &amp; Manufacturing Development phase of advanced development. The DTV vaccine will continue FDA required vaccine potency and stability testing and all other DTV activities are transitioned to project 849. For Topical Antileishmanial Cream, will continue a human treatment protocol in the US, the industry partner will continue stability testing of the drug product, and project 849 supports the overseas human trials activities of the topical cream.</p>		0.000	0.000	7.225	0.000	7.225

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 808: <i>DOD DRUG &amp; VACC AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Small Business Innovative Research/Small Business Technology Transfer Programs.		0.000	0.142	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		5.535	6.829	7.225	0.000	7.225

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 808: <i>DOD DRUG &amp; VACC AD</i>
<b><u>C. Other Program Funding Summary (\$ in Millions)</u></b> N/A		
<b><u>D. Acquisition Strategy</u></b> Test and evaluate in-house and commercially developed products in extensive government-managed clinical trials to gather data required for FDA licensure and Environmental Protection Agency registration.		
<b><u>E. Performance Metrics</u></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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 808: <i>DOD DRUG &amp; VACC AD</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually	C	Nothing entered for Activity and Location. Location could not be determined.	5.952	1.750		1.869		0.000		1.869	Continuing	Continuing	0
<b>Subtotal</b>			5.952	1.750		1.869		0.000		1.869			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually	C	Nothing entered for Activity and Location. Location could not be determined.	1.401	1.289		1.495		0.000		1.495	Continuing	Continuing	0
<b>Subtotal</b>			1.401	1.289		1.495		0.000		1.495			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 808: <i>DOD DRUG &amp; VACC AD</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually	C	Nothing entered for Activity and Location. Location could not be determined.	33.699	2.574		2.331		0.000		2.331	Continuing	Continuing	0
<b>Subtotal</b>			33.699	2.574		2.331		0.000		2.331			0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually	C	Nothing entered for Activity and Location. Location could not be determined.	7.197	1.216		1.530		0.000		1.530	Continuing	Continuing	0
<b>Subtotal</b>			7.197	1.216		1.530		0.000		1.530			0.000

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 808: <i>DOD DRUG &amp; VACC AD</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Leishmania Skin Test (CDR)	#																											
New Standard Military Topical Insect Repellant (MS-B)									#																			

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 808: <i>DOD DRUG &amp; VACC AD</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Leishmania Skin Test (CDR)	1	2009	1	2009
New Standard Military Topical Insect Repellant (MS-B)	1	2011	1	2011

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 811: <i>MIL HIV VAC&amp;DRUG DEV</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
811: <i>MIL HIV VAC&amp;DRUG DEV</i>	0.145	1.460	2.923	0.000	2.923	2.908	1.449	0.965	0.961	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This project funds development of militarily relevant human immunodeficiency virus (HIV) medical countermeasures. It provides for the planning and conduct of human clinical trials in a group of healthy volunteers to assess the drug/vaccine for safety, tolerability, how the drug/vaccine is distributed, metabolized, and excreted from the body, and to investigate the appropriate dose for therapeutic use. Development efforts are focused on militarily unique needs effecting manning, mobilization, and deployment. The major contractor is Henry M. Jackson Foundation for the Advancement of Military Medicine, Rockville, MD. Research efforts are coordinated with the National Institutes of Health.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1 In FY09, evaluated potential commercial drug/vaccine candidates for preliminary human trials and conduct Design Readiness Review (DRR).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO							0.145	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 811: <i>MIL HIV VAC&amp;DRUG DEV</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #2  In FY10, will evaluate and down-select drug/vaccine candidates for preliminary human trials and conduct Design Readiness Review (DRR).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.419	0.000	0.000	0.000
Program #3  In FY11, will seek new industry partnership for selected candidate(s) drug/vaccine for HIV medical treatment/prevention.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		0.000	0.000	2.923	0.000	2.923

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 811: <i>MIL HIV VAC&amp;DRUG DEV</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Small Business Innovative Research/Small Business Technology Transfer Programs.		0.000	0.041	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		0.145	1.460	2.923	0.000	2.923
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A						
<b>D. Acquisition Strategy</b> Test and evaluate commercially developed drug/vaccine candidates in government-managed trials.						
<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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>											<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 811: <i>MIL HIV VAC&amp;DRUG DEV</i>					
<b>Product Development (\$ in Millions)</b>													
				<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 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>
Product Development	C	Henry M. Jackson Foundation Rockville, MD	5.139	0.347		0.746		0.000		0.746	Continuing	Continuing	0
<b>Subtotal</b>			5.139	0.347		0.746		0.000		0.746			0.000
<b>Remarks</b>													
<b>Support (\$ in Millions)</b>													
				<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 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	C	Nothing entered for Activity and Location. Location could not be determined.	0.868	0.202		0.597		0.000		0.597	Continuing	Continuing	0
<b>Subtotal</b>			0.868	0.202		0.597		0.000		0.597			0.000
<b>Remarks</b>													
Not Applicable													

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 811: <i>MIL HIV VAC&amp;DRUG DEV</i>
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**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	C	U.S. Component AFRIMS Bangkok, APO, AP 96546-5000	11.495	0.705		1.107		0.000		1.107	Continuing	Continuing	0
<b>Subtotal</b>			11.495	0.705		1.107		0.000		1.107			0.000

**Remarks**  
Not Applicable

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually.	C	Nothing entered for Activity and Location. Location could not be determined.	0.250	0.206		0.473		0.000		0.473	Continuing	Continuing	0
<b>Subtotal</b>			0.250	0.206		0.473		0.000		0.473			0.000

**Remarks**  
Not Applicable

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>			<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>		<b>PROJECT</b> 811: <i>MIL HIV VAC&amp;DRUG DEV</i>	

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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 Design Readiness Review (DRR)							#																					

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 811: <i>MIL HIV VAC&amp;DRUG DEV</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
HIV Vaccine Design Readiness Review (DRR)	3	2010	3	2010

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 836: <i>Field Medical Systems Advanced Development</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
836: <i>Field Medical Systems Advanced Development</i>	13.343	22.822	17.984	0.000	17.984	21.888	11.833	7.492	7.645	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>This project funds development of medical products for enhanced combat casualty care and follow-on care, including rehabilitation. This project funds human clinical trials to test the safety and effectiveness of biologics (products derived from living organisms) and devices necessary to meet medical requirements. When available, commercially-off-the-shelf (COTS) medical products are also tested and evaluated for transition to system development and demonstration. Consideration is also given to reducing the medical logistics footprint through smaller weight, volume, and equipment independence from supporting materials. All clinical trials are conducted in accordance with U.S. Food and Drug Administration (FDA) regulations. In FY10 Project 837 Soldier Sys Prot-AD will be consolidated into this Project, 836. Major contractors/intra-governmental agencies include: IGR Enterprises, Inc.; Army Medical Department Board Test Center; SeQual Technologies, Inc.; Ultrasonic Diagnostics, Inc.; HemCon Medical Technologies, Inc.; Hemerus Medical, LLC.; Fast Track Drugs &amp; Biologics, LLC; Clinical Research Management, and Walter Reed Army Institute of Research (WRAIR) and Institute of Surgical Research (ISR) for user evaluation.</p>											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1							13.343	0.000	0.000	0.000	0.000
<p>In FY09, the Ceramic Oxygen Generator (COG) transitioned to project 832 for Systems Development and Demonstration. Future Medical Shelter System (FMSS): down-selected to one system. Future Combat System (FCS): prepared for performance design review (PDR), and provided support to PM-Future Combat Systems Brigade Combat Team regarding Medical Mission package, treatment table, shelter, and patient movement items for form, fit, and function. Ultrasonic Brain Imager (UBI): conducted clinical user assessments, based on a down-select. Freeze-dried Plasma Program (hemorrhage treatment candidate): transitioned to project 832 for Systems Development and Demonstration. Intranasal Ketamine (low dose pain management via nasal spray): conducted a Pain Management Meeting with Combat Developer (representing Military requirements) and medical caregivers across roles of care to determine which pain management options are best for deployed hospitals, during medical</p>											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>		<b>PROJECT</b> 836: <i>Field Medical Systems Advanced Development</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>								
<p>Program #3</p> <p>In FY 11, Total Intravenous Anesthesia (TIVA): will continue to perform clinical trials and submit required documents for FDA clearance/approval. Auto Critical Care System (ACCLS): will conduct validation testing and Army DT/OT/AWC will also be conducted. The 510K will be submitted for FDA review for modified devices. Urinary Facilitation Device: will continue testing, reports, and review for FDA approval. PEAK Surgical System (Plasma Blade): if preclinical results are favorable will conduct environmental testing and identify any needed design modifications to produce a fieldable unit. Will also pursue additional regulatory approvals as needed. Plasma Knife: if preclinical results are favorable, will conduct environmental testing and identify any needed design modifications to produce a fieldable unit. Will also pursue additional regulatory approvals as needed. Hydrosurgery System: will conduct operational and environmental testing. Remote Diagnostic Access (RDA): will develop software, conduct testing, and refinement for MOC Sensor Modular Development phase. Treatment Table for PM, HBCT Medical Mission Package for Treatment Variants: will transition to Project 832. Refrigerator for PM, HBCT for Medical Mission Package for Treatment Variant: will transition to Project 832. Shock and Vibration Isolation System for Patient Litters in Ground and Air Medical Evacuation Vehicles: will transition to Project 832. Shelter for PM, HBCT for Medical Mission Package for Treatment Variant: will transition to Project 832. Passive Cold Chain Capability for Temperature Sensitive Medical Materiel: will</p>				0.000	0.000	17.984	0.000	17.984

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 836: <i>Field Medical Systems Advanced Development</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
transition to Project 832. The intranasal ketamine drug effects study will transition to project 832 for Systems Development and Demonstration .  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Small Business Innovative Research/Small Business Technology Transfer Programs  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.582	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>		<b>PROJECT</b> 836: <i>Field Medical Systems Advanced Development</i>				
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Accomplishments/Planned Programs Subtotals				13.343	22.822	17.984	0.000	17.984
<b><u>C. Other Program Funding Summary (\$ in Millions)</u></b> N/A								
<b><u>D. Acquisition Strategy</u></b> Develop in-house or industrial prototypes in government-managed programs to meet military and regulatory requirements for production and fielding.								
<b><u>E. Performance Metrics</u></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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 836: <i>Field Medical Systems Advanced Development</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Clinical Research Management	C	Hinckley OH	0.000	0.000		1.133		0.000		1.133	Continuing	Continuing	0
Allied Technologies & Consulting LLC	C	Frederick MD	0.000	1.580		2.000		0.000		2.000	Continuing	Continuing	0
Aquila Alaska Corporation	C	Wasilla AK	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SeQual Technologies	C	San Diego CA	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
No other contract exceeds \$1M	C	Nothing entered for Activity and Location. Location could not be determined.	15.169	5.449		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			15.169	7.029		3.133		0.000		3.133			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 836: <i>Field Medical Systems Advanced Development</i>					

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	4.335		5.203		0.000		5.203	Continuing	Continuing	0
<b>Subtotal</b>			0.000	4.335		5.203		0.000		5.203			0.000

**Remarks**

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

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$M individually.	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	8.033		8.654		0.000		8.654	Continuing	Continuing	0
<b>Subtotal</b>			0.000	8.033		8.654		0.000		8.654			0.000

**Remarks**

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

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 836: <i>Field Medical Systems Advanced Development</i>					

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$M individually.	C	Nothing entered for Activity and Location. Location could not be determined.	28.754	3.425		0.994		0.000		0.994	Continuing	Continuing	0
<b>Subtotal</b>			28.754	3.425		0.994		0.000		0.994			0.000

**Remarks**

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	43.923	22.822		17.984	0.000		17.984	0.000

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 836: <i>Field Medical Systems Advanced Development</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Future Combat Systems (CDR)			#																									

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 836: <i>Field Medical Systems Advanced Development</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Future Combat Systems (CDR)	3	2009	3	2009

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 837: <i>SOLDIER SYS PROT-AD</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
837: <i>SOLDIER SYS PROT-AD</i>	6.561	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>This project funds development of preventive medicine materiel, including devices and medicines, in order to provide protection, sustainment, and enhancement of the physical and psychological capabilities of Soldiers across the Army's full spectrum operations. Focus is on the reduction of personnel losses due to preventable disease and non-battle injuries through development of environmental and physiological performance monitors and other preventive medicine countermeasures. In FY10, Project 837 will be consolidated into Project 836 Combat Medical Matl AD. Major contractors are Pacific Technologies, Inc, Redwood, WA, and Agave Biosystems Inc, Austin, TX.</p>											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  Coliform Analyzer: In FY09, conduct technical testing and user evaluation and transition to project 834 for System Development and Demonstration. Environmental Sentinel Biomonitor (ESB): In 2Q FY09, conduct Milestone B (for increment 1 ESB system). In FY10, project 837 is consolidated into project 836.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							6.561	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>		<b>PROJECT</b> 837: <i>SOLDIER SYS PROT-AD</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				6.561	0.000	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>								
N/A								
<b>D. Acquisition Strategy</b>								
Test and evaluate materiel in-house and commercially developed preventative medicine materiel to meet FDA and EPA regulatory requirements.								
<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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 837: <i>SOLDIER SYS PROT-AD</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually	C	Nothing entered for Activity and Location. Location could not be determined.	3.661	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			3.661	0.000		0.000		0.000		0.000			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually	C	Nothing entered for Activity and Location. Location could not be determined.	0.247	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.247	0.000		0.000		0.000		0.000			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> 837: <i>SOLDIER SYS PROT-AD</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually	C	Research and development; stability and potency testing Location could not be determined.	1.276	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			1.276	0.000		0.000		0.000		0.000			0.000

Remarks

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually	C	Nothing entered for Activity and Location. Location could not be determined.	2.472	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			2.472	0.000		0.000		0.000		0.000			0.000

Remarks

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 837: <i>SOLDIER SYS PROT-AD</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015							
	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				
Environmental Sentinel Biomonitor (2nd QTR FY 09)	#																															

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> 837: <i>SOLDIER SYS PROT-AD</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Environmental Sentinel Biomonitor (2nd QTR FY 09)	1	2009	1	2009

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>				<b>PROJECT</b> CS4: <i>MEDICAL SYSTEMS ADV DEV INITIATIVES (CA)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
CS4: <i>MEDICAL SYSTEMS ADV DEV INITIATIVES (CA)</i>	3.988	4.775	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b> Congressional Interest Item funding for medical systems advanced development initiatives											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1 Small Business Innovative Research/Small Business Technology Transfer Program  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO							0.113	0.000	0.000	0.000	0.000
Program #2 Congressionally directed project to conduct advanced development research in Leishmaniasis Skin Test Antigen.							0.775	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> CS4: <i>MEDICAL SYSTEMS ADV DEV INITIATIVES (CA)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3  Congressionally directed project to conduct advanced development research in Garment Based Physiological Monitoring system  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.550	0.000	0.000	0.000	0.000
Program #4		1.550	2.400	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> CS4: <i>MEDICAL SYSTEMS ADV DEV INITIATIVES (CA)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Congressionally directed project to conduct advanced development research in Wireless Med monitoring system  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #5  Congressionally directed project to conduct execution of a Quality Systems Program for FDA Regulation Activities  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.175	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603807A: <i>Medical Systems - Adv Dev</i>	<b>PROJECT</b> CS4: <i>MEDICAL SYSTEMS ADV DEV INITIATIVES (CA)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #6 Congressionally directed project to study Model for Green Laboratories and Clean Rooms  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.200	0.000	0.000	0.000
Accomplishments/Planned Programs Subtotals		3.988	4.775	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A						
<b>D. Acquisition Strategy</b> N/A						
<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-2, RDT&E Budget Item Justification: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	41.599	73.785	48.323	0.000	48.323	57.761	42.566	84.528	88.706	Continuing	Continuing
S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>	21.807	57.293	36.093	0.000	36.093	25.572	17.732	34.885	41.849	Continuing	Continuing
S51: <i>AIRCREW INTEGRATED SYS AD</i>	1.301	0.137	0.141	0.000	0.141	0.145	0.148	0.152	0.155	Continuing	Continuing
S53: <i>CLOTHING AND EQUIPMENT</i>	11.674	8.145	7.106	0.000	7.106	6.572	6.648	6.867	6.945	Continuing	Continuing
S54: <i>SMALL ARMS IMPROVEMENT</i>	1.435	5.624	4.983	0.000	4.983	4.885	4.954	5.070	5.142	Continuing	Continuing
S55: <i>Counter-Defilade Target Engagement</i>	5.382	2.586	0.000	0.000	0.000	20.587	13.084	37.554	34.615	Continuing	Continuing

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

This Program Element (PE) for Advanced Component Development and Prototypes manages the Soldier as a system in order to increase combat effectiveness, test and deliver tangible products that save Soldier's lives, and improve Soldier's quality of life. It evaluates, develops, and tests emerging technologies and critical Soldier support systems to reduce technology risk. Project S49 funding (Ground Soldier System) integrates multiple components and leverages emerging technologies to provide overmatching operational capabilities to ground combat Soldiers. Project S51 funding (Aircrew Integrated Systems) supports component development and prototyping of critical Soldier support systems and other combat service support equipment that will improve unit sustainability and combat effectiveness. Project S52 funding (Soldier Support Equipment) supports component development and prototyping of critical Soldier support systems and other combat service support equipment that will improve unit sustainability and combat effectiveness. Project S53 funding (Clothing and Equipment) supports development of state-of-the-art technology to improve tactical and non-tactical clothing and individual equipment to enhance the lethality, survivability, and mobility of the individual Soldier. Project S54 funding (Small Arms Improvement) provides funds to develop, demonstrate and evaluate emerging technology for integration of systems, subcomponents and prototypes designed to enhance lethality, target acquisition, fire control, training effectiveness and reliability for current and future small arms weapon systems and ammunition. Project S55 funding (Counter-Defilade Target Engagement) provides funds to develop, demonstrate and evaluate technology for integration of systems and subcomponents to enhance hit probability to defeat defilade and point area targets at the squad level.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>
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**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	41.616	71.832	48.574	0.000	48.574
Current President's Budget	41.599	73.785	48.323	0.000	48.323
Total Adjustments	-0.017	1.953	-0.251	0.000	-0.251
• Congressional General Reductions		-0.387			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-1.000			
• Congressional Adds		3.340			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	-0.017	0.000	-0.251	0.000	-0.251

**Change Summary Explanation**

FY2010 - Congressional Adds - \$1.600 million Acid Alkaline Direct Methanol Fuel Cell \$1.140 million Fire Suppression System\$.600 million Improved HELLHOUND 40mm Low Velocity High Explosive AmmunitionFY2010 - Congressional Directed Reductions--\$1.000 million Unexecutable Growth-Ground Soldier System

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>								<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>				<b>PROJECT</b> S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>				
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>	21.807	57.293	36.093	0.000	36.093	25.572	17.732	34.885	41.849	Continuing	Continuing	
Quantity of RDT&E Articles												
<b>Note</b> Not applicable for this item.												
<b>A. Mission Description and Budget Item Justification</b> The 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 GSS program focuses on the development of the SA system, improved navigation, and reduced fratricide through the visualization of friendly forces. Under this project three contractors are competing with different prototype designs. A Pre-planned Product Improvement (P3I) will integrate Joint Tactical Radio System (JTRS) when the Small Form Factor ("B") is validated and proven. Increment II will integrate Unified Battle Command and additional capabilities.												
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>		
Program #1 FY09: Began developmental engineering, competitive prototyping with three contractors, manufacturing, and systems engineering, assessment, competitive contractor testing (with three contractors) and program management support for Ground Soldier Ensemble (GSE)  <i>FY 2009 Accomplishments:</i> FY 2009						20.470	0.000	0.000	0.000	0.000		

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2  FY10: Continue developmental engineering, competitive prototyping with three contractors, manufacturing, and systems engineering, assessment, competitive contractor testing (with three contractors) and program management support for Ground Soldier Ensemble (GSE)  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	42.532	0.000	0.000	0.000
Program #3  FY11: Prepare for Milestone C and begin integration of Joint Tactical Radio System (JTRS).		0.000	0.000	13.756	0.000	13.756

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 FY09: Began Governmental Test and Evaluation (T&E) Activities.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		1.337	0.000	0.000	0.000	0.000
Program #5		0.000	11.351	22.337	0.000	22.337

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
FY10 and FY11: Continue Governmental T&E Activities by conducting Developmental Tests, Limited User Tests, and Operational Test.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6  FY10: Congressional Add for Soldier Power - reprogramming action required to place in proper Progame Element/Project.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		0.000	1.600	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010							
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>		<b>PROJECT</b> \$49: <i>GROUND SOLDIER SYSTEM (GSS)</i>							
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>			
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Program #7				0.000	1.810	0.000	0.000	0.000			
FY10: Small Business Innovative Research/Small Business Technology Transfer Program (SBIR/SBTTR)											
<i>FY 2009 Accomplishments:</i> FY 2009											
<i>FY 2010 Plans:</i> FY 2010											
<i>FY 2011 Base Plans:</i> FY 2011 Base											
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Accomplishments/Planned Programs Subtotals				21.807	57.293	36.093	0.000	36.093			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>OPA 3, R8050000, Ground Soldier System</i>	0.000	1.803	110.524	0.000	110.524	235.371	525.390	532.238	540.386	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
The GSS Increment I acquisition concept, which implements the Office of the Secretary of Defense (OSD) guidance on competition in prototyping, takes the GSS 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											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>
<p>contracts were awarded on April 15, 2009 for the TD Phase. The TD Phase will consist of two parts: Part 1 - prototyping, Part 2 - integration/refinement. During Part 1 of TD, three contractors design and fabricate Contractor Furnished Equipment, integrate Government Furnished Property and test their systems during contractor and government testing to prove compliance with performance requirements. During Part 2 of TD, the contractors' systems will undergo formal ATEC Developmental Testing (DT) to evaluate the ability to achieve technical requirements, and a Limited User Test (LUT) to demonstrate the ability to achieve operational requirements. Technology maturity and programmatic risk will be assessed at the end of the TD phase. Depending on these results, GSS will proceed directly to MS C, or to MS B if the technology/integration requires further maturation.</p> <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.</p>		

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>				<b>PROJECT</b> S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Develop, Integrate and Prototype GSS Increment I	C/CPFF	General Dynamics C4 Systems Inc, Scottsdale, AZ	0.000	6.779		0.000		0.000		0.000	Continuing	Continuing	0
Develop, Integrate and Prototype GSS Increment I - 2	C/CPFF	Raytheon Company McKinney, TX	0.000	6.372		0.000		0.000		0.000	Continuing	Continuing	0
Develop, Integrate and Prototype GSS Increment I	C/CPFF	Rockwell Collins Inc, Cedar Rapids, IA	0.000	6.792		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	19.943		0.000		0.000		0.000			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PM Ground Soldier support	C	Various Location could not be determined.	3.203	15.056		8.026		0.000		8.026	Continuing	Continuing	0
Soldier Power Congressional Add - reprogramming action required.	C	Nothing entered for Activity and Location.	0.000	1.600		0.000		0.000		0.000	Continuing	Continuing	0

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> \$49: <i>GROUND SOLDIER SYSTEM (GSS)</i>
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**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Location could not be determined.											
<b>Subtotal</b>			3.203	16.656			8.026			0.000		8.026	0.000

**Remarks**

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Various Testing Organizations	C	ATEC TTC/YPG/DTC/ EPT/ARL-SLAD, etc.	0.000	11.351		22.337		0.000		22.337	Continuing	Continuing	0
<b>Subtotal</b>			0.000	11.351		22.337		0.000		22.337			0.000

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>
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**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PM Soldier Warrior oversight and integration of GSS program	C	PM Soldier Warrior Ft. Belvoir, VA	1.547	7.533		5.730		0.000		5.730	Continuing	Continuing	0
SBIR/SBTR	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	1.810		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			1.547	9.343		5.730		0.000		5.730			0.000

Remarks

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
	4.750	57.293		36.093		0.000		36.093			0.000

Remarks

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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 A Decision Increment I	#																											
Prototyping/Refinement Increment I		#	#	#	#	#	#	#																				
Developmental Test (DT) Increment I						#																						
Limited User Test (LUT) Increment I							#																					
Milestone C Decision Increment I									#																			
Low Rate Initial Production (LRIP) Increment I									#	#	#	#	#															
Independent Operational Test and Evaluation (IOTE) Increment I											#	#	#															
Full Rate Production (FRP) Increment I													#															
P3I HMS Integration/Test									#	#	#	#	#	#	#	#												
Milestone B Increment II													#															
Development Increment II													#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
Milestone C Increment II																										#		

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S49: <i>GROUND SOLDIER SYSTEM (GSS)</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Milestone A Decision Increment I	1	2009	1	2009
Prototyping/Refinement Increment I	2	2009	4	2010
Developmental Test (DT) Increment I	2	2010	2	2010
Limited User Test (LUT) Increment I	3	2010	3	2010
Milestone C Decision Increment I	1	2011	1	2011
Low Rate Initial Production (LRIP) Increment I	1	2011	1	2012
Independent Operational Test and Evaluation (IOTE) Increment I	3	2011	1	2012
Full Rate Production (FRP) Increment I	1	2012	1	2012
P3I HMS Integration/Test	1	2011	1	2013
Milestone B Increment II	2	2012	2	2012
Development Increment II	2	2012	3	2015
Milestone C Increment II	3	2015	3	2015

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>				<b>PROJECT</b> S51: <i>AIRCREW INTEGRATED SYS AD</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
S51: <i>AIRCREW INTEGRATED SYS AD</i>	1.301	0.137	0.141	0.000	0.141	0.145	0.148	0.152	0.155	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>This project supports the transition to Engineering Manufacturing Development from advanced component development and prototyping of critical aircrew support systems with improved safety, survivability, and human performance that amplify the warfighting effectiveness, and facilitates full-spectrum dominance of the Army aircraft including the AH-64 Apache/Longbow, CH-47 Chinook, UH/HH-60 Blackhawk, and Light Utility Helicopter. These programs include Air Soldier System and equipment which are unique and necessary for the sustainment, survivability, and performance of Army aircrews and troops on the future integrated battlefield. Air Warrior Advanced Development was completed with FY 2008 RDTE Project S51 funding. Air Soldier System Advanced Development continues to enhance the transition of these programs from Advanced Development to Engineering Development.</p>											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  Continue advanced component development of Air Soldier technology improvements and advanced development effort transition to engineering development.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							1.301	0.136	0.141	0.000	0.141

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>							<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>			<b>PROJECT</b> S51: <i>AIRCREW INTEGRATED SYS AD</i>					
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Program #2							0.000	0.001	0.000	0.000	0.000
Economic Assumption											
<i>FY 2009 Accomplishments:</i> FY 2009											
<i>FY 2010 Plans:</i> FY 2010											
<i>FY 2011 Base Plans:</i> FY 2011 Base											
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Accomplishments/Planned Programs Subtotals							1.301	0.137	0.141	0.000	0.141
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>RDTE, A PE 0604601A</i>	12.988	14.231	10.295	0.000	10.295	13.917	14.146	14.402	14.635	Continuing	Continuing
<i>PROJ S61-SDD</i>	48.149	61.572	52.423	0.000	52.423	85.030	80.974	88.329	62.945	Continuing	Continuing

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army							<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>			<b>PROJECT</b> SS1: <i>AIRCREW INTEGRATED SYS AD</i>					
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #2: <i>Aircraft Procurement, Army</i> <i>SSN AZ3110 - ACIS</i>											
<b>D. Acquisition Strategy</b>											
Technologies developed under the Air Soldier System program integrate capabilities including a fully compliant Modular Integrated Helmet and Display System (MIHDS), Chemical, Biological (CB) waste disposal system and reduced weight and bulk. The MIHDS will provide a day heads up display, external audio, don in flight CB protection and advanced laser eye protection. This development effort is accomplished through a combination of contractor and governmental agencies managed within the Air Warrior Product Manager's Office. Continued effort in FY 2010 and beyond provides for Air Warrior Product Manager's Office analysis and evaluation of emerging aircrew safety, survivability, and human performance improvement technologies for application to Army aircrew requirements. These programs are planned to transition into System Development and Demonstration as the Advanced Development effort is completed.											
<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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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>				<b>PROJECT</b> S53: <i>CLOTHING AND EQUIPMENT</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
S53: <i>CLOTHING AND EQUIPMENT</i>	11.674	8.145	7.106	0.000	7.106	6.572	6.648	6.867	6.945	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
Funding supports the project development and state-of-the-art technology to improve tactical and non-tactical clothing and individual equipment to enhance the lethality, survivability, mobility, comfort, and sustainment of the individual Soldier.											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  Individual Soldier Ballistic Protection: (FY09) Initiated and advanced efforts to mature manufacturing readiness level of high-performance polyethylene (Dyneema and Spectra) molding into the Enhanced Combat Helmet (ECH) and transitioned to Engineering and Manufacturing Development. Initiated efforts to leverage and incorporate laser eye protection technology advancements into ballistic goggles and spectacles and assessed capability improvements. Continued incremental improvement of Interceptor Body Armor (IBA) to reduce Soldier load and improve comfort/functionality based on operational feedback. Developed commonality at the component and subsystem levels to provide a modular layered/integrated ballistic protection system and conducted Soldier Protection Demonstration VII to assess enhancements. Initiated efforts to develop and integrate self-diagnostic capability for ballistic inserts. Assessed head protection technologies to mitigate the effects of current and emerging ballistic/blast and non-ballistic impact (crash) threats. (FY10-11) Continue to design, test and evaluate modular hard and soft armor solutions for mission tailor-able PPE including Plate Carriers and Concealable Body Armor. Develop, test and evaluate self-diagnostic capability for ballistic insert integrity and transition to Engineering and Manufacturing Development. Continue to evaluate and improve Soldier PPE including extremity protection from emerging ballistic/blast threats. Conduct extensive ECH characterization (ballistic, compression, impact, accelerated aging, composite integrity and durability) testing. Continue to assess							8.182	4.233	3.818	0.000	3.818

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S53: <i>CLOTHING AND EQUIPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>ACH/ECH non-ballistic impact protection technology. Continue to assess helmet sensor technologies to improve accuracy, reliability of data capture, storage and distribution.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #2</p> <p>Soldier Uniforms and Clothing: (FY09) Conducted component level testing of preproduction and production representative systems leveraging advancements in materials, nanotechnology, fabrication techniques, moisture management, fire resistance, antimicrobial treatments, insect protection, extreme environmental protection and advancements in chemical/biological protection to increase the capabilities and durability of tactical and non-tactical clothing such as the Fire Resistant Environmental Ensemble (FREE) and Army Combat Shirt (ACS) and all Fire Resistant (FR) uniforms. Proved out commonality across as broad a spectrum of users as possible to provide a modular integrated uniform/clothing system from skin out and head-to-toe. (FY10-11) Investigate new technologies and domestically available fabrics relevant to FR, FREE improvements, and T-Shirts. Investigate new technologies to monitor health and improve soldier lethality, survivability, reduce weight and improve affordability and mobility and comfort in combat and training/admin environments. Perform FR and permetherin testing. Investigate combat boot improvements.</p>		1.047	2.556	2.153	0.000	2.153

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S53: <i>CLOTHING AND EQUIPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3  Individual Equipment: (FY09) Conducted component level testing of preproduction and production representative systems utilizing advancements in technology for load bearing equipment, hydration technologies including water filtration and NBC hydration, and other mission essential and/or mission specific equipment for Soldiers. Proved out as much commonality as feasible across a broad spectrum of user and mission scenarios. Purchase prototypes and conduct user assessment to advance the technology for navigational aid. (FY10-11) Investigate new technologies and fabrics relative to Soldier equipment such as load bearing equipment, gloves and Nuclear, Biological, Chemical (NBC) gear. Conduct early user evaluation of Soldier on-the-move hydration systems. Conduct Limited user Evaluation (LUE) on improved Soldier Knee and Elbow protection System (SKEPS)  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		2.180	0.979	0.900	0.000	0.900

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S53: <i>CLOTHING AND EQUIPMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
<b>Program #4</b>  Soldier Cooling: (FY09) Conducted trade-off analysis and initial integration providing Soldiers enhanced ability to conduct extended missions in extreme (hot) environments. Procured initial prototypes for FY 10 initial assessment in a relevant environment. (FY10-11) Conduct Human Factors Testing of prototypes and transition to EMD.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	0.200	0.235	0.000	0.235
<b>Program #5</b>  Small Business Innovative Research/Small Business Technology Transfer Programs		0.265	0.177	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army							<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>			<b>PROJECT</b> S53: <i>CLOTHING AND EQUIPMENT</i>					
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
<i>FY 2009 Accomplishments:</i> FY 2009											
<i>FY 2010 Plans:</i> FY 2010											
<i>FY 2011 Base Plans:</i> FY 2011 Base											
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Accomplishments/Planned Programs Subtotals						11.674	8.145	7.106	0.000	7.106	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>RDTE, 0604601A.S60, Clothing and Equipment</i>	18.636	15.273	9.711	0.000	9.711	10.343	9.621	5.930	5.999	Continuing	Continuing
• Ord. #2: <i>OMA, 121017, Central Funding and Fielding</i>	94.076	70.305	71.664	0.000	71.664	75.371	79.178	78.685	80.828	Continuing	Continuing
• Ord. #3: <i>OPA, MA7801, Advanced Tactical Parachute System</i>	40.941	39.066	41.591	0.000	41.591	46.598	45.430	45.651	46.614	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
Programs will pursue normal transition to Engineering and Manufacturing Development (EMD) and production. This Project will continue to exercise competitively awarded contracts using best value source selection procedures.											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S53: <i>CLOTHING AND 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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S53: <i>CLOTHING AND EQUIPMENT</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Various	C	Natick Soldier Center Natick, MA	5.173	1.138		1.020		0.000		1.020	Continuing	Continuing	0
Various - 2	C	Various Location could not be determined.	7.442	3.200		2.830		0.000		2.830	Continuing	Continuing	0
<b>Subtotal</b>			12.615	4.338		3.850		0.000		3.850			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Misc Support Costs	C	Various Location could not be determined.	2.957	0.750		0.550		0.000		0.550	Continuing	Continuing	0
<b>Subtotal</b>			2.957	0.750		0.550		0.000		0.550			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>				<b>PROJECT</b> S53: <i>CLOTHING AND EQUIPMENT</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Various	C	Various Location could not be determined.	2.090	1.157		1.316		0.000		1.316	Continuing	Continuing	0
<b>Subtotal</b>			2.090	1.157		1.316		0.000		1.316			0.000

Remarks

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
In-House Support	C	PM Ft Belvoir VA	2.410	1.900		1.390		0.000		1.390	Continuing	Continuing	0
<b>Subtotal</b>			2.410	1.900		1.390		0.000		1.390			0.000

Remarks

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
		Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
	20.072	8.145		7.106		0.000		7.106			0.000

Remarks

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Transition Spiral to EMD									#																			
Integrate advanced materials & components - Spiral II into EMD											#	#	#	#	#	#	#	#										
Transition Spiral II to EMD																	#											
Integrate advanced materials & components - Spiral III into EMD																	#	#	#	#	#	#	#	#				
Transition Spiral III to EMD																									#			
Evaluate non-ceramic systems											#																	
Fabricate/test 7.62 Helmet Engineering Dev Models			#																									
Transition 7.62 to EMD			#																									
Evaluate/test enhanced non-ballistic impact protection			#	#	#	#	#	#																				
Transition improved non-ballistic impact protection to EMD			#																									
Dev Fully Integrated Head Protection Sys Mat & Components & Spiral I into EMD									#	#	#	#	#	#	#	#	#	#										
Transition Spiral I to EMD																	#											
Dev Fully Integrated Head Protection Sys Mat & Components & Spiral II into EMD																	#	#	#	#	#	#	#	#	#			
Transition Spiral II to EMD - 2																									#			
									#	#	#	#	#	#														

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S53: <i>CLOTHING AND EQUIPMENT</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Develop and Test NDTE Software Upgrades and Transition to EMD - Spiral I																												
Transition Spiral I to EMD - 2													#															
Develop and Test NDTE Software Upgrades and Transition to EMD - Spiral II														#	#	#	#	#	#									
Transition Spiral II to EMD - 3																		#										
Develop and Test NDTE Software Upgrades and Transition to EMD - Spiral III																		#	#	#	#	#	#					
Transition Spiral III to EMD - 2																									#			
Lightweight Performance Hood Development	#	#	#																									
JSLIST Upgrade																		#	#	#	#							
Army Combat Pants Upgrade (FR ACU Trouser PIP)			#	#	#	#	#	#	#	#	#	#	#	#														
Pulse & Respiration Shirt Prototype									#	#	#	#	#	#	#	#	#											
Army Combat Shirt Improvements Evaluation			#	#	#																							
Combat Boot Improvements					#	#	#	#	#	#																		
Soldier Knee & Elbow Protection System (SKEPS)	#	#	#	#	#	#	#	#	#	#	#																	
IWTD Development and Test					#	#	#	#	#	#	#																	
ATEC Evaluation - IWTD					#	#	#	#	#	#	#																	
Transition IWTD to EMD											#																	
NBC Hydration - Increment III								#	#	#	#	#	#															

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
IWTD - Increment II													#	#	#	#	#											
ATEC Evaluation - Increment II Water Purification and Refill in Field							#	#	#																			
JC3/Chemical Gloves/Hydration Development																	#	#	#	#	#	#						
Face Gel (FR) Development			#	#	#	#	#	#	#	#	#	#																
Test/Evaluate Prototype Development Models					#	#																						
Transition Soldier Cooling to EMD							#																					

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S53: <i>CLOTHING AND EQUIPMENT</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Transition Spiral to EMD	1	2011	1	2011
Integrate advanced materials & components - Spiral II into EMD	2	2011	1	2013
Transition Spiral II to EMD	1	2013	1	2013
Integrate advanced materials & components - Spiral III into EMD	1	2013	1	2015
Transition Spiral III to EMD	1	2015	1	2015
Evaluate non-ceramic systems	3	2011	3	2011
Fabricate/test 7.62 Helmet Engineering Dev Models	3	2009	3	2009
Transition 7.62 to EMD	4	2009	4	2009
Evaluate/test enhanced non-ballistic impact protection	4	2009	4	2010
Transition improved non-ballistic impact protection to EMD	1	2010	1	2010
Dev Fully Integrated Head Protection Sys Mat & Components & Spiral I into EMD	4	2010	1	2013
Transition Spiral I to EMD	1	2013	1	2013
Dev Fully Integrated Head Protection Sys Mat & Components & Spiral II into EMD	2	2013	1	2015
Transition Spiral II to EMD - 2	1	2015	1	2015
Develop and Test NDTE Software Upgrades and Transition to EMD - Spiral I	4	2010	1	2012
Transition Spiral I to EMD - 2	1	2012	1	2012
Develop and Test NDTE Software Upgrades and Transition to EMD - Spiral II	2	2012	3	2013
Transition Spiral II to EMD - 3	3	2013	3	2013

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<b>Exhibit R-4A, RDT&amp;E Schedule Details: PB 2011 Army</b>			<b>DATE:</b> February 2010	
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	<b>Start</b>		<b>End</b>	
<b>Event</b>	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
Develop and Test NDTE Software Upgrades and Transition to EMD - Spiral III	4	2013	1	2015
Transition Spiral III to EMD - 2	1	2015	1	2015
Lightweight Performance Hood Development	1	2009	3	2009
JSLIST Upgrade	4	2013	3	2014
Army Combat Pants Upgrade (FR ACU Trouser PIP)	3	2009	3	2012
Pulse & Respiration Shirt Prototype	2	2011	3	2013
Army Combat Shirt Improvements Evaluation	3	2009	1	2010
Combat Boot Improvements	1	2010	2	2011
Soldier Knee & Elbow Protection System (SKEPS)	2	2009	3	2011
IWTD Development and Test	1	2010	3	2011
ATEC Evaluation - IWTD	1	2010	3	2011
Transition IWTD to EMD	3	2011	3	2011
NBC Hydration - Increment III	4	2010	1	2012
IWTD - Increment II	4	2011	1	2013
ATEC Evaluation - Increment II Water Purification and Refill in Field	3	2010	1	2011
JC3/Chemical Gloves/Hydration Development	1	2013	2	2014
Face Gel (FR) Development	3	2009	3	2011
Test/Evaluate Prototype Development Models	1	2010	2	2010
Transition Soldier Cooling to EMD	3	2010	3	2010

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army									<b>DATE:</b> February 2010		
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<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
S54: <i>SMALL ARMS IMPROVEMENT</i>	1.435	5.624	4.983	0.000	4.983	4.885	4.954	5.070	5.142	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The Small Arms Improvement program provides funds to study, develop, demonstrate and evaluate emerging technology for integration of systems, subcomponents and prototypes with weapons/ammunition. Small arms include weapons/ammunition ranging up to 40 millimeter. Current and future efforts focus on improvements designed to enhance lethality, target acquisition, fire control, training effectiveness and reliability of weapons/ammunition. Focus areas include studying, developing, demonstrating and evaluating light-weight materials, concealants, scouting, observation, lethal and non-lethal ammunition, and equipment. Benefits include improvements to weapons, fire control equipment, optics, training devices, component mounts, weapon mounts, and ammunition. New starts in FY2011 consists of the following new initiatives; Suppressors, Lead Free Barrel Twist, Light Weight MG and Sub-Compact Weapons.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1							0.000	0.000	0.000	0.000	0.000
Small Arms Weapons Enhancements											
<i>FY 2009 Accomplishments:</i>											
FY 2009											
<i>FY 2010 Plans:</i>											
FY 2010											
<i>FY 2011 Base Plans:</i>											
FY 2011 Base											

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #2 - Design, Development and Engineering				0.668	1.090	0.714	0.000	0.714
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								
<i>FY 2011 Base Plans:</i> FY 2011 Base								
<i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #3 - Prototype Fabrication				0.000	0.000	0.560	0.000	0.560
<i>FY 2009 Accomplishments:</i> FY 2009								
<i>FY 2010 Plans:</i> FY 2010								

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 - Testing and Evaluation  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.256	0.200	0.735	0.000	0.735
Program #5 Ammunition  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>								
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #6 - Design, Development and Engineering  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO				0.100	0.260	0.000	0.000	0.000
Program #7 - Prototype Fabrication				0.020	0.520	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #8 - Testing and Evaluation		0.391	0.500	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #9		0.000	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Fire Control  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #10 - Design, Development and Engineering  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		0.000	1.104	1.086	0.000	1.086

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #11		0.000	1.039	0.908	0.000	0.908
- Prototype Fabrication						
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #12		0.000	0.550	0.820	0.000	0.820
- Testing and Evaluation						
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army			<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S54: <i>SMALL ARMS IMPROVEMENT</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #13		0.000	0.220	0.160	0.000	0.160
- Demonstration						
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #14		0.000	0.141	0.000	0.000	0.000
Small Business Innovative Research/Small Business Technology Transfer Programs.						
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army							<b>DATE:</b> February 2010					
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>			<b>PROJECT</b> S54: <i>SMALL ARMS IMPROVEMENT</i>						
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>												
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
Accomplishments/Planned Programs Subtotals							1.435	5.624	4.983	0.000	4.983	
<b>C. Other Program Funding Summary (\$ in Millions)</b>												
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	
• Ord. #1: <i>RDTE S63, Program Element 0604601A - Infantry Support Weapons</i>	5.787	27.704	19.805	0.000	19.805	18.231	14.404	14.481	14.438	Continuing	Continuing	
<b>D. Acquisition Strategy</b>												
Primary strategy is to study, develop, demonstrate and evaluate emerging technologies that will ultimately lead to enhancing/improving the small arms inventory.												
<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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>				<b>PROJECT</b> S54: <i>SMALL ARMS IMPROVEMENT</i>					

**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Hardware Development	C/TBD	Various Location could not be determined.	3.756	0.980		1.468		0.000		1.468	Continuing	Continuing	0
<b>Subtotal</b>			3.756	0.980		1.468		0.000		1.468			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering	C	Various Location could not be determined.	1.724	3.594		1.890		0.000		1.890	Continuing	Continuing	0
<b>Subtotal</b>			1.724	3.594		1.890		0.000		1.890			0.000

**Remarks**

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>				<b>PROJECT</b> SS4: <i>SMALL ARMS IMPROVEMENT</i>					

**Test and Evaluation (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Developmental Testing	C	Various Location could not be determined.	1.706	0.710		1.255		0.000		1.255	Continuing	Continuing	0
<b>Subtotal</b>			1.706	0.710		1.255		0.000		1.255			0.000

**Remarks**

**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management	C	PM SW Location could not be determined.	0.525	0.340		0.370		0.000		0.370	Continuing	Continuing	0
<b>Subtotal</b>			0.525	0.340		0.370		0.000		0.370			0.000

**Remarks**

Project Cost Totals	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
		Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
	7.711	5.624		4.983		0.000		4.983			0.000

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>							<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>			<b>PROJECT</b> S54: <i>SMALL ARMS IMPROVEMENT</i>			
	<b>Total Prior Years Cost</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Remarks</b>									

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2011 Army</b>		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> SS4: <i>SMALL ARMS IMPROVEMENT</i>

	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Lead Free Barrel Twist								#	#	#	#	#	#	#	#	#												
Suppressors								#	#	#	#	#	#	#	#	#												
Light Weight MG								#	#	#	#	#	#	#	#	#	#	#	#	#								
Weapons Upgrades												#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Sub-Compact Weapons								#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#				
Optics Upgrades												#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Integrated Fire Control Small Arms				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#								

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S54: <i>SMALL ARMS IMPROVEMENT</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Lead Free Barrel Twist	4	2010	3	2012
Suppressors	4	2010	3	2012
Light Weight MG	4	2010	3	2013
Weapons Upgrades	4	2011	3	2015
Sub-Compact Weapons	4	2010	3	2014
Optics Upgrades	4	2011	3	2015
Integrated Fire Control Small Arms	4	2009	3	2013

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>				<b>PROJECT</b> S55: <i>Counter-Defilade Target Engagement</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
<i>S55: Counter-Defilade Target Engagement</i>	5.382	2.586	0.000	0.000	0.000	20.587	13.084	37.554	34.615	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The XM25, Individual Airburst Weapon System (IAWS) delivers a 25mm programmable high explosive airburst (HEAB) round to explode near or directly on target to significantly increase hit probability to defeat defilade and point area targets out to approximately 600 meters. The IAWS includes an integrated, multifunctional, all environment, full-solution target acquisition/fire control system. Independent analysis expects a 600% increase to down range effectiveness. The technology provides the Soldier a leap-ahead capability to defeat defilade targets while significantly reducing collateral damage without the use of a mortar, artillery, or air-to-surface weapon systems. The IAWS has been identified by the U.S. Army Infantry Center's (USAIC) Joint Capabilities Integration and Development System (JCIDS) analysis as the number one materiel approach to mitigate the Counter Defilade Target Engagement (CDTE) gap (accurate and lethal engagement of defilade at squad level).</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1							0.996	2.000	0.000	0.000	0.000
Design, Develop and Fabricate											
<i>FY 2009 Accomplishments:</i>											
FY 2009											
<i>FY 2010 Plans:</i>											
FY 2010											
<i>FY 2011 Base Plans:</i>											
FY 2011 Base											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S55: <i>Counter-Defilade Target Engagement</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 Engineering Evaluation and Training Development		0.000	0.300	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 Program Management		0.000	0.213	0.000	0.000	0.000
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S55: <i>Counter-Defilade Target Engagement</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 Congressional add for High Explosive Air Burst (HEAB) 25mm Ammunition incorrectly placed in Project S55  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO		4.380	0.000	0.000	0.000	0.000
Program #5 Small Business Innovative Research/Small Business Technology Transfer Programs  <i>FY 2009 Accomplishments:</i> FY 2009		0.006	0.073	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>						<b>DATE:</b> February 2010					
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>			<b>PROJECT</b> S55: <i>Counter-Defilade Target Engagement</i>					
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
<i>FY 2010 Plans:</i> FY 2010											
<i>FY 2011 Base Plans:</i> FY 2011 Base											
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Accomplishments/Planned Programs Subtotals						5.382	2.586	0.000	0.000	0.000	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
			<b>FY 2011</b>	<b>FY 2011</b>	<b>FY 2011</b>						
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>Base</b>	<b>OCO</b>	<b>Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>RDTE: PE 0604601A, Project S62</i>	0.000	21.865	34.416	0.000	34.416	10.237	0.605	0.000	0.000	0	67.123
• Ord. #2: <i>WTCV: G16100</i>	0.000	0.000	0.000	0.000	0.000	42.005	46.841	62.049	94.072	0	244.967
<b>D. Acquisition Strategy</b>											
The XM25 IAWS will achieve Milestone B in 3Q FY2010, transitioning to Engineering and Manufacturing Development (EMD) phase. The EMD phase will complete development of the XM25 IAWS and verify training solution for the Milestone C approval in FY 2012. Research and Development acquisition strategy is to use sole source contracting with ATK, Plymouth, MN.											
<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 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S55: <i>Counter-Defilade Target Engagement</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Design, Develop & Fabricate	C	ATK Minneapolis, MN	0.000	2.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	2.000		0.000		0.000		0.000			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering Support	C	Army Research Laboratory Aberdeen Proving Ground, MD	0.000	0.300		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.300		0.000		0.000		0.000			0.000

**Remarks**

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S55: <i>Counter-Defilade Target Engagement</i>
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**Management Services (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management	C	PM Soldier Weapons Picatinny Arsenal, NJ	0.000	0.286		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.286		0.000		0.000		0.000			0.000

**Remarks**

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	0.000	2.586		0.000	0.000			0.000

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S55: <i>Counter-Defilade Target Engagement</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015							
	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 B						#																										

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603827A: <i>Soldier Systems - Advanced Development</i>	<b>PROJECT</b> S55: <i>Counter-Defilade Target Engagement</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
MS B	2	2010	2	2010

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2011 Army</b>									<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603850A: <i>Integrated Broadcast Service</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	9.001	1.468	0.970	0.000	0.970	0.000	0.000	0.000	0.000	0	12.409
472: <i>INTEGRATED BROADCAST SERVICE (MIP)</i>	9.001	1.468	0.970	0.000	0.970	0.000	0.000	0.000	0.000	Continuing	Continuing
<b><u>A. Mission Description and Budget Item Justification</u></b> The Joint Tactical Terminal (JTT) Product Management Office (PMO) supports all Joint services and Special Operations Command (SOCOM). The Integrated Broadcast Service (IBS) is the worldwide Department of Defense (DoD) standard network for transmitting tactical and strategic intelligence and targeting data to all echelons of Joint Service operational users. The JTT PMO's role is to consolidate and replace existing IBS terminal functionality and capability with a common family of Integrated Broadcast Service-Modules (CIBS-M) - both hardware and software - and to expedite execution of the IBS Technical Transition Plan (TTP). The JTT family of systems currently consists of the JTT-Senior, JTT-Briefcase, JTT-IBS and CIBS-M IBS broadcast receiver/transceiver devices. The TTP is a comprehensive refresh effort of the entire IBS network focused on rearchitecting the broadcast from its current multi-broadcast, multi-data format structure, to a single broadcast (Common Interactive Broadcast - CIB) and single data format (Common Message Format - CMF). The JTT/CIBS-M family of systems is a critical component of the TTP as these systems are the only IBS receiver/transceiver devices in the DoD being modernized to support both the new consolidated broadcast architecture and the National Security Agencies (NSA) crypto modernization mandate. The JTT family of system upgrades is imperative/essential to execute the over-the-air broadcast portion of the TTP in the near term to avoid a complete cessation of IBS data flow via the existing over-the-air IBS broadcast networks. The JTT/CIBS-M family of modules will be the official IBS producer, ensuring continued IBS interoperability to a variety of tactical receivers across DoD and the services throughout the TTP implementation period and beyond. This program funds the design, development, test and evaluation of JTT/CIBS-M hardware and software modules, as well as implementing performance enhancements to the family of JTT equipment. This is necessary to ensure crypto modernization compliance and to facilitate migration to a rearchitected CIB and CMF-based IBS broadcast structure. Funds also support JTT/CIBS-M training, equipping and supporting the Warfighter with improved Joint Readiness and Interoperability. FY10/11 Funds support the development of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard DoD Network and NSA Certification.											

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603850A: <i>Integrated Broadcast Service</i>
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**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	11.201	1.476	0.975	0.000	0.975
Current President's Budget	9.001	1.468	0.970	0.000	0.970
Total Adjustments	-2.200	-0.008	-0.005	0.000	-0.005
• Congressional General Reductions		-0.008			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.200	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.005	0.000	-0.005

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603850A: <i>Integrated Broadcast Service</i>				<b>PROJECT</b> 472: <i>INTEGRATED BROADCAST SERVICE (MIP)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
472: <i>INTEGRATED BROADCAST SERVICE (MIP)</i>	9.001	1.468	0.970	0.000	0.970	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>The Joint Tactical Terminal (JTT) Product Management Office (PMO) supports all Joint services and Special Operations Command (SOCOM). The Integrated Broadcast Service (IBS) is the worldwide Department of Defense (DoD) standard network for transmitting tactical and strategic intelligence and targeting data to all echelons of Joint Service operational users. The JTT PMO's role is to consolidate and replace existing IBS terminal functionality and capability with a common family of Integrated Broadcast Service-Modules (CIBS-M) - both hardware and software - and to expedite execution of the IBS Technical Transition Plan (TTP). The JTT family of systems currently consists of the JTT-Senior, JTT-Briefcase, JTT-IBS and CIBS-M IBS broadcast receiver/transceiver devices. The TTP is a comprehensive refresh effort of the entire IBS network focused on rearchitecting the broadcast from its current multi-broadcast, multi-data format structure, to a single broadcast (Common Interactive Broadcast - CIB) and single data format (Common Message Format - CMF). The JTT/CIBS-M family of systems is a critical component of the TTP as these systems are the only IBS receiver/transceiver devices in the DoD being modernized to support both the new consolidated broadcast architecture and the National Security Agencies (NSA) crypto modernization mandate. The JTT family of system upgrades is imperative/essential to execute the over-the-air broadcast portion of the TTP in the near term to avoid a complete cessation of IBS data flow via the existing over-the-air IBS broadcast networks. The JTT/CIBS-M family of modules will be the official IBS producer, ensuring continued IBS interoperability to a variety of tactical receivers across DoD and the services throughout the TTP implementation period and beyond. This program funds the design, development, test and evaluation of JTT/CIBS-M hardware and software modules, as well as implementing performance enhancements to the family of JTT equipment. This is necessary to ensure crypto modernization compliance and to facilitate migration to a rearchitected CIB and CMF-based IBS broadcast structure. Funds also support JTT/CIBS-M training, equipping and supporting the Warfighter with improved Joint Readiness and Interoperability. FY11 Funds support the development and integration of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard DoD Network.</p>											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1 NSA Certification							1.001	0.000	0.000	0.000	0.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603850A: <i>Integrated Broadcast Service</i>	<b>PROJECT</b> 472: <i>INTEGRATED BROADCAST SERVICE (MIP)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #2 JTT IBS CIB Development, Integration and Test		8.000	1.468	0.970	0.000	0.970
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Accomplishments/Planned Programs Subtotals		9.001	1.468	0.970	0.000	0.970

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army		<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0603850A: <i>Integrated Broadcast Service</i>	<b>PROJECT</b> 472: <i>INTEGRATED BROADCAST SERVICE (MIP)</i>

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Ord. #1: V29600 <i>Other Procurement, Army - JTT/CIBS-M (Tiara),</i>	11.343	4.929	3.321	0.000	3.321	0.000	0.000	0.000	0.000	0	19.593

**D. Acquisition Strategy**

As the broadcast networks continue to evolve and modify their formats and protocols, the JTT program will support IBS and various existing and future radios and host systems migrating to the CIB/CMF and continue the legacy broadcasts. Funds support the integration, of the Common Interactive Broadcast (CIB) waveform for migration to the IBS Worldwide standard Department of Defense (DoD) Network. Development for JTT-Senior upgrade kit (COMSEC and Single Board Computer (SBC)).

**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-2, RDT&amp;E Budget Item Justification: PB 2011 Army</b>										<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305205A: <i>Long Endurance Multi-Intelligence Vehicle (LEMV)</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	0.000	0.000	93.000	0.000	93.000	43.000	26.000	26.000	26.000	Continuing	Continuing
LE4: <i>LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)</i>	0.000	0.000	93.000	0.000	93.000	43.000	26.000	26.000	26.000	Continuing	Continuing
<b>Note</b> This program element funds Long Endurance Multi-Intelligence Vehicle (LEMV) efforts performed by the US Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT).											
<b>A. Mission Description and Budget Item Justification</b> USASMDC/ARSTRAT: Headquarters, Department of the Army General Order Number 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), the Army integrator for global missile defense, and the Army Service Component Command of U.S. Strategic Command (USSTRATCOM). Army Regulation (AR) 10-87 Army Commands, Army Service Component Commands, and Direct Reporting Units, dated 4 September 2007 and AR 5-22 The Army Force Modernization Proponent System dated 19 August 2009 designates USASMDC/ARSTRAT as the Army specified proponent for Global Missile Defense and Space/High Altitude capabilities. Project LE4 funds the LEMV. The LEMV will be utilized to provide persistent Intelligence, Surveillance and Reconnaissance (ISR) support in multiple environments, including combat areas. Technical objectives for the LEMV include an unmanned aerial system capable of being controlled through an existing Department of Defense ground station, 3 week flight endurance, 2,500 pound sensor payload, 20,000 feet operating altitude, multi-intelligence capable, 16 kilowatts of power for payload, capable of station keeping (the capability to loiter or maintain position over a required mission area in different types of weather), recoverable and reusable.											

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2011 Army	<b>DATE:</b> February 2010
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305205A: <i>Long Endurance Multi-Intelligence Vehicle (LEMV)</i>
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**B. Program Change Summary (\$ in Millions)**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	93.000	0.000	93.000
Total Adjustments	0.000	0.000	93.000	0.000	93.000
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	0.000	0.000	93.000	0.000	93.000

**Change Summary Explanation**

Change Summary Explanation: FY2011: Funding for the Long Endurance Multi-Intelligence Vehicle (LEMV) was moved from program element (PE) 0603308A to 0305205A.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0305205A: <i>Long Endurance Multi-Intelligence Vehicle (LEMV)</i>				<b>PROJECT</b> LE4: <i>LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
LE4: <i>LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)</i>	0.000	0.000	93.000	0.000	93.000	43.000	26.000	26.000	26.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The Long Endurance Multi-Intelligence Vehicle (LEMV) will be utilized to provide persistent Intelligence, Surveillance and Reconnaissance (ISR) support in multiple environments, including combat areas. Technical objectives for the LEMV include an unmanned aerial system capable of being controlled through a Department of Defense ground station, 3 week flight endurance, 2,500 pound sensor payload, 20,000 feet operating altitude, multi-intelligence capable, 16 kilowatts of power for payload, capable of station keeping (the capability to loiter or maintain position over a required mission area in different types of weather), recoverable and reusable.</p>											
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
							<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Program #1  Develop and maintain LEMV program plans and strategies. Program management for LEMV materiel development and acquisition planning, testing, and initial demonstration planning.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							0.000	0.000	3.000	0.000	3.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305205A: <i>Long Endurance Multi-Intelligence Vehicle (LEMV)</i>	<b>PROJECT</b> LE4: <i>LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
<p>Program #2</p> <p>Define LEMV system architectural requirements and coordinate with combat developer on concept of operations. Coordinate with other Services on technology development. Conduct system engineering and trade studies on viable concepts. Identify risk areas in technical performance, sustainability, cost and schedule. Develop materiel acquisition documentation to support milestone decisions and contracting actions.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>		0.000	0.000	5.000	0.000	5.000
<p>Program #3</p> <p>Conduct risk reduction efforts that include prototyping system representative command and control sub-elements to validate critical command and control connectivity and battle management functional processes early in development to show successful demonstration. Engineering testing includes characterization and demonstration of sub-system interfaces, demonstrations/validations of sub-subsystem functional interactions, validation of technology integration and performance objectives for sub-system processors, and collection of supportability</p>		0.000	0.000	5.000	0.000	5.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305205A: <i>Long Endurance Multi-Intelligence Vehicle (LEMV)</i>	<b>PROJECT</b> LE4: <i>LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)</i>				
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
<p>related data required for development of the integrated logistic support package. Sub-system testing will be conducted to validate technology maturity.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p> <p><i>FY 2011 OCO Plans:</i> FY 2011 OCO</p>						
<p>Program #4</p> <p>Design, fabricate, and integrate platform, payload and ground station, conduct Preliminary Design Review and Critical Design Reviews, Developmental/Operational testing and sustainment.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p> <p><i>FY 2011 Base Plans:</i> FY 2011 Base</p>		0.000	0.000	80.000	0.000	80.000

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Army				<b>DATE:</b> February 2010							
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0305205A: <i>Long Endurance Multi-Intelligence Vehicle (LEMV)</i>		<b>PROJECT</b> LE4: <i>LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)</i>							
<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
				<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>			
<i>FY 2011 OCO Plans:</i> FY 2011 OCO											
Accomplishments/Planned Programs Subtotals				0.000	0.000	93.000	0.000	93.000			
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• Ord. #1: <i>PE 0603308A, Project 978</i>	0.000	79.583	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	79.583
<b>D. Acquisition Strategy</b>											
<p>The Army established an Other Transaction Authority (OTA) for this acquisition with the intention of increasing participation from non-traditional Department of Defense contractors. This acquisition is being pursued as a rapid acquisition and must complete Developmental and Operational testing within 18 months of award. As an OTA prototype acquisition, this requirement is subject to individual negotiation and bidders that can meet the stated requirements.</p>											
<b>E. Performance Metrics</b>											
<p>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.</p>											

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305205A: <i>Long Endurance Multi-Intelligence Vehicle (LEMV)</i>	<b>PROJECT</b> LE4: <i>LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)</i>
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**Product Development (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Sub-system risk reduction, testing, and validation	C/Variou	Various Location could not be determined.	0.000	0.000		5.000		0.000		5.000	Continuing	Continuing	0
Design, development, and sub-system integration	C/Variou	Various Location could not be determined.	0.000	0.000		50.000		0.000		50.000	Continuing	Continuing	0
Developmental/Operational testing and sustainment	C/Variou	Various Location could not be determined.	0.000	0.000		30.000		0.000		30.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		85.000		0.000		85.000			0.000

**Remarks**

**Support (\$ in Millions)**

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government support and support contracts	C/Variou	Various Location could not be determined.	0.000	0.000		8.000		0.000		8.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		8.000		0.000		8.000			0.000

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305205A: <i>Long Endurance Multi-Intelligence Vehicle (LEMV)</i>	<b>PROJECT</b> LE4: <i>LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)</i>
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	FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	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
Concept Development and Engineering Trade Studies								#																				
Sub-System Risk Reduction, Testing and Validation								#	#	#																		
Design, Development, and Sub-System Integration								#	#	#	#	#	#	#														
System Development, Developmental/Operational Testing, and Prototype Sustainment									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#

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**Exhibit R-4A, RDT&E Schedule Details: PB 2011 Army** **DATE:** February 2010

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0305205A: <i>Long Endurance Multi-Intelligence Vehicle (LEMV)</i>	<b>PROJECT</b> LE4: <i>LONG ENDURANCE MULTI-INTELLIGENCE VEHICLE (LEMV)</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Concept Development and Engineering Trade Studies	4	2010	4	2010
Sub-System Risk Reduction, Testing and Validation	4	2010	2	2011
Design, Development, and Sub-System Integration	4	2010	2	2012
System Development, Developmental/Operational Testing, and Prototype Sustainment	1	2011	3	2015

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