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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 5**

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

*Persuasive in Peace, Invincible in War*

**VOLUME V - A**

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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 V  
Budget Activity 5**

**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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 President's Budget FY 2011

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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Exhibit R-1

Appropriation: 2040 A RDT&E, Army

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Program				Thousands of Dollars				
Line No	Element Number	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	Element	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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 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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 FY 2011 RDT&E Program  
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Exhibit R-1

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Program				Thousands of Dollars				
Line	Element	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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Line No.	Program Element	Program Element Title	Page
73	0604201A	AIRCRAFT AVIONICS	477
74	0604220A	Armed, Deployable Helos	501
75	0604270A	Electronic Warfare Development	519
76	0604280A	Joint Tactical Radio	575
77	0604321A	ALL SOURCE ANALYSIS SYSTEM	580
79	0604601A	Infantry Support Weapons	609
80	0604604A	MEDIUM TACTICAL VEHICLES	690
81	0604609A	Smoke, Obscurant and Target Defeating Sys - Eng Dev	703
82	0604611A	JAVELIN (AAWS-M)	725
83	0604622A	Family of Heavy Tactical Vehicles	734
84	0604633A	AIR TRAFFIC CONTROL	755
85	0604642A	LIGHT TACTICAL WHEELED VEHICLES	769
86	0604646A	Non-Line of Sight Launch System	777
87	0604647A	Non-Line of Sight Cannon	807
88	0604660A	FCS Manned Grd Vehicles & Common Grd Vehicle	818
89	0604661A	FCS Systems of Systems Engr & Program Mgmt	855
90	0604662A	FCS Reconnaissance (UAV) Platforms	896
91	0604663A	FCS Unmanned Ground Vehicles	914
92	0604664A	FCS Unattended Ground Sensors	943
93	0604665A	FCS Sustainment & Training R&D	958
94	0604666A	Spin Out Technology/Capability Insertion	1028
95	0604710A	Night Vision Systems - Eng Dev	1042
96	0604713A	Combat Feeding, Clothing, and Equipment	1099
97	0604715A	Non-System Training Devices - Eng Dev	1128
98	0604741A	Air Defense Command, Control and Intelligence - Eng Dev	1151
99	0604742A	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	1189

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</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	60.781	89.508	89.210	0.000	89.210	132.787	166.978	204.531	161.059	Continuing	Continuing
C97: <i>ACFT AVIONICS</i>	60.781	89.508	89.210	0.000	89.210	132.787	166.978	204.531	161.059	Continuing	Continuing

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

FY 2011 budget request funds the development of Aircraft Avionics systems required to horizontally and vertically integrate the battlefield and the integration of those systems into Army aircraft. Tasks in this PE support research, development, and test efforts in the Engineering and Manufacturing Development (EMD) phases of these systems. Aviation Tactical Communication Systems (ATCS) is an Army Aviation Program to develop, integrate, and test the Alternative Communications (Alt Comms) (ARC-231 and ARC-201D) A-Kit (hardware and software) and the Joint Tactical Radio System (JTRS) hardware onto the CH-47F, AH-64D, and UH-60M modernized aircraft. The JTRS is the transformational system that provides Army Aviation interoperability capability for Future Force and Joint Force operations. A delay in the JTRS Cluster 1 program resulted in a lack of critical communications equipment to support modernized Army Aviation aircraft production line requirements and Alt Comms was initiated to mitigate this issue. Alt Comms provides two ARC-231 and two ARC-201D radios with power amplifiers to meet the minimum interim JTRS requirements for Military Satellite Communications, Single Channel Ground and Airborne Radio System (SINCGARS), HAVEQUICK, Very High Frequency (VHF), Air Traffic Control (ATC), and Land Mobile Radio requirements and funds the integration and test of the radios onto each platform. Alt Comms will be Army Aviation's communication solution until it is supplemented by the JTRS Airborne Maritime Fixed (AMF) Small Airborne (SA) radio set, beginning in FY14. Increment 1 of the AMF SA will provide the Wideband Networking Waveform, Soldier Radio Waveform, and Link-16 required for interoperation with the Future Force. Increment 2 of the AMF SA, planned for FY20, will replace the Alt Comms suite and provide legacy waveforms allowing a single hardware solution. JTRS integration efforts planned for FY11 are defining standardized control and data interfaces, continuing development of reusable control software to be provided to JTRS integrators, and continuing integration into the AH-64D using engineering development models. The Improved Data Modem (IDM) is the common solution for digitizing Army Aviation. It performs as an internet controller and gateway to Tactical Internet (TI) and Fire Support (FS) internet for Army aircraft. With interfaces supporting a six channel transmit/receive terminal, the IDM provides radio connectivity to the ARC-201D/231, ARC-186, ARC-164, and the Blue Force Tracker's (BFT) MT-2011 and AVX-06/203 Transceivers. The IDM provides a connection that meets MIL-STD-1553B and ethernet portals for rapid data transfer. IDM provides a flexible, software driven digital messaging system that is interoperable with existing Army and Joint forces battlefield operating systems. The IDM provides Situational Awareness and Variable Message Format messages capability to the cockpit. FY11 funds are required to commence development and testing of Joint Battle Command-Platform (Aviation) (JBC-P(A)). FY11 funds are also required to continue development of an Open Systems Architecture (OSA) IDM solution compatible with the AH-64D, CH-47F, and HH/UH-60M. This effort provides the foundation to develop and qualify a new hardware architecture to host IDM and Future Combat System (FCS) Unified Battle Command (UBC) and System Of Systems Common Operating Environment (SOSCOE) applications to ensure interoperability on the future digital battlefield. The Joint Precision Approach and Landing System (JPALS) is a precision approach and landing system providing joint operational capability for U.S. forces assigned to conventional and special operations missions including those operating from fixed base, ship, tactical, and special mission environments under a wide range of meteorological and jamming conditions. The JPALS effort in this project evaluates technical approaches, develops the aircraft avionics equipment for operation with the JPALS sea-based and ground systems, and integrates the avionics equipment into the various Army Aviation platforms. Increment 1 has

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>	
<p>now been split into Increment 1A (Sea Based development and test) and Increment 1B (aircraft avionics development, integration, and test). The Army's involvement in Increment 1A is to address Army requirements, participate in program management and provide systems engineering, and participate in the Aircraft Integration Guide effort which will provide early coordination and interface requirements between the sea-based system and the air component. ARC-220 radio improvements are required to increase operational capability and resolve emerging obsolescence issues. Software improvements will provide a quick Automatic Linking Process which will reduce the time for the radio to establish a communication link by more than 50%, improve secure voice reliability, and add automatic position reporting capability. FY11 funds will complete ARC-220 software and test system changes. The Aviation Mission Planning System (AMPS) is a mission planning/battle synchronization tool that automates aviation mission planning tasks, including tactical command and control, mission planning, and flight planning. It interfaces with Army Battle Command Systems (ABCS) and associated networks which furnish the aviation commander with continuous situational awareness, allowing the commander to rapidly adjust mission plans. The electronic formats are loaded onto the aircraft platforms, initializing the communication, navigation, situational awareness, and weapons systems on modernized fleet aircraft including the AH-64A/D, CH-47D/F, Kiowa Warrior (OH-58D), UH-60A/L/M/Q, HH-60L, and Unmanned Aerial Systems (UAS). This effort will allow for the integration of new route server, calculation engine, and tabular editor components into the AMPS configuration and modifications to the Aircraft Weapons Electronics (AWE) modules to make use of the new components. FY11 funds are required for software development and testing. A requirement exists for Apache Block III to be interoperable through the future force network. Funds are included in this project for the integration of the FCS SOSCOE/UBC middleware into the Apache Block III. This includes the non-recurring engineering for integration, test, and air worthiness qualification. As part of the Army's migration to a net-centric fighting force, it is necessary for aircraft to access certain critical services that enable seamless access and operation on the future force network. At the tactical level, the FCS SOSCOE/UBC provides these services for proper functioning on the Modernized Brigade Combat Team network. FY11 funds are to continue integration of FCS SOSCOE/UBC onto the Apache Block III. The Aviation Data Exploitation Capability (ADEC) is an Army Aviation program to develop, integrate, and test specific capabilities needed at the Aviation unit level to implement and support improvements within aviation maintenance, operations, safety and training. FY11 funds are required to design, develop, and test an ADEC automated information system. The helicopter terrain awareness and warning system (HTAWS) is an Army Program to develop, integrate, and test technology to reduce the risks of controlled flight into terrain. The system will be fully integrated on CH-47F, AH-64D, and UH60 modernized aircraft.</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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</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	71.325	92.977	84.084	0.000	84.084
Current President's Budget	60.781	89.508	89.210	0.000	89.210
Total Adjustments	-10.544	-3.469	5.126	0.000	5.126
• Congressional General Reductions		-0.469			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-3.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-8.576	0.000			
• SBIR/STTR Transfer	-1.968	0.000			
• Adjustments to Budget Years	0.000	0.000	5.126	0.000	5.126

**Change Summary Explanation**

Change Summary Explanation: Funding Changes: FY09 -\$10,544K \$2.300M reprogrammed to Air Traffic Control (ATC) to procure 2nd Engineering Development Model for MOTS program; \$1.423M reprogrammed to ATC to provide development/testing support for TAIS efforts for Weather Deconfliction & Information Svcs, MAYDAY, and Air Tasking Order Execution/Avn Spt Request Svc; \$4.853M reprogrammed by HQDA.FY10 Changes: -\$0.469M Economic Assumptions & FFRDC decrements; -\$3.000M Congressional decrement due to unjustified program growth.FY11 Changes: +\$5.126M for Helicopter Terrain Awareness and Warning System

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>	<b>PROJECT</b> C97: <i>ACFT AVIONICS</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
<i>C97: ACFT AVIONICS</i>	60.781	89.508	89.210	0.000	89.210	132.787	166.978	204.531	161.059	Continuing	Continuing
Quantity of RDT&E Articles											

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

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>	<b>PROJECT</b> C97: <i>ACFT AVIONICS</i>
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now been split into Increment 1A (Sea Based development and test) and Increment 1B (aircraft avionics development, integration, and test). The Army's involvement in Increment 1A is to address Army requirements, participate in program management and provide systems engineering, and participate in the Aircraft Integration Guide effort which will provide early coordination and interface requirements between the sea-based system and the air component. ARC-220 radio improvements are required to increase operational capability and resolve emerging obsolescence issues. Software improvements will provide a quick Automatic Linking Process which will reduce the time for the radio to establish a communication link by more than 50%, improve secure voice reliability, and add automatic position reporting capability. FY11 funds will complete ARC-220 software and test system changes. The Aviation Mission Planning System (AMPS) is a mission planning/battle synchronization tool that automates aviation mission planning tasks, including tactical command and control, mission planning, and flight planning. It interfaces with Army Battle Command Systems (ABCS) and associated networks which furnish the aviation commander with continuous situational awareness, allowing the commander to rapidly adjust mission plans. The electronic formats are loaded onto the aircraft platforms, initializing the communication, navigation, situational awareness, and weapons systems on modernized fleet aircraft including the AH-64A/D, CH-47D/F, Kiowa Warrior (OH-58D), UH-60A/L/M/Q, HH-60L, and Unmanned Aerial Systems (UAS). This effort will allow for the integration of new route server, calculation engine, and tabular editor components into the AMPS configuration and modifications to the Aircraft Weapons Electronics (AWE) modules to make use of the new components. FY11 funds are required for software development and testing. A requirement exists for Apache Block III to be interoperable through the future force network. Funds are included in this project for the integration of the FCS SOSCOE/UBC middleware into the Apache Block III. This includes the non-recurring engineering for integration, test, and air worthiness qualification. As part of the Army's migration to a net-centric fighting force, it is necessary for aircraft to access certain critical services that enable seamless access and operation on the future force network. At the tactical level, the FCS SOSCOE/UBC provides these services for proper functioning on the Modernized Brigade Combat Team network. FY11 funds are to continue integration of FCS SOSCOE/UBC onto the Apache Block III. The Aviation Data Exploitation Capability (ADEC) is an Army Aviation program to develop, integrate, and test specific capabilities needed at the Aviation unit level to implement and support improvements within aviation maintenance, operations, safety and training. FY11 funds are required to design, develop, and test an ADEC automated information system. The helicopter terrain awareness and warning system (HTAWS) is an Army Program to develop, integrate, and test technology to reduce the risks of controlled flight into terrain. The system will be fully integrated on CH-47F, AH-64D, and UH60 modernized aircraft.

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

	<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 A-Kit Development, Integration and System Testing of Alt Comms for AH-64D, CH-47F, and UH-60M and integration of JTRS AMF-SA onto aviation platforms (ATCS)  <i>FY 2009 Accomplishments:</i> FY 2009	37.611	37.518	15.282	0.000	15.282

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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>
<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 Continue System Engineering, Antenna Support and Logistics Effort (ATCS)  <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		2.050	2.093	2.137	0.000	2.137
Program #3 Program Management Support for A-Kit Development (ATCS)		2.607	2.311	2.199	0.000	2.199

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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 #4 Continue Test and Evaluation Support (ATCS)		1.286	1.313	1.341	0.000	1.341
<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		3.300	8.823	1.657	0.000	1.657

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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>
Develop and qualify OSA hardware to host IDM and FCS SOSCOE and FCS BC (IDM)						
<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		0.174	0.250	0.262	0.000	0.262
Program Management Support (IDM)						
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>	<b>PROJECT</b> C97: <i>ACFT AVIONICS</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  Continue to provide system engineering, product support, and programmatic, cost, test, and technical documentation for JPALS development efforts (JPALS)  <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		1.307	1.153	1.147	0.000	1.147
Program #8  Continue JPALS Avionics Risk Reduction (JARR) and develop/define requirements and interfaces between the JPALS Sea-Based system and the air components (Air Integration Guides(AIG))(JPALS)  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		11.763	17.884	16.980	0.000	16.980

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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 #9 Continue JPALS Test and Evaluation planning (JPALS)		0.140	0.511	1.962	0.000	1.962
<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 Program Management Support (JPALS)		0.543	0.570	0.598	0.000	0.598
<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 #11 Develop and test software and hardware improvements to the ARC-220 radio  <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	3.288	0.347	0.000	0.347
Program #12 Upgraded/New component integration and AWE modification (AMPS)  <i>FY 2009 Accomplishments:</i> FY 2009				0.000	2.354	2.664	0.000	2.664

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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 #13 Test and Evaluation Support (AMPS)  <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	0.340	0.000	0.340
Program #14 Begin FCS SOSCOE development and integration onto Apache Block III				0.000	8.972	15.048	0.000	15.048

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>	<b>PROJECT</b> C97: <i>ACFT AVIONICS</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 #15 JBC-P(A) development and testing		0.000	0.000	16.000	0.000	16.000
<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 #16		0.000	0.000	8.386	0.000	8.386

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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>
Develop and test ADEC software and 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						
Program #17 Program Management Support (ADEC)  <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	0.500	0.000	0.500

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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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>		<b>PROJECT</b> C97: <i>ACFT AVIONICS</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 #18 System Engineering, Logistics, and Technical Support (ADEC)  <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	2.360	0.000	2.360
Program #19 Small Business Innovative Research/Small Business Technology Transfer (SBIR/STTR) Reduction  <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	2.468	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>			<b>PROJECT</b> C97: <i>ACFT AVIONICS</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						60.781	89.508	89.210	0.000	89.210	
<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>Airborne Avionics SSN AA0700</i>	146.974	233.706	219.425	24.983	244.408	267.846	275.095	330.597	349.355	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
<p>This project is comprised of multiple systems: 1) ATCS - Alt Comms is required to meet minimum acceptable near-term communications requirements as defined by the U.S. Army Aviation Center of Excellence (USAACE) to mitigate production line communications equipment gaps for modernized Army aircraft (UH-60M, CH-47F, and AH-64D). The Alt Comms acquisition strategy is to use currently available communications equipment to fill these gaps. However, this equipment must be incorporated onto the modernized aviation platforms through A-Kit development, platform hardware and software development/integration, and platform testing of the Alt Comms suite. JTRS is a software programmable radio system that enables net-centric communications capabilities. Army Aviation is now aligned with the Airborne Maritime Fixed (AMF) JTRS program and is planning to initiate JTRS Increment 1 fielding on Apache Block III as the lead aircraft. The CH-47F and UH-60M integration of the Increment 1 capabilities will be delayed, with initial fielding on those platforms beyond FY15. Increment 1 of the AMF JTRS program will provide the Wideband Networking Waveform, Soldier Radio Waveform, and LINK-16 required for interoperation with the Future Force. Increment 2, planned for FY20, replaces Alt Comms and will provide all legacy waveforms. These efforts will be accomplished using host platform development contracts, integration labs, and Airworthiness testing and certification. 2) IDM - Develop and qualify a new hardware architecture and integrate IDM OSA applications onto the new hardware. Develop and test Joint Battle Command-Platform (Aviation) (JBC-P(A)). These development efforts will be accomplished by Aviation and Missile Command (AMCOM) Software Engineering Directorate (SED). 3) JPALS - The Navy is the lead service for this joint program. An updated JPALS acquisition strategy separates Increment 1 into two increments (1A and 1B). Increment 1A provides for development, integration, and test of the shipboard system. Increment 1B provides for development, integration, and testing of the aircraft avionics system. The Army activity in the budget years, focused on the aircraft component, is to complete the current risk reduction effort and Technology Development (TD) phase. Army Aviation avionics TD includes a series of JPALS Avionics Risk Reduction (JARR) sole source, cost-plus fixed fee, firm fixed price, and time and materials contracts to reduce technical risk on critical components. Army will also participate in the Aircraft Integration Guide (AIG) effort which is part of the JPALS Increment 1A EMD contract. The output of the JARR and AIG contracts will be used to evaluate potential technical approaches and define the best solution. Based on that evaluation, contracts will be awarded for development, integration, and test of JPALS avionics beginning in FY12. Development will be done through either a Cost-Plus or Fixed Price Incentive contract. Aircraft platform integration and test will be accomplished using host platform contracts beginning with UH-60M. 4) ARC-220 - The ARC-220 box level software improvements will be done through a sole-source cost-plus fixed fee contract with Rockwell Collins. 5) AMPS - The core Portable Flight Planning Software (PFPS) will be improved by developing new route server,</p>											

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<p>calculation engine and tabular editor components in coordination with the Air Force Intelligence, Surveillance, and Reconnaissance Innovations Directorate and Unmanned Aerial Systems Task Force (AF/A2U) and the Special Operations Forces Mission Planning Office (SOFMPO) to ensure continued interoperability with other DoD components. Army-specific components and platform-specific Aircraft Weapons Electronics modules (AWEs) will be upgraded to work with new components. This contracted effort will be executed through the Army Research and Development Command's (RDECOM) Software Engineering Directorate (SED).6) FCS/UBC Interoperability - As a result of the OUSD-ATL FCS BCT Acquisition Decision Memorandum, system engineering efforts are required to participate in future Modernized Brigade Combat Team joint experimentation, implementation of UBC capabilities as defined by Task Force 120 and the ASAALT Networking Tiger Team, and the implementation of FCS SOSCOE network services to support Apache Block III through FY13.7) ADEC- Develop and qualify new hardware and develop and integrate software applications into the new hardware. This development effort will be accomplished by various contract methods and types.</p> <p><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.</p>		

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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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**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 A-kits, integrate, and test Alt Comms. Integrate JTRS AMF-SA onto aviation platforms (ATCS)	C/Various	Boeing AZ, PA, and CA; Rockwell Collins, Cedar Rapids, I	180.628	37.518		15.282		0.000		15.282	Continuing	Continuing	0
Develop and qualify OSA hardware to host IDM and FCS SOSCOE and FCS BC (IDM)	SS/CPFF	ICI McLean, VA	14.220	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Develop and qualify OSA hardware to host IDM and FCS SOSCOE and FCS BC (IDM) - 2	C/CPFF	Various Location could not be determined.	0.000	8.823		1.657		0.000		1.657	Continuing	Continuing	0
JPALS Avionics Risk Reduction (JARR) and Air Integration Guides (AIG) (JPALS)	C/Various	Honeywell FL (JARR). Boeing, PA; Rockwell Collins, IA; S	6.784	17.884		16.980		0.000		16.980	Continuing	Continuing	0
ARC-220 operational capability improvements	SS/CPFF	Rockwell Collins Cedar Rapids, IA	0.000	1.600		0.000		0.000		0.000	Continuing	Continuing	0
FCS SOSCOE development and integration onto Apache Block III	C/TBD	TBD Location could not be determined.	0.000	8.972		15.048		0.000		15.048	Continuing	Continuing	0
JBC-P(A) development and testing (IDM)	C/CPFF	Various Location could not be determined.	0.000	0.000		16.000		0.000		16.000	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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**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			
Upgraded/New component integration/AWE modifications (AMPS)	C/Variou	TBD Location could not be determined.	0.000	2.354		2.664		0.000		2.664	Continuing	Continuing	0
Develop and test ADEC software and hardware	C/Variou	TBD Location could not be determined.	0.000	0.000		8.386		0.000		8.386	Continuing	Continuing	0
<b>Subtotal</b>			201.632	77.151		76.017		0.000		76.017			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			
System Engineering, Antenna Integration Support and Logistics Efforts (ATCS)	C/Variou	Westar Quantum, Tecolote, AL; ARINC, CSC, NJ	6.962	2.093		2.137		0.000		2.137	Continuing	Continuing	0
System Engineering, Logistics, and Technical Support (JPALS)	C/Variou	Various Location could not be determined.	4.217	1.153		1.147		0.000		1.147	Continuing	Continuing	0
System Engineering, Logistics, and Technical Support (ADEC)	C/Variou	Various Location could not be determined.	0.000	0.000		2.360		0.000		2.360	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>	<b>PROJECT</b> C97: <i>ACFT AVIONICS</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			
<b>Subtotal</b>			11.179	3.246		5.644		0.000		5.644			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			
Test and Evaluation (ATCS)	C	Various Location could not be determined.	5.085	1.313		1.341		0.000		1.341	Continuing	Continuing	0
Test and Evaluation (JPALS)	C	Various Location could not be determined.	0.000	0.511		1.962		0.000		1.962	Continuing	Continuing	0
Test and Evaluation (ARC-220)	C	Various Location could not be determined.	0.000	1.688		0.347		0.000		0.347	Continuing	Continuing	0
Test and Evaluation (AMPS)	C	Various Location could not be determined.	0.000	0.000		0.340		0.000		0.340	Continuing	Continuing	0
<b>Subtotal</b>			5.085	3.512		3.990		0.000		3.990			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>				<b>PROJECT</b> C97: <i>ACFT AVIONICS</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			
PM Spt (ATCS)	C	AMCOM Redstone Arsenal, AL/PM AME	8.560	2.311		2.199		0.000		2.199	Continuing	Continuing	0
PM Spt (IDM)	C	AMCOM Redstone Arsenal, AL/PM AME	1.671	0.250		0.262		0.000		0.262	Continuing	Continuing	0
PM Spt (JPALS)	C	AMCOM Redstone Arsenal, AL/PM AME	0.667	0.570		0.598		0.000		0.598	Continuing	Continuing	0
PM Spt (ADEC)	C	AMCOM Redstone Arsenal, AL/PD ANMP, PEO AVN	0.000	0.000		0.500		0.000		0.500	Continuing	Continuing	0
SBIR/STTR	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	2.468		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			10.898	5.599		3.559		0.000		3.559			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>	228.794	89.508		89.210		0.000		89.210			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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>			<b>PROJECT</b> C97: <i>ACFT AVIONICS</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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>	<b>PROJECT</b> C97: <i>ACFT AVIONICS</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
ARC-220 Software Development and Testing				#	#	#	#	#	#	#																		
FCS SOSCOE Integration on Apache Blk III					#	#	#	#	#	#	#	#	#	#	#	#	#	#	#									
Upgraded/New Component Integration/AWE modules (AMPS)					#	#	#	#	#	#	#	#	#	#	#													
JBC-P(A) Development and Testing									#	#	#	#	#	#	#	#	#											
Develop Hardware and Software (ADEC)									#	#	#	#																

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604201A: <i>AIRCRAFT AVIONICS</i>	<b>PROJECT</b> C97: <i>ACFT AVIONICS</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
ARC-220 Software Development and Testing	4	2009	2	2011
FCS SOSCOE Integration on Apache Blk III	1	2010	3	2013
Upgraded/New Component Integration/AWE modules (AMPS)	1	2010	3	2012
JBC-P(A) Development and Testing	4	2010	1	2013
Develop Hardware and Software (ADEC)	4	2010	3	2011

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</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	63.017	66.169	72.550	0.000	72.550	21.293	35.142	32.908	55.177	Continuing	Continuing
538: <i>KIOWA WARRIOR</i>	35.342	61.912	70.461	0.000	70.461	16.532	9.302	2.154	0.000	Continuing	Continuing
53H: <i>ARMED RECONNAISSANCE HELICOPTER (ARH)</i>	27.675	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
53Z: <i>ARMED SCOUT HELICOPTER</i>	0.000	4.257	2.089	0.000	2.089	4.761	25.840	30.754	55.177	Continuing	Continuing

**Note**

Program Element 0604220A includes Kiowa Warrior (Project 538), Armed Scout Helicopter (Project 53Z), and Armed Reconnaissance Helicopter (Project 53H).

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

An Acquisition Decision Memorandum (ADM) was signed by the Defense Acquisition Executive (DAE) on October 17, 2008 authorizing termination of the existing Armed Reconnaissance Helicopter (ARH) program. Continuance of effort will be required to fully execute termination of the System Development and Demonstration (SDD) contract. The Kiowa Warrior (KW) funding line (Project 538) develops, integrates and tests modifications which will allow the OH-58D to continue to safely serve as the Army's armed reconnaissance aviation capability until replaced/retired. An ACAT II program, KW Cockpit And Sensor Upgrade Program (CASUP), was established to address capability shortfalls, obsolescence, and performance issues with the current fielded fleet. KW CASUP is not the alternative solution to meet the ARH capability. The Armed Scout Helicopter funding line (Project 53Z) has been established to fund the Analysis of Alternatives (AoA) and milestone documentation development in support of efforts to identify a replacement for the aging KW fleet.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</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	135.205	69.794	112.732	0.000	112.732
Current President's Budget	63.017	66.169	72.550	0.000	72.550
Total Adjustments	-72.188	-3.625	-40.182	0.000	-40.182
• 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	-1.741			
• Adjustments to Budget Years	-72.188	-1.538	-40.182	0.000	-40.182
• Economic Assumption	0.000	-0.278	0.000	0.000	0.000
• FFRDC	0.000	-0.068	0.000	0.000	0.000

**Change Summary Explanation**

Change Summary Explanation: Funding - FY 2009: \$10 million was rescinded by Congress in the FY 2009 Overseas Contingency Operations Act. FY 2009: \$6 million was decremented to cover the omnibus shortfall. FY 2009, 2010, 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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>				<b>PROJECT</b> 538: <i>KIOWA WARRIOR</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>
538: <i>KIOWA WARRIOR</i>	35.342	61.912	70.461	0.000	70.461	16.532	9.302	2.154	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The OH-58D Kiowa Warrior is a two-seat, single-engine, observation, scout/attack helicopter with four main rotor blades. It utilizes a thermal-imaging system and a laser rangefinder/designator in a mast-mounted sight situated above the main rotor system. The aircraft is equipped with a variety of weapon systems including: HELLFIRE, 2.75-inch rockets, and a .50-caliber machine gun. The aircraft operates autonomously at standoff ranges providing armed reconnaissance, command and control, and target acquisition/designation for Apache helicopters and other airborne weapons platforms in day, night, and adverse-weather conditions. The Active Army and the National Guard fly Kiowa Warriors. Funding develops, integrates and qualifies modifications to support Kiowa Warrior missions - principally the ACAT II Kiowa Warrior Cockpit and Sensor Upgrade Program (CASUP). These upgrades to the Kiowa Warrior will extend the useful life of the aircraft and allow it to continue to safely serve as the Army's armed reconnaissance, aviation platform through its operation service end date of FY2025. The modifications planned will address issues with weight, safety, interoperability, survivability, and sustainability to enhance mission capability.</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							27.911	44.756	43.653	0.000	43.653
Development and Integration											
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>	<b>PROJECT</b> 538: <i>KIOWA WARRIOR</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 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		1.816	6.300	13.712	0.000	13.712
Program #3 Program Management <i>FY 2009 Accomplishments:</i> FY 2009 <i>FY 2010 Plans:</i> FY 2010		2.926	2.318	2.411	0.000	2.411

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>	<b>PROJECT</b> 538: <i>KIOWA WARRIOR</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		2.689	8.538	10.685	0.000	10.685
Engineering Support 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						
Accomplishments/Planned Programs Subtotals		35.342	61.912	70.461	0.000	70.461

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>	<b>PROJECT</b> 538: <i>KIOWA WARRIOR</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>AZ22000 - Kiowa Warrior</i>	120.151	174.669	94.400	187.288	281.688	233.632	253.993	228.483	119.071	Continuing	Continuing

**D. Acquisition Strategy**

The Government will serve as the Lead Systems Integrator managing multiple contracts.

**E. Performance Metrics**

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

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<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>				<b>PROJECT</b> 538: <i>KIOWA WARRIOR</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			
Development and Integration (Core Funding)	C/Various	Various Activities Location could not be determined.	7.725	44.756		43.653		0.000		43.653	Continuing	Continuing	0
<b>Subtotal</b>			7.725	44.756		43.653		0.000		43.653			0.000

**Remarks**  
.FY2011 Core funding will provide both contractor and in-house development and integration efforts for Cockpit And Sensor Upgrade Program (CASUP).

**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 (Core Funding)	C/Various	Various Activities Location could not be determined.	0.440	2.318		2.411		0.000		2.411	Continuing	Continuing	0
<b>Subtotal</b>			0.440	2.318		2.411		0.000		2.411			0.000

**Remarks**  
.FY 2011 Core funding will fund Armed Scout Helicopter (ASH) Government and contractor Program Management support for CASUP.

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>				<b>PROJECT</b> 538: <i>KIOWA WARRIOR</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			
Test and Evaluation (Core Funding)	C	Various Activities Location could not be determined.	2.488	6.300		13.712		0.000		13.712	Continuing	Continuing	0
<b>Subtotal</b>			2.488	6.300		13.712		0.000		13.712			0.000

**Remarks**

.FY 2011 Core Funding will provide CASUP test and evaluation activities conducted by Redstone Test Center (RTC), Aviation Applied Technology Directorate (AATD), Developmental Test Command(DTC), and Operational Test Command (OTC).

**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			
Engineering Support Activities (Core Funding)	C	Various Activities Location could not be determined.	0.351	8.538		10.685		0.000		10.685	Continuing	Continuing	0
<b>Subtotal</b>			0.351	8.538		10.685		0.000		10.685			0.000

**Remarks**

.FY 2011 Core Funding will provide CASUP engineering support activities performed by Aviation Engineering Directorate (AED) and Software Engineering Directorate (SED).

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

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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>	11.004	61.912	70.461	0.000	70.461			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>	<b>PROJECT</b> 538: <i>KIOWA WARRIOR</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
Test and Evaluation (Core Funding)							#	#	#	#	#	#	#	#	#	#	#	#										

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>	<b>PROJECT</b> 538: <i>KIOWA WARRIOR</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Test and Evaluation (Core Funding)	3	2010	2	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>				<b>PROJECT</b> 53H: <i>ARMED RECONNAISSANCE HELICOPTER (ARH)</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>
53H: <i>ARMED RECONNAISSANCE HELICOPTER (ARH)</i>	27.675	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>An Acquisition Decision Memorandum (ADM) was signed by the Defense Acquisition Executive (DAE) on October 17, 2008 authorizing termination of the existing Armed Reconnaissance Helicopter (ARH) program. Continuance of effort will be required to fully execute the termination of the System Development and Demonstration (SDD) contract. FY09 funding was used to support Materiel Development Decision (MDD) for Armed Scout Helicopter (Project 53Z). The \$11.000 million of FY09 funding was decremented by \$6.000 million for a new total of \$5.000 million to cover the omnibus shortfall, due to a request from the Assistant Secretary of the Army for Financial Management and Comptroller (ASA FMC).</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							27.675	0.000	0.000	0.000	0.000
Kiowa Warrior Replacement Development  <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
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>	<b>PROJECT</b> 53H: <i>ARMED RECONNAISSANCE HELICOPTER (ARH)</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	27.675	0.000	0.000	0.000	0.000

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<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>A04203 ARMED RECONNAISSANCE HELICOPTER</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0

**D. Acquisition Strategy**  
Not applicable for this item.

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

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<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>				<b>PROJECT</b> 53Z: <i>ARMED SCOUT HELICOPTER</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>
53Z: <i>ARMED SCOUT HELICOPTER</i>	0.000	4.257	2.089	0.000	2.089	4.761	25.840	30.754	55.177	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The mission of the Kiowa Warrior replacement aircraft is to provide a robust reconnaissance and security capability for the Joint Combined arms air-ground maneuver team. It will be a direct replacement for the aging OH58D Kiowa Warrior fleet. The aircraft will provide a highly deployable, reconnaissance and security capability that will employ immediately upon arrival into theater. The platform will address the capability gaps of interoperability, survivability, versatility, agility, lethality, and sustainability to ensure interoperability over extended ranges, enhance mission effectiveness throughout the operational environment, and focus on system survivability against threats operating in the contemporary operational environment, while reducing the logistical burden on the tactical unit. The fundamental purpose is to perform reconnaissance and to provide security in combat operations. In doing so, it improves the commander's ability to maneuver and concentrate superior combat power against the enemy at the decisive time and place. FY09 Armed Reconnaissance Helicopter (Project 53H) funding was used to support the Materiel Development Decision (MDD) in 4th Quarter FY09. FY10 funding supports the Armed Aerial Scout (AAS) Analysis of Alternatives and the development of milestone documents/reviews.</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	4.257	2.089	0.000	2.089
AAS AoA and Milestone support											
<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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>		<b>PROJECT</b> 53Z: <i>ARMED SCOUT HELICOPTER</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	4.257	2.089	0.000	2.089			
<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>No title specified</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>				<b>PROJECT</b> 53Z: <i>ARMED SCOUT HELICOPTER</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			
AAS AoA and Milestone support	C/Various	Various Location could not be determined.	0.000	4.257		2.089		0.000		2.089	Continuing	Continuing	0
<b>Subtotal</b>			0.000	4.257		2.089		0.000		2.089			0.000

**Remarks**

FY09 Armed Reconnaissance Helicopter (Project 53H) funding was used to support the Materiel Development Decision (MDD) in 4th Quarter FY09.

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				
	0.000	4.257		2.089		0.000		2.089			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>	<b>PROJECT</b> 53Z: <i>ARMED SCOUT HELICOPTER</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
Matériel Development Decision (MDD)			#																									

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604220A: <i>Armed, Deployable Helos</i>	<b>PROJECT</b> 53Z: <i>ARMED SCOUT HELICOPTER</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Materiel Development Decision (MDD)	3	2009	3	2009

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare 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	38.256	219.608	172.269	0.000	172.269	94.196	101.079	108.243	129.668	Continuing	Continuing
665: <i>A/C SURV EQUIP DEV</i>	1.654	0.000	4.900	0.000	4.900	9.587	21.805	14.347	18.855	Continuing	Continuing
L12: <i>Signals Warfare Development (MIP)</i>	3.604	10.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
L13: <i>COUNTER-IEDS</i>	0.000	18.598	0.000	0.000	0.000	0.000	49.990	69.991	89.988	Continuing	Continuing
L15: <i>ARAT-TSS</i>	2.187	3.079	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
L16: <i>TROJAN DEVELOPMENT (MIP)</i>	1.480	3.502	0.000	0.000	0.000	0.000	0.000	0.000	4.644	Continuing	Continuing
L20: <i>ATIRCM/CMWS</i>	29.331	184.387	167.369	0.000	167.369	84.609	29.284	23.905	16.181	Continuing	Continuing

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

FY 2011 budget request funds Electronic Warfare Development. This program element (PE) encompasses engineering and manufacturing development for tactical electronic warfare (EW), signals warfare (SW), aircraft survivability equipment (ASE), battlefield deception, rapid software reprogramming and protection of personnel and equipment from hostile artillery. EW encompasses the development of tactical EW equipment and systems mounted in both ground and air vehicles. The systems under this program provides the Army with the capability to degrade or deny hostile forces the effective use of their communications, countermortar/counterbattery radars, surveillance radars, infrared/optical battlefield surveillance systems and electronically fused munitions. Existing Army EW systems must be replaced or upgraded to maintain their capability in the face of threats. This program element satisfies requirements for brigade, division, corps and higher commanders to conduct electronic warfare to meet tactical and Special Electronic Mission Aircraft (SEMA), attack/scout, and assault/cargo mission requirements. The Prophet program provides for the development of multifunction ground based and airborne intelligence and electronic warfare systems. Trojan will complete Proof-of-Principle R&D for specific applications in advanced threat signals processing, prototype software upgrades, high frequency (HF) algorithms for compact antenna array technology (CAAT), search and acquisition capabilities for unattended signal collectors, and new digital intelligence collection, processing and dissemination technology. The Army Reprogramming Analysis Team (ARAT) Project will develop, test and equip an Army-wide infrastructure capable of rapidly reprogramming electronic combat software embedded in offensive and defensive weapon systems.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare 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	36.206	248.463	99.277	0.000	99.277
Current President's Budget	38.256	219.608	172.269	0.000	172.269
Total Adjustments	2.050	-28.855	72.992	0.000	72.992
• Congressional General Reductions		-47.453			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		18.598			
• Congressional Directed Transfers		0.000			
• Reprogrammings	2.921	0.000			
• SBIR/STTR Transfer	-0.871	0.000			
• Other Adjustments 3	0.000	0.000	72.992	0.000	72.992

**Change Summary Explanation**

Change Summary Explanation: Funding - FY 2010: Funding - FY 10: Increase for for Overseas Contingency Operations efforts. FY 2011: \$72.992 million increase to support Signals Warfare Development (+\$4.9 million) and ATIRCM/CMWS development (+\$68.092 million).

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> 665: <i>A/C SURV EQUIP 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>
665: <i>A/C SURV EQUIP DEV</i>	1.654	0.000	4.900	0.000	4.900	9.587	21.805	14.347	18.855	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The objective of the Aircraft Survivability Equipment (ASE) Development project is to improve radio frequency (RF) ASE for Army aviation. Milestone Decision Authority (MDA) approved phase 1 of a phased/incremental path forward, supported by the user and HQDA. Phase I upgrades the Processor Line Replaceable Unit (LRU) of the AN/APR-39A(V)1 Radar Signal Detecting Set through modernization and reduced parts count. Along with improved maintainability and reliability, performance will be enhanced via increased processing speed and expanded memory. These improvements will result in faster response time, better dense environment capability and improved parameter measurement. Phase 1 serves to make the currently fielded system viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3. Phase 2 initiates development of an improved digital Radar Warning Receiver (RWR) and Phase 3 adds active Electronic Countermeasures (ECM) for selected aircraft. FY 09 RDTE funding had a withhold of \$2.3 Million dollars. FY 10 NO RDTE funding for this fiscal year. FY 11 funding begins the prototyping of the digital Radar Warning Receiver (RWR).</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							1.654	0.000	2.600	0.000	2.600
In-house and program management administration											
<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: PB 2011 Army</b>						<b>DATE:</b> February 2010					
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>			<b>PROJECT</b> 665: <i>A/C SURV EQUIP 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 #2 Phase II Product Development (Digital RWR)						0.000	0.000	2.300	0.000	2.300	
<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						1.654	0.000	4.900	0.000	4.900	
<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>AZ3511 RFCM</i>	39.206	2.525	0.000	0.000	0.000	0.000	0.000	0.000	7.851	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
The Army Radio Frequency (RF) Aircraft Survivability Equipment (ASE) is managed by Program Director ASE (PD ASE) for integration and installation on Army Aviation platforms. PD ASE proposed a three phased path forward commensurate with user priorities and life cycle management philosophy. Phase 1, approved by MDA, upgrades the currently fielded AN/APR-39A(V)1 Radar Signal Detecting Set which is employed by approximately 3,000 aircraft; awarded sole source via ECP to the existing contractor of the APR-39A. Phase 2											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> 665: <i>A/C SURV EQUIP DEV</i>
<p>develops an improved digital Radar Warning Receiver for modernized Army platforms by capitalizing on emerging technologies to provide enhanced aircrew situational awareness. Phase 3 will develop and integrate active Electronic Countermeasures jamming capability for select aircraft. Competition will be considered for the future phases.</p> <p><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.</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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> 665: <i>A/C SURV EQUIP 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			
AN/APR-39(V)1 Upgrade	C	Nothing entered for Activity and Location. Location could not be determined.	19.126	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Digital Radar Warning Receiver (RWR)	C	TBD Location could not be determined.	0.000	0.000		2.300		0.000		2.300	Continuing	Continuing	0
<b>Subtotal</b>			19.126	0.000		2.300		0.000		2.300			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			
Matrix Support	C	Multiple Location could not be determined.	3.124	0.000		1.500		0.000		1.500	Continuing	Continuing	0
Contractor Support	C/FFP	Multiple Location could not be determined.	0.538	0.000		0.776		0.000		0.776	Continuing	Continuing	0
<b>Subtotal</b>			3.662	0.000		2.276		0.000		2.276			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> 665: <i>A/C SURV EQUIP 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			

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			
Phase II DT/OT/FOTE	C	Nothing entered for Activity and Location. Location could not be determined.	0.145	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Flight Test/Range Support (Phase I)	C	ATTC Ft. Rucker, AL	0.450	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Phase I Test and Evaluation	C	TSSQ Eglin AFB, FL	0.400	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Processor Upgrade Evaluation	C	Evaluation Center APG MD	0.025	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			1.020	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> 665: <i>A/C SURV EQUIP 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			
Project Management	C	PD ASE Location could not be determined.	0.121	0.000		0.158		0.000		0.158	Continuing	Continuing	0
Other Development	C	PD ASE Location could not be determined.	7.985	0.000		0.166		0.000		0.166	Continuing	Continuing	0
<b>Subtotal</b>			8.106	0.000		0.324		0.000		0.324			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>	31.914	0.000	4.900	0.000	4.900			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> 665: <i>A/C SURV EQUIP 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
Phase 2 Prototyping								#	#	#	#	#	#	#	#													
Phase 2 MS B																#												
Phase 2 Development															#	#	#											
Phase 2 DT																	#	#	#	#	#							
Phase 2 LRIP																							#					

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> 665: <i>A/C SURV EQUIP DEV</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Phase 2 Prototyping	4	2010	3	2012
Phase 2 MS B	4	2012	4	2012
Phase 2 Development	4	2012	2	2013
Phase 2 DT	3	2013	3	2014
Phase 2 LRIP	4	2014	4	2014

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L12: <i>Signals Warfare Development (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>
L12: <i>Signals Warfare Development (MIP)</i>	3.604	10.042	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>Note</b> Not applicable for this item.											
<b>A. Mission Description and Budget Item Justification</b> Prophet's primary mission is providing 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. Prophet is an integral part of the Army Transformation, providing Near Real Time (NRT) information to the Brigade Commander within his combat decision cycle. It is the tactical commander's sole organic ground-based Signals Intelligence/Electronic Warfare (SIGINT/EW) system for the Division, Brigade Combat Team (BCT), Stryker Brigade Combat Team (SBCT), Armored Cavalry Regiments (ACR) and Battlefield Surveillance Brigade (BfSB). Prophet provides the tactical commander with the next generation SIGINT/EW - radio detection/direction finding capabilities. Prophet stationary and on-the-move direction finding information develops battlespace visualization, Intelligence Preparation of the Battlefield (IPB) and target development for enemy and gray emitters within radio line-of-sight across the brigade area of responsibility. This NRT information when processed provides a key component of the fused intelligence Common Operating Picture (COP). Prophet interfaces via Prophet Control with the maneuver brigade Analysis Control Team - Enclave (ACT-E) and All Source Analysis System (ASAS) Intelligence Fusion System (IFS). Prophet Control capability will migrate into Distributed Common Ground System-Army (DCGS-A). The ACT-E forwards the gathered information to the division and armored cavalry Analysis and Control Element (ACE). Also, Prophet interfaces directly with the National SIGINT Enterprise either via Prophet Control or via Wideband Beyond Line of Sight Satellite Communications. Prophet enables the Brigade Commander to detect signals while the vehicle is moving, a first for a Tactical SIGINT system. Prophet is utilizing an evolutionary acquisition strategy: Electronic Support (ES) Block I (SIGINT), ES 1 (Modern Signals), ES 2, Electronic Attack (EA) and Prophet Enhanced. No FY2011 funding under this PE.FY11 through FY15 funding transferred from this PE (0604270A - L12) to 0304270 - EW5.											
<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						3.604	5.192	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L12: <i>Signals Warfare Development (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>
Develop SIGINT Terminal Guidance  <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 Conduct Electronic Warfare Concept Exploration  <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	4.850	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L12: <i>Signals Warfare Development (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						3.604	10.042	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: 354270 - EW5 (RDT&E)	0.000	0.000	18.426	0.000	18.426	10.457	10.489	8.618	9.059	0	57.049	
• Ord. #2: BZ7326 Prophet Ground (TIARA)	113.749	64.294	71.517	0.000	71.517	49.820	21.125	7.482	4.657	Continuing	Continuing	
• Ord. #3: BZ9751 Special Purpose Systems (TIARA) (Prophet Only)	2.416	6.999	7.646	0.000	7.646	9.178	10.967	3.557	3.835	Continuing	Continuing	
• Ord. #4: PE 305288G Defense Cryptological Program for PROPHET	5.960	0.316	2.164	0.000	2.164	6.028	5.610	4.775	4.873	Continuing	Continuing	
<b>D. Acquisition Strategy</b>												
Acquisition Strategy - The Prophet R&D Acquisition Strategy is structured to optimize system capability while reducing risk and streamlining business and engineering processes. The Prophet Enhanced entered production in 2QFY09 via Full and Open competition. The Prophet Enhanced contract is a Firm-Fixed-Price, Indefinite-Delivery Indefinite-Quantity with provisions to support R&D and other developmental work. The Prophet Enhanced contract will be used to achieve the Prophet Enhanced Hardware and Prophet Enhanced/ES1 Software upgrades. They will be executed via Time and Material/Cost Plus Delivery Orders to the contract. Development testing and support to FOT&E testing will be included in the Delivery Orders. The System Integration Lab will be established utilizing US Army RDECOM's CERDEC - I2WD personnel and facilities procure the necessary test bed hardware and its installation, maintenance of test bed and conduct of new product development/integration/testing. The pre-system acquisition activities for Integrate Electronic Warfare Systems will support the Analysis of Alternatives efforts and Pre-Milestone A activities.												
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L12: <i>Signals Warfare Development (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			
Prophet Spiral 2 ES SDD Contract	C/CPIF	General Dynamics Decision Systems Scottsdale, AZ	26.614	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Spiral 1 (SP1) ES Development Platforms	C/FPI	L3 Linkabit San Diego, CA	4.494	0.000		0.000		0.000		0.000	Continuing	Continuing	0
4303 Enhancements	C/CPIF	Raytheon Tampa, FL	0.260	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SIGINT Terminal Guidance	C	I2WD Fort Monmouth, NJ	0.000	3.292		0.000		0.000		0.000	Continuing	Continuing	0
Electronic Warfare Concept Exploration	C	TBD Location could not be determined.	0.000	4.870		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			31.368	8.162		0.000		0.000		0.000			0.000

**Remarks**

The contract for Prophet Enhanced Production was awarded 25 Feb 09 with a protest filed 10 Mar 09. The protest was withdrawn on 20 Apr 09. The net impact was to delay awarding and starting work on P3I Development.

**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			
Matrix Support	C	CECOM	8.701	0.432		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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L12: <i>Signals Warfare Development (MIP)</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			
		Fort Monmouth NJ											
Contractor Engineering Support	C	CACI Eatontown, NJ	4.025	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Contractor Engineering Support - 2	C	Mitre Eatontown, NJ	1.619	1.200		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			14.345	1.632		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			
Prepare for and Conduct Spiral 2 ES - Phase I Demo	C	EPG/AEC Location could not be determined.	10.095	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Geo-Location Testing	C	BAH Eatontown, NJ	0.365	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Threat T&E	C	TRADOC Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			10.460	0.000		0.000		0.000		0.000			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L12: <i>Signals Warfare Development (MIP)</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>
Program Management	C	PM Electronic Warfare Fort Monmouth, NJ	6.007	0.248		0.000		0.000		0.000	Continuing	Continuing	0
Blue Marauder (Congressional Add)	C	PM CSIS Fort Belvoir, VA	4.850	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			10.857	0.248		0.000		0.000		0.000			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>			67.030	10.042		0.000		0.000		0.000			0.000
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L12: <i>Signals Warfare Development (MIP)</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
ES 1 IOT&E		#																										
ES 1 SOTM - DT 1			#	#																								
ES 1 SOTM - DT 2			#	#																								
ES 1 Recap/Reset Contract Award														#														
ES 1 Recap/Reset Fielding														#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Prophet Control (PC) Sole Source - Contract Award					#																							
PC Production - Sole Source Contract					#	#	#																					
Prophet Enhanced (PE) - Contract Award	#																											
Prophet Control (PC) - Competitive Contract Award									#																			
PC Production - Competitive Contract													#	#	#	#												
Production - Prophet Enhanced	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Fielding - Prophet Enhanced			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
FOT&E - P3I													#															
FOT&E - P3I - 2															#													
FOT&E - P3I - 3																			#									
FOT&E - P3I - 4																									#			

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L12: <i>Signals Warfare Development (MIP)</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
ES 1 IOT&E	2	2009	2	2009
ES 1 SOTM - DT 1	3	2009	4	2009
ES 1 SOTM - DT 2	3	2009	4	2009
ES 1 Recap/Reset Contract Award	2	2012	2	2012
ES 1 Recap/Reset Fielding	3	2012	4	2015
Prophet Control (PC) Sole Source - Contract Award	1	2010	1	2010
PC Production - Sole Source Contract	2	2010	4	2010
Prophet Enhanced (PE) - Contract Award	1	2009	1	2009
Prophet Control (PC) - Competitive Contract Award	2	2011	2	2011
PC Production - Competitive Contract	2	2012	1	2013
Production - Prophet Enhanced	1	2009	3	2015
Fielding - Prophet Enhanced	4	2009	3	2015
FOT&E - P3I	1	2012	1	2012
FOT&E - P3I - 2	1	2013	1	2013
FOT&E - P3I - 3	1	2014	1	2014
FOT&E - P3I - 4	1	2015	1	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L13: <i>COUNTER-IEDS</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>
L13: <i>COUNTER-IEDS</i>	0.000	18.598	0.000	0.000	0.000	0.000	49.990	69.991	89.988	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The Counter Radio Controlled Improvised Explosive Devices (RCIED) Electronics Warfare (CREW) family of Electronic Counter Measure (ECM) systems is used to provide essential force protection for fixed sites, vehicle platforms and soldiers. The CREW family of systems currently in production and being fielded includes the CREW 2 systems. CREW is designed to protect personnel, vehicle convoys and provide gate security from Radio Controlled Improvised Explosive Devices (RCIEDs).The RCIED threat continues to rapidly evolve based on threat TTP adaptations to fielded CREW 2 systems. Consequently, efforts are continually required to collect and analyze the threat's use of the electro-magnetic environment (EME) to support timely CREW system software firmware upgrades and the implementation of improved signal processing algorithms to increase jamming effectiveness and improve CREW system compatibility and interoperability. Additionally, new hardware upgrades (design and testing) are needed to expand frequency coverage, jamming effectiveness at increased ranges and to improve spectral purity of the CREW system.</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, funding will be used to support on-going anechoic chamber developmental testing as well as field testing at Yuma Proving Grounds (YPG), AZ to verify and validate software threat loads for the CREW family of systems. It will also be used for modeling and simulation studies to continuously measure and improve the CREW 2 systems in terms of improved compatibility with Blue Force C3 and improved interoperability with other fielded jammers in the theaters of operation (OIF/OEF).  <i>FY 2009 Accomplishments:</i> FY 2009							0.000	18.598	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>			<b>PROJECT</b> L13: <i>COUNTER-IEDS</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						0.000	18.598	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>WARLOCK VA8000 (2035 Other Procurement, Army)</i>	354.599	164.435	24.127	225.682	249.809	24.145	241.414	226.150	210.180	0	1,470.732
<b>D. Acquisition Strategy</b>											
The Tech Insertion (P3I) effort for engineering and manufacturing development must be conducted by the current OEM primes because there are no formal and complete Technical Data Packages (TDPs) that exist to support near term competition. Consequently, these efforts will be awarded through the competitive CERDEC S3 and TESS existing contract vehicles for the applicable CREW devices.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L13: <i>COUNTER-IEDS</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			
P3I Range and Frequency Leverage - Duke	C	SRCTec NY	0.000	7.700		0.000		0.000		0.000	Continuing	Continuing	12.100
P3I Range and Frequency Leverage - CVRJ	C	ITT FPS California	0.000	3.600		0.000		0.000		0.000	Continuing	Continuing	15.125
<b>Subtotal</b>			0.000	11.300		0.000		0.000		0.000			27.225

**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			
COMMS Compatability & EMI	C	CERDEC Ft. Monmouth (S&TCD)	0.000	2.600		0.000		0.000		0.000	Continuing	Continuing	0
Modeling and Simulation	C	CERDEC Ft. Monmouth (S&TCD)	0.000	1.600		0.000		0.000		0.000	Continuing	Continuing	0
Government Engineering Support	C	Various S3 & R2 Sprt Krs Location could not be determined.	0.000	0.368		0.000		0.000		0.000	Continuing	Continuing	0
	C	I2WD	0.000	0.800		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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L13: <i>COUNTER-IEDS</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			
Government Engineering Support - 2		FT. Monmouth											
<b>Subtotal</b>			0.000	5.368		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			
Chamber Test	C	I2WD Ft. Monmouth	0.000	0.350		0.000		0.000		0.000	Continuing	Continuing	0
Operational Range Test	C	YPG AZ	0.000	1.200		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.550		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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L13: <i>COUNTER-IEDS</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			
PMO Staff/Travel OH	C	PM Electronic Warfare Location could not be determined.	0.000	0.180		0.000		0.000		0.000	Continuing	Continuing	0
Program SETA Support	C	CACI/NJ/VA Location could not be determined.	0.000	0.200		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.380		0.000		0.000		0.000			0.000

**Remarks**  
Note: All efforts are based on availability of funds in early 2Q10 & 2QFY11. These numbers are all estimates until we complete RFPs and receive proposals.

	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	18.598		0.000	0.000			27.225

**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L13: <i>COUNTER-IEDS</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
Duke P3I					#	#	#	#	#	#	#	#																
Duke P3I Operational Test												#																
Duke P3I Production													#	#	#	#	#	#	#	#	#	#	#	#				
Duke P3I Fielding													#	#	#	#	#	#	#	#	#	#	#	#				
CVRJ P3I					#	#	#	#	#	#	#	#	#	#	#	#												
CVRJ P3I Operational Test																#												
CVRJ P3I Production																#	#	#	#	#								
CVRJ P3I Fielding																	#	#	#	#								

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L13: <i>COUNTER-IEDS</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Duke P3I	1	2010	3	2011
Duke P3I Operational Test	3	2011	3	2011
Duke P3I Production	4	2011	3	2014
Duke P3I Fielding	1	2012	4	2014
CVRJ P3I	2	2010	2	2012
CVRJ P3I Operational Test	3	2012	3	2012
CVRJ P3I Production	4	2012	3	2013
CVRJ P3I Fielding	2	2013	4	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L15: <i>ARAT-TSS</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>
L15: <i>ARAT-TSS</i>	2.187	3.079	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>The Army Reprogramming Analysis Team (ARAT) is a Department of the Army established program to develop techniques, methods, tools and architecture to reprogram mission software embedded in Army Force Protection Systems (FPS) and Targeting Sensing Systems (TSS) in response to changes in threat signatures. Current military operations are conducted in a rapidly changing threat environment, where Improvised Explosive Devices (IEDs), IR man-portable air defense systems (MANPADS) seekers, radar guided surface-to-air-missiles (SAM), laser guided weapons, anti-helicopter mines, and targeting sensors are proliferating and evolving. Integrated solutions are required to counter increasingly sophisticated EW threats, and the ARAT reprogramming infrastructure supports the tactical Commander by providing timely rapid-reprogramming, and software/information dissemination for Army supported, Joint, allied service, Electronic Warfare (EW) Integrated Reprogramming (EWIR) target acquisition, target engagement, vehicle survivability, and aircraft survivability equipment (ASE). ARAT efforts support Electronic Attack (EA), Electronic Protect (EP) and Electronic Support (ES). The ARAT rapid-reprogramming infrastructure supports tactical requirements for deployed aircraft and ground-based (e.g. CREW) survivability systems including those deployed in the CENTCOM area of responsibility (AOR). ARAT identifies and analyzes threat signature changes which affect FPS &amp; TSS; determines the impact of observed signature changes on FPS &amp; TSS; creates new mission data software to adapt the system to the changes; disseminates the software changes; and provides methods to upload the new software into the affected FPS or TSS. Each element within the ARAT infrastructure plays a specific role within the program's rapid reprogramming process, providing the Warfighter with the capability to install mission and target identification software at the lowest possible level - maximizing flexibility for tactical commanders. ARAT participates in the operational and developmental test design of Army FPS, and supports Service and JCS Reprogramming Exercises in all theaters. ARAT R&amp;D enables continuing development of 1) automated threat analysis tools to rapidly detect (flag) threat changes within the intelligence system, 2) tools to minimize the time to develop Mission Data Sets (MDS), 3) tools and technology to minimize the time required to test and validate MDSs, 4) improved communications conduits to transmit mission software changes to field users, and 5) enhanced mission-software uploading tools. These efforts allow for rapid threat analysis, simulation, software development, distribution and uploading of software changes directly to the supported Warfighter.</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						0.587	0.410	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L15: <i>ARAT-TSS</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>CREW Reprogramming - Determine intelligence/information requirements and then study methods to reduce the effort and time necessary to collect, process, analyze and disseminate information required for CREW reprogramming. Based on established reprogramming methodology, develop tools to reprogram CREW and establish government organic post production &amp; MDS support for the system. Continuing effort is required in out-years to accommodate threat changes and CREW system improvements.</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>Automated Multi-Spectral IED Trigger Intercept: Conduct initial study to develop process for automated multi-spectral IED trigger intercept in order to support future CREW reprogramming requirements. Determine intelligence/information requirements, and develop methodology for data collection to reprogram multi-spectral IED triggers.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.400	0.075	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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>		<b>PROJECT</b> L15: <i>ARAT-TSS</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 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>Keeping Pace with the Enemy &amp; Technology - Analysis &amp; Studies for EO/IR/UV Multi-Spectral FPS/TSS Support: In order to keep pace with changing threat and technology ARAT requires assets to better understand the impact of the physical battlefield environment on deployed high-technology sensors and their sustainment. This effort will 1) study the intelligence data requirements to support MDS development for Electro-optical/Ultra-violet/Infra-red (EO/UV/IR) and other multi-spectral sensors for aviation &amp; non-aviation force protection systems (FPS) and target sensing systems and to include active protection systems (APS), 2) Develop government organic knowledge and application-base enabling reprogramming of future systems and 3) Perform requirements analysis and concept development for the reprogramming of multi-spectral TSS.</p> <p><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>				0.420	0.380	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L15: <i>ARAT-TSS</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 #4</p> <p>Infrastructure improvements - Operational Flight Program (OFP) sustainment environment - Develop and deploy operational flight program (OFP) development environment for missile warning systems (MWS). Determine data and analysis requirements for MANPADS characterization and establish a government-organic analysis and sustainment process to support OFP's and subsequently adapt MWS's to new threats. Currently, no government organic capability exists, increasing the risk that systems can not be readily adapted to changing threats.</p> <p><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	2.214	0.000	0.000	0.000
<p>Program #5</p> <p>Infrastructure improvements (general) - Enhance the ARAT communications architecture to facilitate the transmission of mission software changes to FPS &amp; TSS users, with emphasis on remote user and highly mobile Warfighter connectivity. Develop/implement integrated ASE test environment to ensure MDS and aircraft counter-measure (CM) Integration flight test support.</p>		0.180	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>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 #6</p> <p>Platform-specific TSS, FPS &amp; survivability equipment support - Conduct requirements analysis and concept development for the reprogramming of ground platform (e.g. Stryker) Target Sensing Systems (TSS), Active Protection Systems (APS) and other Force Protections Systems (FPS), and expand the reprogramming of aviation TSS, FPS and Aircraft Survivability Equipment (ASE). Building on the work completed in prior FYs, determine individual platform benefits vs. potential costs to upgrade systems on each ground or Aviation platform. Initiate lab testing of potential system updates to verify the additional benefit and identify intelligence collection methodology to enable information use for reprogramming purposes.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>				0.113	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L15: <i>ARAT-TSS</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  MDS Distribution - Develop new methods to distribute and load mission data set (MDS) software changes to Warfighters, expand the application to new FPS & TSS systems, and provide common reprogramming devices in the field (currently Memory Loader/Verifiers (MLVs). Enhanced software will be distributed to all users requiring upgraded software and to users of new TSS. End goal is to have MDSs distributed automatically over-the-network (OTN) through tactical communications networks and loaded via platform data busses.  <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		0.321	0.000	0.000	0.000	0.000
Program #8  Threat Flagging & MDS Reprogramming Tool Development - Develop applications for ARAT internal system-specific threat flagging, threat analysis, MDS generation, and MDS testing. Enhance threat flagging (threat		0.166	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L15: <i>ARAT-TSS</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>performance change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging &amp; changing threats that adversely affect the performance of FPS &amp; TSS. Create MDS development, testing and validation tools to decrease time from threat-change detection to the distribution of MDS products in order to increase the accuracy and fidelity of threat identification, and reduce the engineering involvement/workload associated with the manually intensive analysis and MDS development processes. Define requirements and develop tools to migrate to a data support infrastructure that employs Next Generation EWIR System (NGES) when the NGES is deployed and the current EWIR system is decommissioned.</p> <p><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>						
Accomplishments/Planned Programs Subtotals		2.187	3.079	0.000	0.000	0.000
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>D. Acquisition Strategy</b>						
The efforts to be funded in this project will require a combination of systems specific and high-tech knowledge. The contractual services portion for the project will be obtained from both the CECOM Software Engineering Center (SEC) competitive omnibus and the RDEC High Tech contracts.						

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**E. Performance Metrics**

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

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L15: <i>ARAT-TSS</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			
Labor (internal Gov't)	C	CECOM Fort Monmouth, NJ & Aberdeen Proving Grounds, MD	2.332	0.550		0.000		0.000		0.000	Continuing	Continuing	0
Travel	C	Various sites Location could not be determined.	0.380	0.095		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			2.712	0.645		0.000		0.000		0.000			0.000

**Remarks**

Organic Government R&D Development Labor.

**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			
Development Support (CECOM RDEC T&E CECOM SEC Omnibus)	C	TBD/Various sites Location could not be determined.	5.877	2.434		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			5.877	2.434		0.000		0.000		0.000			0.000

**Remarks**

R&D Development Costs associated with contractual ARAT Team.

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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>	8.589	3.079	0.000	0.000	0.000			0.000

**Remarks**

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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>
L16: <i>TROJAN DEVELOPMENT (MIP)</i>	1.480	3.502	0.000	0.000	0.000	0.000	0.000	0.000	4.644	Continuing	Continuing
Quantity of RDT&E Articles											

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

This project is a Tactical Intelligence and Related Activities (TIARA) program. TROJAN RDT&E supports TROJAN Classic XXI (TCXXI) and next generation (NexGEN) future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance (ISR) support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of the Objective Force and Future Combat System (FCS), TCXXI will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty (MOS) proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure collaborative architecture. A key factor for success the Objective Force and FCS will be the ability to collect, process and use information about an adversary while preventing similar information from being disclosed. TROJAN is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. TROJAN operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. This project engineers, tests and evaluates new digital intelligence collection, processing and dissemination technology using the fielded TROJAN systems, prior to the acquisition of those technologies. As part of the Objective C4ISR Architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that TROJAN keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threats.

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

	<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 Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GLAIVE software. Integrated several new NSA SW packages-efforts still ongoing.	0.500	0.370	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 #2  Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.  <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		0.330	0.320	0.000	0.000	0.000
Program #3		0.000	0.357	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>
Develop prototype QRC Receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGA 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  Integrate Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups (RRGs).  <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		0.650	0.350	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 #5 Develop hardware/software interface for TCXXI system and NexGEN to ONEROOF storage 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	0.400	0.000	0.000	0.000
Program #6 Develop specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy & throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	0.256	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						
<b>Program #7</b>  Development of smaller more mobile SATCOM dishes and receivers. Development of more efficient use of bandwidth, Comm's on the move and man-packable intelligence collection 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		0.000	0.701	0.000	0.000	0.000
<b>Program #8</b>  Labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.748	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						1.480	3.502	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>New OFS item</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0
<b>D. Acquisition Strategy</b>											
This Acquisition Strategy for the TROJAN Classic XXI System supported by TROJAN RDT&E is to adapt and leverage from Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) products. Additionally leverage off of development by DoD and other Government agencies to the greatest extend possible. TROJAN RDT&E is used to fund the development of enhancing these technologies to meet specific user requirements. The funding for production and fielding of these capabilities are funded under TROJAN BA0331.											
<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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**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 Prototype QRC Receiver packages	C	CERDEC I2WD Ft Monmouth Location could not be determined.	3.006	0.810		0.000		0.000		0.000	Continuing	Continuing	0
Develop DF Capabilities for TROJAN RRG	C	CERDEC I2WD Ft Monmouth Location could not be determined.	0.642	0.835		0.000		0.000		0.000	Continuing	Continuing	0
Investigate Compression / processing technologies	C	CERDEC I2WD Ft Monmouth Location could not be determined.	1.038	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Develop specialized software enhancements to TROJAN audio streaming	C	CERDEC I2WD Ft Monmouth Location could not be determined.	1.437	0.710		0.000		0.000		0.000	Continuing	Continuing	0
Develop hardware/software interface to ONEROOF	C	CERDEC I2WD Ft Monmouth Location could not be determined.	0.700	0.791		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			6.823	3.146		0.000		0.000		0.000			0.000

**Remarks**

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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			
Acquire & Apply muliti bandwidth compr Algorithm	C	CECOM I2WD FT Monmouth Location could not be determined.	0.900	0.115		0.000		0.000		0.000	Continuing	Continuing	0
Labor	C	REX Office-Ft Meade; CECOM Ft Monmouth Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.900	0.115		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			
Integrate/test hardware/software	C	CECOM I2WD FT Monmouth Location could not be determined.	2.090	0.260		0.000		0.000		0.000	Continuing	Continuing	0
Operational test/eval of enhanced SIG Processing	C	CECOM I2WD Ft Monmouth	0.429	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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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>			2.519	0.260		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
	10.242	3.521		0.000	0.000	0.000		

Remarks

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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
L20: <i>ATIRCM/CMWS</i>	29.331	184.387	167.369	0.000	167.369	84.609	29.284	23.905	16.181	Continuing	Continuing
Quantity of RDT&E Articles											

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

The US Army operational requirements concept for Infrared (IR) countermeasure systems is known as the Suite of Integrated Infrared Countermeasures (SIIRCM). It is an integrated warning and countermeasure system to enhance aircraft survivability against IR guided threat missile systems. The core element of the SIIRCM concept is the Advanced Threat Infrared Countermeasure/Common Missile Warning System (ATIRCM/CMWS) Program. ATIRCM is a US Army program to develop, test, and integrate defensive infrared (IR) countermeasures capabilities into existing, current generation host platforms for more effective protection against a greater number of IR- guided missile threats than afforded by currently fielded IR countermeasures. The CMWS also functions as a stand-alone system with the capability to detect missiles and provide audible and visual warnings to the pilot(s); and, when installed with the ICMD, activates expendables to provide a degree of protection. ATIRCM/CMWS is the key IR survivability system for Future Force Army aircraft. The ATIRCM/CMWS, a subsystem to a host aircraft, is an integrated ultraviolet (UV) missile warning system and an IR Laser Jamming and Improved Countermeasure Dispenser (ICMD). ATIRCM/CMWS program was restructured per an Under Secretary of Defense for Acquisition, Technology, and Logistics (USD (AT&L)) Acquisition Decision Memorandum (ADM) dated April 15, 2009. USD (AT&L) designated the ATIRCM/CMWS program as an Acquisition Category (ACAT) 1D special interest program, and directed the establishment of the CMWS, ATIRCM QRC and CIRCM subprograms. The ATIRCM Quick Reaction Capability (QRC) subprogram is an ATIRCM program transition in response to Operational Needs Statement (ONS) Number 08-5661 dated June 10, 2008. To address this requirement, an ATIRCM QRC for seventy (70) CH-47 helicopters was authorized by an Acquisition Decision Memorandum (ADM) signed September 15, 2008 by the Army Acquisition Executive (AAE). This ONS outlines the urgent requirement to equip seventy (70) CH-47 helicopters being used in SWA in support of OIF/OEF with an improved IRCM capability to counter threats from advanced MANPADS. This urgent requirement was recently increased to equip a total of eighty-three (83) CH-47 helicopters by an Acquisition Decision Memorandum (ADM) signed on April 15, 2009 by the Defense Acquisition Executive (DAE). The Common Infrared Countermeasure (CIRCM) subprogram is an infrared countermeasure system that interfaces with a Missile Warning System (MWS) to provide near spherical coverage of the host platform in order to defeat all IR threats (classified appendix of Spec). Increment 1 weight will be 120lb (T), 700 hrs MTBF reliability. The CIRCM system is installed on the following Army platforms (T): UH-60L, UH-60M, HH-60L, HH-60M, CH-47F, AH-64D, MH-60M, MH-47G, C/RC-12, C-23B, (O): UH-60A, CH-47D, OH-58D, MH-6, AH-6, C-20, C-26, EO-5, UC-35, Navy platforms (T): MH-60R, MH-60S, UH-1Y, AH-1Z, MV-22, (O): CH-53K, CH-46, UH-1N, AH-1W and Air Force platforms: (T): HH-60G, (O): JCA. The CMWS Gen 3 meets Tier 1 requirements. Threat upgrade is needed to fulfill CMWS threat requirements. The A-kit is the modification hardware, wiring harness, cable, etc., necessary to install and interface the ATIRCM/CMWS Mission Kit to each platform. The A-kit ensures the Mission Kit is functionally and physically operational with the host platform. The Mission Kit consists of the ATIRCM/CMWS which performs the missile detection, false alarm rejection, and missile declaration functions of the system. The Electronic Control Unit (ECU) of the CMWS sends a missile alert signal to on-board avionics and other Aircraft Survivability Equipment (ASE) such as expendable flare dispensers. Threat missiles detected by the CMWS are handed over to the ATIRCM. The Hostile Fire Detection System (HFDS) provides small arms fire detection, orientation, type and real time cueing to all aircrew members enabling avoidance and/or response. FY 2011 Core RDT&E dollars in the amount of \$167.369 million support technology assessment and development for Common Infrared

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Countermeasure (CIRCM), a separate ATIRCM increment established by an Acquisition Decision Memorandum (ADM) dated April 15, 2009; and begins development activities for HFDS.FY 2011 OCO RDT&E dollars in the amount of \$48.000 million support a Hostile Fire Detection System (HFDS) Quick Reaction Capability (QRC).						
<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 Base: Product 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		20.734	146.569	120.907	0.000	120.907
Program #2 Base: Management Services  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.995	18.749	14.948	0.000	14.948

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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 #3  Base: 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		7.602	13.951	31.514	0.000	31.514
Program #4  Small Business Innovative Research/Small Business Technology Transfer Programs (SBIR/STTR)  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	5.118	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>			<b>PROJECT</b> L20: <i>ATIRCM/CMWS</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							29.331	184.387	167.369	0.000	167.369
<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>APA, BA 4 AZ3507 ASE</i> <i>Infrared CM</i>	565.462	285.007	174.222	197.990	372.212	227.479	258.517	242.942	221.407	527.990	2,701.016
<b>D. Acquisition Strategy</b>											
<p>The AAE approved the ATIRCM/CMWS path forward in December 2005. This funding supports an acquisition strategy of buying CMWS separately from ATIRCM, while installing A-kits on all modernized aircraft. The current CMWS production contract is a fixed-priced, five year, Indefinite Delivery, Indefinite Quantity (IDIQ) contract to BAE Systems. The ATIRCM QRC effort was procured under two letter contracts; one for ATIRCM QRC A-kits and one for ATIRCM QRC B-kits. A new contract for ATIRCM QRC A-kits and B-kits is in process for award in FY10. The schedule and costs have been updated to include CIRCM, a next generation ATIRCM. The CIRCM contract is planned to be competitively awarded in late FY10. The ECP to incorporate the Gen 3 ECU will be accomplished in FY10. Fielding of Gen 3 ECUs will begin in FY11. CIRCM will continue pre-MSB activities entering into a full and open competition for EMD in FY12. The EMD phase will be followed by a competitive award for the production phase of the program. The HFDS MDD will occur in 3QFY10; Technology Development Phase will begin in FY11 and continue to FY13.</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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L20: <i>ATIRCM/CMWS</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			
ATIRCM QRC SUBPROGRAM	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
ATIRCM QRC (AIRCMM)	C/CPIF	Thiokol Brigham City, UT	1.563	0.000		0.000		0.000		0.000	Continuing	Continuing	0
ATIRCM QRC EMD Basic Contract	C/CPAF	BAE Systems Nashua, NH	23.574	0.000		0.000		0.000		0.000	Continuing	Continuing	0
ATIRCM QRC 6 Lot/ EMD/RDT	SS/CPFF	BAE Systems Nashua, NH	199.250	0.000		0.000		0.000		0.000	Continuing	Continuing	0
ATIRCM QRC	C/CPFF	Cowley Chantilly, VA	0.100	0.000		0.000		0.000		0.000	Continuing	Continuing	0
ATIRCM QRC Test Facility	C/CPFF	Amherst HSV, AL	1.300	0.000		0.000		0.000		0.000	Continuing	Continuing	0
CIRCM Design and Development	C/TBD	TBD Location could not be determined.	0.000	53.465		24.073		0.000		24.073	Continuing	Continuing	0
CIRCM CH-47F A-kit NRE	C/TBD	TBD Location could not be determined.	0.000	10.144		10.197		0.000		10.197	Continuing	Continuing	1.563
CIRCM Hardware	C/TBD	TBD Location could not be determined.	0.000	15.660		23.860		0.000		23.860	Continuing	Continuing	0
CMWS Modeling and Simulation	C	CAS HSV, AL	4.500	0.000		1.200		0.000		1.200	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L20: <i>ATIRCM/CMWS</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			
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
CMWS SUBPROGRAM	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
CMWS GEN 3 ECU ETC	C/CPFF	TBD Location could not be determined.	0.000	5.500		0.000		0.000		0.000	Continuing	Continuing	0
CMWS GEN 3 Providence Additional Phases	C/CPFF	TBD Location could not be determined.	0.000	10.100		0.000		0.000		0.000	Continuing	Continuing	0
CMWS System Development	C/CPFF	TBD Location could not be determined.	23.571	10.000		20.000		0.000		20.000	Continuing	Continuing	0
CMWS Tier 2/3 Threat Upgrades	C/Variou	BAE Systems Nashua, NH	2.475	0.000		1.000		0.000		1.000	Continuing	Continuing	0
HFDS Modernization Efforts	C/TBD	TBD Location could not be determined.	0.000	40.100		40.577		0.000		40.577	Continuing	Continuing	0
HFDS QRC Effort	C/TBD	TBD Location could not be determined.	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L20: <i>ATIRCM/CMWS</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			
<b>Subtotal</b>			256.333	146.569		120.907		0.000		120.907			1.563

**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			
CMWS SUBPROGRAM	C	Nothing entered for Activity and Location. Location could not be determined.	0.000			0.000		0.000		0.000	Continuing	Continuing	0
CMWS Contractor Support	C/FFP	Huntsville AL	37.911			0.000		0.000		0.000	Continuing	Continuing	9.554
CMWS Matrix Support	C	CECOM Ft Monmouth NJ; AMCOM, Huntsville AL	3.055			0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			40.966			0.000		0.000		0.000			9.554

**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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L20: <i>ATIRCM/CMWS</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>
ATIRCM QRC SUBPROGRAM	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
ATIRCM QRC Test and Evaluation	C	Various Location could not be determined.	158.426	0.000		0.000		0.000		0.000	Continuing	Continuing	3.519
CIRCM Test and Evaluation	C/TBD	TBD Location could not be determined.	0.000	12.201		22.514		0.000		22.514	Continuing	Continuing	0
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
CMWS SUBPROGRAM	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
CMWS Test and Evaluation	C	Various Location could not be determined.	0.000	1.750		9.000		0.000		9.000	Continuing	Continuing	0
<b>Subtotal</b>			158.426	13.951		31.514		0.000		31.514			3.519
<b>Remarks</b>													

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>				<b>PROJECT</b> L20: <i>ATIRCM/CMWS</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			
SBIR/STTR	C	Nothing entered for Activity and Location. Location could not be determined.	0.414	5.118		0.000		0.000		0.000	Continuing	Continuing	0
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
ATIRCM QRC SUBPROGRAM	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
CIRCM Project Management	C	PD ASE HSV, AL	0.000	18.749		14.948		0.000		14.948	Continuing	Continuing	0
Cost Category Item is empty. - 2	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
CMWS SUBPROGRAM	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
	C	PD ASE	123.498	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L20: <i>ATIRCM/CMWS</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			
CMWS Project Management		HSV, AL											
<b>Subtotal</b>			123.912	23.867		14.948		0.000		14.948			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			
	579.637	184.387		167.369		0.000		167.369			14.636

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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L20: <i>ATIRCM/CMWS</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
Fielding to support ATIRCM QRC Assets (OCO)			#	#	#	#	#	#	#	#	#	#																
Start of Fielding to support OH-58 Platform (OCO)							#																					
Start of CMWS Fielding to support GEN 3 Assets (Base)									#																			
Hostile Fire Detection System (HFDS) MDD							#																					
HFDS TD Phase											#	#	#	#	#	#	#	#	#	#								
CIRCM TD Phase							#	#	#	#	#																	
CIRCM EMD Phase													#	#	#	#	#	#	#	#								

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604270A: <i>Electronic Warfare Development</i>	<b>PROJECT</b> L20: <i>ATIRCM/CMWS</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Fielding to support ATIRCM QRC Assets (OCO)	3	2009	4	2011
Start of Fielding to support OH-58 Platform (OCO)	3	2010	3	2010
Start of CMWS Fielding to support GEN 3 Assets (Base)	1	2011	1	2011
Hostile Fire Detection System (HFDS) MDD	3	2010	3	2010
HFDS TD Phase	3	2011	3	2013
CIRCM TD Phase	3	2010	3	2011
CIRCM EMD Phase	4	2011	3	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604280A: <i>Joint Tactical Radio</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	0.784	0.000	0.784	168.937	106.070	39.813	21.168	Continuing	Continuing
162: <i>Network Enterprise Domain (NED)</i>	0.000	0.000	0.784	0.000	0.784	168.937	106.070	39.813	21.168	Continuing	Continuing

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

The JTRS budget justification will be found in Navy FY 2010 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA5) since the JTRS program is a joint program and the Navy is the lead Service for the JTRS development program. The mission of the Joint Tactical Radio System (JTRS) is to provide the Department of Defense (DoD) with software programmable, reconfigurable digital radio systems to meet Joint Vision (JV) 2010/2020 requirements for interoperability, flexibility, adaptability, and information exchange. JTRS will acquire a family of affordable, scaleable, high-capacity, interoperable Line of Sight (LoS) and Beyond LoS radios to support simultaneous networked voice/data/video transmissions with low probability of intercept. The program will provide operational forces with an upgraded, interoperable communications capability for improved battle space management and increased Warfighter effectiveness. Interoperability with allied and coalition partners is pursued through international cooperative efforts, including signed agreements with Japan, UK and Sweden. Beginning in FY07, all JTRS RDT&E Program Elements (PE) are realigned under the Navy JTRS PE (0604280N) for the current Budget Year (BY) only. From the BY+1 through the end of the FYDP, all JTRS RDT&E projects are funded in approximately three equal shares by each Military Department (MILDEP). This transition results in the total JTRS development funding being managed out of three MILDEP PEs (0604280A, 0604280N, and 0604280F) across the FYDP, and consolidated into one Navy PE (0604280N) for the current BY.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604280A: <i>Joint Tactical Radio</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	0.000	0.000	217.830	0.000	217.830
Current President's Budget	0.000	0.000	0.784	0.000	0.784
Total Adjustments	0.000	0.000	-217.046	0.000	-217.046
• 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	-217.046	0.000	-217.046

**Change Summary Explanation**

Change Summary Explanation: Funding - FY 2010: Funds transferred to Navy for execution. FY 2011: Funding provided to JTRS for GMR and additional requirements (JTRS Next Spiral).\*\*The JTRS budget justification will be found in Navy FY 2011 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA5) since the JTRS program is a joint program and the Navy is the lead Service for the JTRS development 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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604280A: <i>Joint Tactical Radio</i>				<b>PROJECT</b> 162: <i>Network Enterprise Domain (NED)</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>
162: <i>Network Enterprise Domain (NED)</i>	0.000	0.000	0.784	0.000	0.784	168.937	106.070	39.813	21.168	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>The Joint Tactical Radio System (JTRS) budget justification will be found in the Navy FY 2011 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA5) since the JTRS program is a joint program and the Navy is the lead Service for the JTRS development budget. The mission of the JTRS is to provide the Department of Defense (DoD) with software programmable, reconfigurable digital radio systems to meet Joint Vision (JV) 2010/2020 requirements for interoperability, flexibility, adaptability, and information exchange. JTRS will acquire a family of affordable, scaleable, high-capacity, interoperable Line of Sight (LoS) and Beyond LoS radios to support simultaneous networked voice/data/video transmissions with low probability of intercept. The program will provide operational forces with an upgraded, interoperable communications capability for improved battle space management and increased Warfighter effectiveness. Interoperability with allied and coalition partners is pursued through international cooperative efforts, including signed agreements with Japan, UK and Sweden. Beginning in FY07, all JTRS RDT&amp;E Program Elements (PE) are realigned under the Navy JTRS PE (0604280N) for the current Budget Year (BY) only. From the BY+1 through the end of the FYDP, all JTRS RDT&amp;E projects are funded in approximately three equal shares by each Military Department (MILDEP). This transition results in the total JTRS development funding being managed out of three MILDEP PEs (0604280A, 0604280N, and 0604280F) across the FYDP, and consolidated into one Navy PE (0604280N) for the current BY.</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						0.000	0.000	0.784	0.000	0.784	
<p>The Joint Tactical Radio System (JTRS) budget justification will be found in the Navy FY 2011 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA5) since the JTRS program is a joint program and the Navy is the lead Service for the JTRS development budget.</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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604280A: <i>Joint Tactical Radio</i>			<b>PROJECT</b> 162: <i>Network Enterprise Domain (NED)</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						0.000	0.000	0.784	0.000	0.784	
<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: <b>**SEE FOOTNOTE**</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
The JTRS budget justification will be found in the Navy FY 2011 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA5) since the JTRS program is a joint program and the Navy is the lead Service for the JTRS development budget.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604280A: <i>Joint Tactical Radio</i>	<b>PROJECT</b> 162: <i>Network Enterprise Domain (NED)</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			
**SEE FOOTNOTE**	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.784		0.000		0.784	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.784		0.000		0.784			0.000

**Remarks**

\*\*The JTRS budget justification will be found in the Navy FY 2011 President's Budget under Joint Tactical Radio System Program (PE 0604280N, BA5) since the JTRS program is a joint program and the Navy is the lead Service for the JTRS development budget.

	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	0.000	0.784	0.000	0.784			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</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	13.211	13.039	22.574	8.100	30.674	13.981	14.093	3.754	3.833	Continuing	Continuing
B19: <i>ASAS EVOLUTIONARY ACQ (MIP)</i>	3.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
B41: <i>CI/HUMINT Software Products (MIP)</i>	1.716	3.116	6.330	8.100	14.430	3.375	3.548	3.754	3.833	Continuing	Continuing
B44: <i>ASAS TADSS (MIP)</i>	0.204	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
B49: <i>CHIMS TADSS (MIP)</i>	0.128	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
B51: <i>SEQUOYAH - FOREIGN LANGUAGE TRANSLATION SYSTEM</i>	7.763	9.923	16.244	0.000	16.244	10.606	10.545	0.000	0.000	Continuing	Continuing

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

The All Source Analysis System (ASAS) provides US Army commanders at all echelons from battalion to Army Service Component Command (ASCC) with automated support to the management and planning, processing and analysis, and dissemination of intelligence, counterintelligence, and electronic warfare. ASAS provides the means to enhance the commander's timely and comprehensive understanding of enemy deployments, capabilities, and potential courses of action. The system uses standard joint and Army protocols and message formats to interface with selected National, joint, theater, and tactical intelligence, surveillance, and reconnaissance systems and preprocessors and Army, joint, and coalition battle command systems. The ASAS Family of Systems is migrating into the Distributed Common Ground System-Army (DCGS-A) program and Army is using it as the initial platform to provide accelerated DCGS-A capabilities to the force. The initial DCGS-A Enabled ASAS systems began fielding in 4QFY07 and will continue through FY10. This fielding assures the availability of an initial, base DCGS-A capability in Active, National Guard, and Reserve units battalion to ASCC. The DCGS-A enabled ASAS product set currently includes: DCGS-A enabled ASAS-Light (ASAS-L) laptops; DCGS-A enabled ASAS Intelligence Fusion Station (IFS) desktop computers; the shelterized, High Mobility Multipurpose Wheeled Vehicle (HMMWV)-mounted DCGS-A enabled ASAS Analysis Control Team-Enclave (ACT-E); and various DCGS-A enabled ASAS Analysis and Control Element (ACE) configurations at Special Forces Group, Armored Cavalry Regiment, Division, Corps, and Military Intelligence Brigade. The Counterintelligence and Human Intelligence Automated Reporting and Collection Systems (CHARCS), formally known as Counterintelligence and Human Intelligence (CI/HUMINT) Information Management System (CHIMS), provides the Army automation support for collection and reporting of CI/HUMINT data to satisfy tactical human intelligence requirements. CHARCS functionality provides support for CI/HUMINT information collection, reporting, investigation, interrogation, biometrics, document exploitation operations. The CHARCS architecture extends from the individual Tactical HUMINT team soldier or CI agent to Theater and National intelligence organizations. CHARCS provides systems to all Army Commands (ARCOM), Special Forces, Reserves, National Guard, Stryker Brigade Combat Teams (SBCT), and the training base. CHARCS systems produce and disseminate messages and reports through an array of communications

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>
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systems including: combat Net Radio, Single Channel Ground and Airborne Radio System (SINCGARS), Portable Radio Communications(PCR)-150 Secure Telephone Equipment (STE), Secure Telephone Unit (STU), satellite, and other organic communications devices. The CHARCS systems reports collected intelligence directly to Operational Management Teams (OMT) of U.S. Army intelligence units. Future development efforts will provide CI agents and HUMINT collectors improved collection, reporting, biometrics, language, communications and mission management capabilities. The Machine - Foreign Language Translation System (M-FLTS) program is to develop, acquire, field and sustain the warfighter with a basic automated foreign speech and text translation capability into Army systems of record, to augment and compliment limited human linguistic resources. These stand-alone and integrated automated translation capabilities will be applicable across three different system configurations; a hand-held/wearable portable device, a lap-top or mobile device, and in a networked system. The software modules will translate English into a prioritized listing of languages in a prioritized collection of domains. M-FLTS will be interoperable with commercial off-the-shelf (COTS), or government-off-the-shelf (GOTS) automation equipment to include the Net Enabled Command Capability (NECC), the Distributed Common Ground System (DCGS), Battle Command System (BCS), Soldier as a System (SaaS), Ground (GSS), Mounted (MSS) and Air-Soldier Systems (Air-SS), DoD Intelligence Information Systems (DoDIIS) and any associated devices and peripherals. FY 2011 funding continues the development of improved counterintelligence and human intelligence collection and reporting capabilities under CHARCS.FY 2011 funds development of Foreign Language Translation Systems.ASAS RDT&E funding discontinues after FY 2009.

**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	16.411	13.107	16.115	0.000	16.115
Current President's Budget	13.211	13.039	22.574	8.100	30.674
Total Adjustments	-3.200	-0.068	6.459	8.100	14.559
• Congressional General Reductions		-0.068			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-2.660	0.000			
• SBIR/STTR Transfer	-0.540	0.000			
• Adjustments to Budget Years	0.000	0.000	6.459	0.000	6.459

**Change Summary Explanation**

Change Summary Explanation: Funding - FY 2011: \$6.459 million increase to support Machine-Foreign Language Translation System (formally called Sequoyah-Foreign Language Translation System). \$8.1 million anticipated Congressional increase for Overseas Contingency Operations efforts in support of Tactical Document and Media Exploitation (DOMEX) Tools.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B19: <i>ASAS EVOLUTIONARY ACQ (MIP)</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
B19: <i>ASAS EVOLUTIONARY ACQ (MIP)</i>	3.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											

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

The All Source Analysis System (ASAS) provides US Army commanders at all echelons from battalion to Army Service Component Command with automated support to the management and planning, processing and analysis, and dissemination of intelligence, counterintelligence, and electronic warfare. ASAS provides the means to enhance the commander's timely and comprehensive understanding of enemy deployments, capabilities, and potential courses of action. The system uses standard joint and Army protocols and message formats to interface with selected national, joint, theater, and tactical intelligence, surveillance, and reconnaissance systems and preprocessors and Army, joint, and coalition battle command systems. The ASAS product set currently includes: ASAS-Light (L) laptops, ASAS Intelligence Fusion Station (IFS) desktop computers, the shelterized, High Mobility Multipurpose Wheeled Vehicle (HMMWV)-mounted Analysis and Control Team-Enclave (ACT-E), and various Analysis and Control Element (ACE) configurations at Special Forces Group, Armored Cavalry Regiment, Division, Corps, and Military Intelligence Brigade. Through FY09 these ASAS systems will be configured to operate as integral components of the Army's Distributed Common Ground System-Army (DCGS-A) capability. The Map-Human Terrain (MAP-HT) Toolkit is responsible for addressing the military problem of the current existing limited Joint, Service, or Interagency capability (organization, methods, tools) to effectively collect/consolidate, visualize, and understand open source socio-cultural information to assist Commanders in understanding the human terrain in which they operate. The Map-Human Terrain (MAP-HT) Toolkit will provide a joint common relevant picture of the human terrain for use by tactical elements, operational commanders, theatre planners, interagency organizations, and coalition partners. The Map-Human Terrain (MAP-HT) Toolkit will provide the capability to establish direct cultural support to Brigade Combat Team/Marine Expeditionary Force commander and interagency end-users, provide a means for human terrain data collection and dissemination, and provide human terrain baseline information and toolkit. FY09 provided funding to reconfigure ASAS systems into an integral component of the Army's DCGS-A capability, resolve high priority Software Anomaly Reports (SAR); conduct interoperability development and test; comply with DOD mandates and provide Defense Information Infrastructure (DII) Common Operating Environment (COE)/Net Centric Enterprise Services (NCES) maintenance for the ASAS family of systems. Army has not programmed ASAS funding after FY09, as responsibility for meeting operational requirements for information electronic warfare assessment, management and planning, analysis and production, and dissemination has migrated to the DCGS-A program.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1	3.400	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>			<b>PROJECT</b> B19: <i>ASAS EVOLUTIONARY ACQ (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>
Resolve high priority Software Anomaly Reports (SARs); conduct interoperability development and test; and comply with DOD mandates and provide Defense Information Infrastructure (DII) Common Operating Environment (COE)/Network Centric Enterprise Services (NCES) maintenance for ASAS Light, IFS, Analysis Control Team-Enclave (ACT-E), and Analysis and Control Element (ACE).  <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							3.400	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>OPA (K28801) ASAS Modules</i>	79.361	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	79.361
• Ord. #2: <i>Spare (BS9704)</i>	1.185	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1.185
<b>D. Acquisition Strategy</b>											
The ASAS development program builds upon and expands the capabilities and functionality developed and produced in the ASAS Block I System including conversion to the Common Hardware Systems (CHS) and the Defense Information Infrastructure Common Operating Environment/Network Centric Enterprise Services (DII COE/NCES) and Modernized											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B19: <i>ASAS EVOLUTIONARY ACQ (MIP)</i>
<p>Integrated Database (MIDB). ASAS is being developed using a block upgrade evolutionary acquisition strategy.- ASAS Block I: Fielded ruggedized, tactical systems at Active Component (AC) corps, divisions, and the institutional training base.- ASAS-Extended: Provided the rest of the AC and National Guard enhanced separate brigades with an interim ASAS capability running Block I software on commercial hardware.- ASAS Block II: Uses common hardware and software, built on the DII COE/NCES standard. Provides open architecture, assured interoperability, and enhanced capability with room for growth. ASAS Light is the key intelligence provider for Army Battle Command Systems (ABCS).- Army Software Blocking: ASAS Light synchronizes with Software Block 1 and 2 execution phases.The program emphasizes multiple evolutionary deliveries, with incremental enhancements of ASAS products, integrated test, and continuous evaluation opportunities. ASAS builds upon experience and feedback gained from the fielded ASAS products and real-world operational deployments providing the soldier with improved reliability, supportability, and survivability.</p> <p><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.</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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>				<b>PROJECT</b> B41: <i>CI/HUMINT Software Products (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>
B41: <i>CI/HUMINT Software Products (MIP)</i>	1.716	3.116	6.330	8.100	14.430	3.375	3.548	3.754	3.833	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The Counterintelligence (CI) and Human Intelligence (HUMINT) Automated Reporting and Collection Systems (CHARCS) are the Army's CI and HUMINT tactical collection and reporting systems. It provides automation support for information collection, reporting, investigations, source and interrogation operations and document exploitation. The CHARCS automation architecture extends from the individual HUMINT team soldier or CI agent to the Division and Corps Analysis and Control Element (ACE). CHARCS reports and digital data such as maps, overlays, images, video, biometrics, scanned documents and audio files are transmitted through secure networks and interfaces with the Distributed Common Ground Systems-Army (DCGS-A) for detailed analysis and creation of finished intelligence products. Collection and reporting teams at Military Intelligence (MI) battalions and their operational managers are equipped with one of two CHARCS systems. The first is the AN/PYQ-8 Individual Tactical Reporting Tool (ITRT) which provides hand-held collection and processing devices for individual HUMINT team members or CI agents. The second is the AN/PYQ-3 CI/HUMINT Automated Tool Set (CHATS) which provides the team leader (who normally directs 3-5 team members) tools to process and manage team-collected information and a robust set of devices such as printers, scanners, cameras and audio recorders to assist the collection mission. The CHATS is also used by Operational Management Team (OMT) (who normally directs 5-10 collection and reporting teams). Together the ITRT and CHATS provide the necessary tactical tools and systems to collect, manage, store, export and receive CI/HUMINT related reports, files, information, and digital media. FY2011 Base amount of \$6.330 million RDTE funds the development of Increment II required counterintelligence and human intelligence collection and reporting software and hardware component capabilities to meet approved JROC CDD documentation, dated July 2008. FY2011 OCO amount of \$8.1 million RDTE funds the development and software license procurement of new capabilities for deployable Document and Media Exploitation (DOMEX) systems that will serve as a tactical extension of NMEC's next generation DOMEX systems NEXSYS.</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							1.522	2.874	5.884	0.000	5.884
Base: Continue development of improved collection and reporting software functionality.											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B41: <i>CI/HUMINT Software Products (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 Base: Continue Test and Security Accreditation efforts.		0.194	0.242	0.446	0.000	0.446
<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	0.000	8.100	8.100

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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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>			<b>PROJECT</b> B41: <i>CI/HUMINT Software Products (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>	
OCO - Document and Media Exploitation (DOMEX) Tools											
<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						1.716	3.116	6.330	8.100	14.430	
<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 (BK5275) CI HUMINT AUTO REPRTING AND COLL (CHARCS) (MIP)</i>	30.021	38.703	7.416	52.277	59.693	10.421	10.042	10.395	10.679	Continuing	Continuing
• Ord. #2: <i>RDTE (PE 64321, Project B49) CHIMS TADSS</i>	0.128	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	.128
<b>D. Acquisition Strategy</b>											
CHARCS software is the common software on two collection and reporting products: CI/HUMINT Automated Tool Set (CHATS) and Individual Tactical Reporting Tool (ITRT). CHARCS software requires development to keep pace with evolving capability requirements and meet JROC approved requirements documented in the Increment II Capability Development Documents (approved in July 2008). During the Engineering and Manufacturing Development (EMD) Phase, the program will have a full and open competition to award											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B41: <i>CI/HUMINT Software Products (MIP)</i>
<p>a contract to build production representative systems using the Increment 1 baseline system. After MS C, in the Production and Deployment Phase, a Firm Fixed Price contract based on full and open competition will be awarded. Pre-planned product improvements will occur later in the phase to add product level capabilities that provide relevant intelligence to support the warfighter.</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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>				<b>PROJECT</b> B41: <i>CI/HUMINT Software Products (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			
CI/HUMINT Utilities SW Development	C	Northrop Grumman Sierra Vista, AZ	0.224	0.000		0.000		0.000		0.000	Continuing	Continuing	0
CHARCS Software Development	C	TBD Location could not be determined.	9.324	1.967		3.421		0.000		3.421	Continuing	Continuing	0
CHATS Development	C/FFP	ESS Frederick MD	1.808	0.000		0.000		0.000		0.000	Continuing	Continuing	0
CI/HUMINT SS SW Development	C	Northrop Grumman Sierra Vista, AZ	0.050	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Cost Category Item is empty.	C	TAMSCO Eatontown, NJ	1.566	0.000		0.000		0.000		0.000	Continuing	Continuing	0
IIRT Development	C/FFP	ESS Frederick MD Location could not be determined.	0.444	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Cost Category Item is empty. - 2	C/CPFF	Nothing entered for Activity and Location. Location could not be determined.	3.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
CECOM Transition Support	C	CECOM SW Engineering Center, Ft. Huachuca AZ	1.028	0.000		0.500		0.000		0.500	Continuing	Continuing	0
Cost Category Item is empty. - 3	C	Nothing entered for Activity and Location.	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>				<b>PROJECT</b> B41: <i>CI/HUMINT Software Products (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			
		Location could not be determined.											
OCO DOMEX	C/TBD	TBD Location could not be determined.	0.000	0.000		0.000		8.100		8.100	Continuing	Continuing	0
<b>Subtotal</b>			17.444	1.967		3.921		8.100		12.021			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			
Contractor Support	C	TASC Chantilly, VA	2.367	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Contractor Support - 2	C/TBD	TBD Location could not be determined.	0.000	0.170		0.687		0.000		0.687	Continuing	Continuing	0
Matrix Support	C	I2WD CECOM Fort Monmouth, NJ	0.368	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			2.735	0.170		0.687		0.000		0.687			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>				<b>PROJECT</b> B41: <i>CI/HUMINT Software Products (MIP)</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			

**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			
Developmental Test	C	PRC McLean, VA	0.401	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Developmental Test	C	JITC Ft. Huachuca, AZ	0.374	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Test Support and Interoperability	C	CTSF Ft. Hood Tx.	0.110	0.202		0.300		0.000		0.300	Continuing	Continuing	0
Operational Test	C	ATEC Alexandria, VA	0.159	0.000		0.075		0.000		0.075	Continuing	Continuing	0
Test Articles	C	ESS Frederick, MD	0.120	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Security Accreditation Collateral	C	CECOM Ft. Monmouth, NJ	0.280	0.040		0.061		0.000		0.061	Continuing	Continuing	0
SCI PL2	C	NGMS Sierra Vista, AZ	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SCI PL2 Certification	C	Air Force Research Lab (AFRL) Rome, NY	0.160	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B41: <i>CI/HUMINT Software Products (MIP)</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			
Safety Release	C	CECOM Ft. Monmouth, NJ	0.025	0.000		0.010		0.000		0.010	Continuing	Continuing	0
<b>Subtotal</b>			1.629	0.242		0.446		0.000		0.446			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	ASPO/PD CHARCS Ft Belvoir, VA	1.304	0.737		1.276		0.000		1.276	Continuing	Continuing	0
<b>Subtotal</b>			1.304	0.737		1.276		0.000		1.276			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			
<b>Project Cost Totals</b>	23.112	3.116		6.330		8.100		14.430			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B41: <i>CI/HUMINT Software Products (MIP)</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
V1.2 CTSF Testing	#																											
V1.2 OEF User Evaluation					#																							
Incr 2 MS B						#																						
CHARCS V1.3 Development					#	#	#																					
V1.3 CTSF Testing					#																							
V1.3 User Evaluation					#																							
CHARCS V2.0 Development							#	#	#	#	#																	
V2.0 Operational Test											#																	
Incr 2 MS C											#																	
V2.0 First Unit Equipped											#																	
V2.0 Fieldings											#	#	#	#	#	#	#	#										
CHARCS V2.1 Development											#	#	#	#	#	#	#											
V2.1 LUT (if needed)																	#											
V2.1 First Unit Equipped																	#											
V2.1 Fieldings																	#	#	#	#	#	#	#	#				

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B41: <i>CI/HUMINT Software Products (MIP)</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
V1.2 CTSF Testing	1	2009	1	2009
V1.2 OEF User Evaluation	1	2010	1	2010
Incr 2 MS B	2	2010	2	2010
CHARCS V1.3 Development	4	2009	2	2010
V1.3 CTSF Testing	2	2010	2	2010
V1.3 User Evaluation	1	2010	1	2010
CHARCS V2.0 Development	3	2010	3	2011
V2.0 Operational Test	3	2011	3	2011
Incr 2 MS C	4	2011	4	2011
V2.0 First Unit Equipped	4	2011	4	2011
V2.0 Fieldings	4	2011	2	2013
CHARCS V2.1 Development	4	2011	1	2013
V2.1 LUT (if needed)	1	2013	1	2013
V2.1 First Unit Equipped	2	2013	2	2013
V2.1 Fieldings	2	2013	4	2014

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>				<b>PROJECT</b> B44: <i>ASAS TADSS (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>
B44: <i>ASAS TADSS (MIP)</i>	0.204	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>The All Source Analysis System (ASAS) is a ground based, mobile, command and control, intelligence processing system that provides tactical commanders a common view of the battlefield and a means for gaining a timely and comprehensive understanding of enemy force deployments, capabilities, and potential courses of action. The system interfaces with selected national, joint, and theater Intelligence assets, adjacent/higher/lower military intelligence preprocessors, Distributed Common Ground System-Army (DCGS-A), Army Battle Command System (ABCS), and organic deployed Intelligence/Electronic Warfare (IEW) teams and assets. The ASAS product set currently includes: ASAS-Light, Intelligence Fusion Station (IFS), Analysis and Control Team-Enclave (ACT-E), and Analysis and Control Element (ACE). The ASAS system uses standard joint and Army protocols and message formats to interface with forward deployed sensor/teams, intelligence preprocessors and joint/national/Army C3I systems. FY09 provided funding for Training Aids Devices Simulators and Simulations (TADSS).</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							0.204	0.000	0.000	0.000	0.000
<p>Training Aids Devices Simulators and Simulations</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>											

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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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>		<b>PROJECT</b> B44: <i>ASAS TADSS (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 2011 OCO Plans:</i> FY 2011 OCO								
Accomplishments/Planned Programs Subtotals				0.204	0.000	0.000	0.000	0.000
<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-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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B49: <i>CHIMS TADSS (MIP)</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
B49: <i>CHIMS TADSS (MIP)</i>	0.128	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											

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

The Counterintelligence/Human Intelligence (CI/HUMINT) Information Management System (CHIMS) is the Army system responsible for collection, processing, and analysis of CI/HUMINT data to satisfy tactical and strategic human intelligence requirements. CHIMS provides the automation support for Army tactical CI/HUMINT information collection, investigation, interrogation, operations, biometrics, document exploitation, and force protection. The CHIMS architecture extends from the individual agent/collector to National and Theater intelligence organizations. CHIMS is the only HUMINT automation provider for All-Source architectures for the Current to Future Force, including: ASAS Block 1 and 2, Distributed Common Ground System - Army (DCGS-A), and PORTICO. CHIMS systems are used to produce intelligence products to feed and maintain HUMINT databases and the All Source Correlated Data Base (ASCDB). CHIMS provides systems to both vertical and horizontal customer bases. Vertical (Army) clients include: Special Forces, Long Range Surveillance Units, all MACOMS, Reserves, National Guard, Stryker Brigade Combat Teams (SBCT), and the Intelligence School. Horizontal clients (non-Army) include U.S. Navy, U.S. Marine Corps, Joint Task Force (JTF) GTMO Cuba, and Defense Intelligence Agency (DIA). Organic automation and analysis capabilities are provided to Military Intelligence (MI) units with hand held reporting devices and to CI Staff Officers (CISO) with high capacity workstations and web servers, providing collection management, asset management, transmission, receipt, storage, and export of electronic data and digital imagery information including exploitation of foreign language materials and biometrics. CHIMS can produce and disseminate messages and reports through an array of communications systems including: serial, SINCGARS, STE, STU, satellite, and other organic communications devices. The CHIMS suite of systems incorporates a multi-tiered architecture that reaches from hand held devices to Web servers providing multiple security level access with both brilliant push and smart pull tools to the battlefield commander and National interests. PM CHIMS develops the CI/HUMINT Automated Management Software (CHAMS), a 3rd generation product providing advanced capabilities with a soldier friendly interface. The software provides asynchronous distributed databases that use a client server schema to maintain synchronicity In-Theater. This project provides Training Aids, Devices, Simulators and Simulations (TADSS) for CHIMS.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Develop Training Aids, Devices, Simulators and Simulations for CHIMS systems.	0.128	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>				<b>PROJECT</b> B49: <i>CHIMS TADSS (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											
Accomplishments/Planned Programs Subtotals						0.128	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>RDTE (PE 654321, Proj B41) CI/HUMINT Software Products</i>	1.697	2.968	3.169	0.000	3.169	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #2: <i>OPA (BK5275) CHIMS (TIARA)</i>	5.942	10.285	12.519	0.000	12.519	0.000	0.000	0.000	0.000	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
The CI/HUMINT Automated Management Software (CHAMS), is the common software baseline for all CI/HUMINT Info Management System (CHIMS) product lines. CHAMS will be continuously improved through spiral development to keep pace with evolving capability requirements and TADSS requirements. CHIMS Training Aids, Devices, Simulators and Simulations development will be accomplished under the base CHAMS development contract, a competitively awarded IDIQ type 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-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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>				<b>PROJECT</b> B51: <i>SEQUOYAH - FOREIGN LANGUAGE TRANSLATION 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>
B51: <i>SEQUOYAH - FOREIGN LANGUAGE TRANSLATION SYSTEM</i>	7.763	9.923	16.244	0.000	16.244	10.606	10.545	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>The Machine Foreign Language Translation System (MFLTS) program develops, fields, and sustains a basic automated foreign speech and text translation capability into Army acquisition systems, to augment and compliment limited human linguistic resources. These integrated automated translation capabilities will be applicable across three different system configurations; a hand-held/wearable portable device, a laptop or mobile device, and in a networked/web-enabled system. The software modules will translate English into a prioritized listing of languages in a prioritized collection of domains (i.g. medical, intelligence, base security). MFLTS will be interoperable with Commercial Off-The-Shelf (COTS) or Government Off-The-Shelf (GOTS) automation equipment to include the Distributed Common Ground System-Army (DCGS-A), Ground Soldier Ensemble, Counterintelligence Human Intelligence Automated Reporting and Collection System (CHARCS).FY11 Base RDTE dollars in the amount of \$16.244 million will support the development of the MFLTS.</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  Development and integration of Critical Technology Elements (CTE) of Automated Speech Recognition (ASR), Optical Character Recognition (OCR), and Machine Language Translation Translation Engine (MLT TE) software  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010							1.530	6.470	11.500	0.000	11.500

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B51: <i>SEQUOYAH - FOREIGN LANGUAGE TRANSLATION 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 #2 Support program management and matrixed engineering 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		2.556	2.490	2.894	0.000	2.894
Program #3 Test the automated language translation capabilities using established metrics, collected standard data sets, and standardized objective validation process  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	1.800	0.000	1.800

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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>	<b>R-1 ITEM NOMENCLATURE</b>	<b>PROJECT</b>				
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	B51: <i>SEQUOYAH - FOREIGN LANGUAGE TRANSLATION 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 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 Interagency Language Roundtable (ILR) automated metric development		0.655	0.685	0.050	0.000	0.050
<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 Development of the vocabulary collection and testing sets in the prioritized languages		3.022	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B51: <i>SEQUOYAH - FOREIGN LANGUAGE TRANSLATION 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 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		0.000	0.278	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		7.763	9.923	16.244	0.000	16.244

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>	<b>PROJECT</b> B51: <i>SEQUOYAH - FOREIGN LANGUAGE TRANSLATION SYSTEM</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>B88605 Sequoyah Foreign Language Translation System</i>	6.339	0.000	0.000	0.000	0.000	7.677	7.644	0.000	0.000	0	21.660

**D. Acquisition Strategy**

The MFLTS program acquisition strategy for the Technology Development (TD) Phase is to develop two open software architecture prototypes using full and open competition that will allow the addition, upgrade and replacement of components for integration into a full system. During the Engineering and Manufacturing Development (EMD) Phase, the program will be integrating technology demonstrated during the Technology Development Phase to meet Key Performance Parameter (KPP) of an Interagency Language Roundtable (ILR) level of 1 for 3 speech translation modules and an ILR level of 1+ for 2 text translation modules in hand-held/wearable portable, laptop or mobile, and networked/web-enabled system configurations. After completion of EMD, there will be a full and open competition for production capability and conduct of Operational Test and Evaluation (OT&E).

**E. Performance Metrics**

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

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<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>				<b>PROJECT</b> B51: <i>SEQUOYAH - FOREIGN LANGUAGE TRANSLATION 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			
Technology Development (TD) Contracts	C/TBD	TBD Location could not be determined.	0.000	6.470		7.000		0.000		7.000	Continuing	Continuing	0
Eng & Manufacturing Development (EMD) Contracts	C/TBD	TBD Location could not be determined.	0.000	0.000		4.500		0.000		4.500	Continuing	Continuing	0
<b>Subtotal</b>			0.000	6.470		11.500		0.000		11.500			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			
Matrixed services at Other Gov Activities	C	Fort Monmouth NJ	0.000	1.568		1.659		0.000		1.659	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.568		1.659		0.000		1.659			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604321A: <i>ALL SOURCE ANALYSIS SYSTEM</i>				<b>PROJECT</b> B51: <i>SEQUOYAH - FOREIGN LANGUAGE TRANSLATION SYSTEM</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 Test and Evaluation	C	USA Test and Eval Command Alexandria, VA	0.000	0.000		1.800		0.000		1.800	Continuing	Continuing	0
ILR Metric Development	C	NIST DLI, MIT-LL	0.000	0.685		0.050		0.000		0.050	Continuing	Continuing	0
Data Collection	C	ARL Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.685		1.850		0.000		1.850			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	ASPO Ft. Belvoir, VA	0.000	1.200		1.235		0.000		1.235	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.200		1.235		0.000		1.235			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
Initial Capability- MS A				#																								
Initial Capability TD Phase				#	#	#	#	#	#	#	#	#																
TD Phase Contract Awards				#	#																							
PDR											#																	
Initial Capability- MS B											#																	
Initial Capability EMD											#	#	#	#	#	#												
CDR											#																	
LUT															#													
Initial Capability- MS C															#													
Production Contract Award																			#									
Limited Deployment																			#	#								
Initial Capability Production																			#	#	#	#	#					
IOTE																			#									
IOC																			#									

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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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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Initial Capability- MS A	1	2010	1	2010
Initial Capability TD Phase	1	2010	3	2011
TD Phase Contract Awards	1	2010	2	2010
PDR	3	2011	3	2011
Initial Capability- MS B	3	2011	3	2011
Initial Capability EMD	3	2011	4	2012
CDR	4	2011	4	2011
LUT	3	2012	3	2012
Initial Capability- MS C	4	2012	4	2012
Production Contract Award	2	2013	2	2013
Limited Deployment	2	2013	3	2013
Initial Capability Production	3	2013	3	2014
IOTE	3	2013	3	2013
IOC	4	2013	4	2013

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

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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	57.677	83.178	80.337	0.000	80.337	59.587	45.607	42.659	42.871	Continuing	Continuing
033: <i>ADV CREW SVC WPN</i>	7.973	1.958	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S58: <i>SOLDIER ENHANCEMENT PROGRAM</i>	11.393	4.865	4.850	0.000	4.850	5.786	5.752	6.695	6.666	Continuing	Continuing
S60: <i>CLOTHING &amp; EQUIPMENT</i>	18.636	15.273	9.711	0.000	9.711	10.343	9.621	5.930	5.999	Continuing	Continuing
S61: <i>ACIS ENGINEERING DEVELOPMENT</i>	12.988	10.458	10.295	0.000	10.295	13.917	14.146	14.402	14.635	Continuing	Continuing
S62: <i>Counter-Defilade Target Engagement - SDD</i>	0.000	21.751	34.416	0.000	34.416	10.237	0.605	0.000	0.000	Continuing	Continuing
S63: <i>SMALL ARMS IMPROVEMENT</i>	5.787	27.559	19.805	0.000	19.805	18.231	14.404	14.481	14.438	Continuing	Continuing
S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>	0.000	1.314	1.260	0.000	1.260	1.073	1.079	1.151	1.133	Continuing	Continuing

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

FY 2011 budget request funds Infantry Support Weapons. This program element (PE) Engineering and Manufacturing Development (EMD) manages the Soldier as a system, with the goal of increasing Soldiers' combat effectiveness, increasing survivability, and improving the Soldiers' quality of life. It develops and tests prototypes of weapons, clothing, equipment, and other items useful to support the Soldier. Project 033 (Advanced Crew Served Weapon) develops the Lightweight .50 Caliber Machine Gun which enables the Soldier to effectively suppress and incapacitate exposed personnel targets out to 2,000 meters as well as providing a capability to defeat light armored vehicles out to 1,500 meters. The new .50 Caliber weapon will reduce weight and recoil, and eliminate manual adjustment of headspace and timing. Project S58 (Soldier Enhancement Program) supports accelerated integration, modernization, and enhancement efforts of lighter, more lethal weapons, and improved Soldier items including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigational aids. Project S59 (Soldier Support Equipment) supports system development and prototyping of critical Soldier support systems and other combat service support equipment that will improve unit sustainability and combat effectiveness. Project S60 (Clothing and Equipment) supports pre-production development of state-of-the-art individual clothing and equipment to improve the survivability, mobility and sustainment affecting the quality of life of the individual Soldier. Project S61 (Aircrew Integrated Systems) provides System Development programs with improved aviator safety, survivability, and human performance that amplify the warfighting effectiveness and facilitates full-spectrum dominance of the Army aircraft including the AH-64 Apache/Longbow, CH-47 Chinook, UH/HH-60 Blackhawk, Light Utility Helicopter, and Armed Reconnaissance Helicopter. Project S62 (Counter-Defilade Target Engagement) the XM25, Individual Airburst Weapon System (IAWS) delivers a 25mm

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>
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programmable high explosive airburst (HEAB) round to defeat defilade and point areas targets out to approximately 600 meters. Accurate and lethal engagement of defilade targets at the squad level is the number one capability gap identified by the United States Army Infantry Center (USAIC). Project S63 (Small Arms Improvements) demonstrates engineering development models or integrated commercial items designed to enhance lethality, target acquisition, fire control, training effectiveness, and reliability for small arms weapon systems and ammunition. FY2011 new programs include Improved Weapons Coatings, Personal Defense Weapon, 30 Round 5.56mm Magazine, Modular Handgun and Precision Sniper Rifle. Project S64 (CROWS) funds will be applied to continue enhancing CROWS capability and reliability, and to increase its application across combat and tactical platforms. This capability will enhance the Soldier's survivability, lethality and situational awareness. Project S70 (Personnel Recovery Support System) provides system research, development and testing of the Personal Recovery Support System/Personnel Recovery Support Equipment supporting operations to report and locate isolated, missing, detained or captured Soldiers.

**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	58.064	74.814	58.032	0.000	58.032
Current President's Budget	57.677	83.178	80.337	0.000	80.337
Total Adjustments	-0.387	8.364	22.305	0.000	22.305
• Congressional General Reductions		-0.436			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		8.800			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.387	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	0.000	0.000	22.305	0.000	22.305

**Change Summary Explanation**

Change Summary Explanation: FY 2010: Congressional Increases-\$1.600 million for Headborne Energy Analysis and Diagnostic System\$4.000 million for Composite Bottles for Survival Egress Air\$3.200 million for Lightweight Caliber .50 Machine Gun FY 2011: Funding increase to support the Counter Defilade Target Engagement System and Small Arms Improvement program.

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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>
033: <i>ADV CREW SVC WPN</i>	7.973	1.958	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 develops the Lightweight .50 Caliber Machine Gun which will meet the US Army/SOCOM requirements for a Lightweight Enhanced .50 Caliber Machine Gun. The project will result in the development of a lightweight .50 Caliber machine gun system enabling the Soldier to effectively suppress and incapacitate exposed personnel targets out to 2,000 meters, as well as providing a capability to defeat lightly armored vehicles out to 1,500 meters. Successful development of the Lightweight .50 Caliber Machine Gun will increase the warfighter's lethality while significantly reducing tactical load and supportability costs. The new .50 Caliber weapon will reduce weight and recoil, and eliminate manual adjustment of headspace and timing.</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							1.778	0.000	0.000	0.000	0.000
Award 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											
<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			
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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 #2		2.472	0.000	0.000	0.000	0.000
Design Weapon System 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						
Program #3		2.700	0.000	0.000	0.000	0.000
Fabricate Weapon System 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						

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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 #4		0.378	0.000	0.000	0.000	0.000
Establish Interface Controls						
<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		0.145	0.200	0.000	0.000	0.000
Integrated Logistics 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>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 Conduct Weapon System Design 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		0.500	1.545	0.000	0.000	0.000
Program #7 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	0.213	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>	
Accomplishments/Planned Programs Subtotals						7.973	1.958	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>WTCV, G12800, Lightweight .50 Caliber Machine Gun</i>	0.000	0.974	18.941	0.000	18.941	28.872	19.036	33.325	31.667	0	132.815
<b>D. Acquisition Strategy</b>											
In support of the US Army Infantry Center (USAIC) Capability Production Document (CPD) for Enhanced .50 Caliber Machine Gun (M2A1), the Lightweight .50 Caliber Machine Gun will be developed. Milestone C is scheduled fourth quarter FY2010. The development contractor is General Dynamics Armament and Technical Products (GDATP) of Burlington, Vermont. The Acquisition Strategy (Sole Source), Acquisition Plan, and Milestone B were approved by the Milestone Decision Authority (MDA) - PEO Soldier.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> 033: <i>ADV CREW SVC WPN</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			
Primary Hardware	SS/CPFF	Gen Dyn and Arm Tech Prod Burlington, VT	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			
Development (Weapon and Mount)	C	RDECOM-RDEC Picatinny Arsenal,NJ	0.000	0.852		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.852		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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> 033: <i>ADV CREW SVC WPN</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			
Development Test/Limited User Test (DT/LUT)	C	ATC Aberdeen PG, MD	0.000	0.961		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.961		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 Management	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.110		0.000		0.000		0.000	Continuing	Continuing	0
Travel	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.035		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.145		0.000		0.000		0.000			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> 033: <i>ADV CREW SVC WPN</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>	0.000	1.958	0.000	0.000	0.000			0.000

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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
Conduct Weapon System Design Validation Test	#	#	#																									
Award Development Contract		#																										
Design /Evaluate Weapon System Hardware				#	#	#	#	#																				
ILS Training				#	#																							
DT/LUT					#																							
Milestone C/TC LRIP								#																				

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> 033: <i>ADV CREW SVC WPN</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Conduct Weapon System Design Validation Test	1	2009	3	2009
Award Development Contract	2	2009	2	2009
Design /Evaluate Weapon System Hardware	4	2009	3	2010
ILS Training	4	2009	1	2010
DT/LUT	1	2010	1	2010
Milestone C/TC LRIP	3	2010	3	2010

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<b>Exhibit R-5, RDT&amp;E Termination Liability: PB 2011 Army</b>							<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>			<b>PROJECT</b> 033: <i>ADV CREW SVC WPN</i>
<b>Cost (\$ in Millions)</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Program Termination Liability</b>	9.659	0.000	2.000	0.000	0.000	0.000	0.000

**Notes**

Funding will be used to complete development testing.

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S58: <i>SOLDIER ENHANCEMENT PROGRAM</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>
S58: <i>SOLDIER ENHANCEMENT PROGRAM</i>	11.393	4.865	4.850	0.000	4.850	5.786	5.752	6.695	6.666	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
This program supports accelerated integration, modernization, and enhancement efforts of lighter, more lethal weapons, including improved optics, sights, and fire controls; and improved soldier items including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigational aids. Soldiers are managed in three categories: dismounted Soldiers, combat crews (air and ground), and other Soldiers. Projects are generally completed in three years or less.											
<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-FY11: Accomplishments and Current Plan include evaluation and procurement of prototypes and/or test for the following Soldier Equipment Items: Enhanced Hearing Protection, Parachute Electronic Activation Device, Parachute Oxygen Mask, and On-The-Move Hydration System, Aircrew Laser Pointer, Ghillie Suit, Concealable Body Armor Demo, Grenadier Laser Range Finder, Mounted Soldier Body Armor Demonstration and Mountain Boots, and Family of Flashlights.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							4.138	1.005	1.249	0.000	1.249

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S58: <i>SOLDIER ENHANCEMENT PROGRAM</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  FY09-FY11: Accomplishments and Current Plan include evaluation and procurement of prototypes and/or test for the following Soldier Weapons Items: 12 Ga Non-lethal Extended Range Round, 40 MM Extended Range Non-lethal Round, Close Quarters Battle Kit Re-compete, Modular Accessory Shotgun System, XM320 Grenade Launcher Module, Advanced Sniper Accessory Kit, the M2 Quick Change Barrel Kit, M68 CCO Re-Competition, Sniper Quick Fire Sight, and Sniper Weapon Tripod.  <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		1.823	1.018	1.055	0.000	1.055
Program #3  FY09-FY11: Continue in-house engineering support services, conduct technical evaluations and program reviews.  <i>FY 2009 Accomplishments:</i> FY 2009		2.106	0.997	0.949	0.000	0.949

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S58: <i>SOLDIER ENHANCEMENT PROGRAM</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 #4</b>  FY09-FY11: Initiate market surveys and/or evaluations on new items to commence development and demonstration. New items initiated will continue evaluation/procurement of new prototypes.  <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		1.792	0.953	0.800	0.000	0.800
<b>Program #5</b>  FY09-FY11: Current Plan includes evaluation and procurement of prototypes and/or test for Soldier equipment and Lethality programs that will be reviewed in a semi-annual review scheduled for Feb 2010 which could		1.109	0.892	0.797	0.000	0.797

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S58: <i>SOLDIER ENHANCEMENT PROGRAM</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: Individual Force Protection System, SmartCard Explosives Detection Reader, Engineer Equipment Set: Urban Operations, Platoon, Range Finders with Angle Range Compensation (ARC), Zerust, Combat Cushion, ACCU-SHOT MONOPOD, Bio-Degradable, Self Neutralizing AP Mine, Weapons Magazine Well Cover, Portable Boresight Fixture, Enhanced - Laser Module Unit (E-LMU) Bullet Proof Universal Weapons Mount, Tactical Equipment Lanyard Kit, SandHopper, Flame Resistant Clothing (Socks), Sand Bagger Fixture, V-Pac Vests, In-Ear Noise Reduction Headphones, Improved Helmet Chinstrap, Enhanced Bed Net System, Model 863 M-4 Tactical Padded Hard Case, Hammer Mechanism For Firearms, Canine Dental Enhancement, Improved Bed Net System, Dustoff Modular Weapon Protection System, Tempus IC from RDT Ltd, Load-Ready, (Posture Orange), Michaelosheld, Steiner 10x42 R Binoculars #650, SmartBagger, Expanding Point Munitions for Small Arms, RYNOSKIN Insect Protection Suit, Gloshade, Improved MEDEVAC GTA, M16/M4 Family Weapons ID Band, MVMS (Mobile Surveillance TV-System), Free-Floating Rail System for M4/M16, Designated Marksman Precision Trigger</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 #6		0.425	0.000	0.000	0.000	0.000
Small Business Innovative Research/Small Business Technology Transfer 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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S58: <i>SOLDIER ENHANCEMENT PROGRAM</i>

<b>B. Accomplishments/Planned Program (\$ in Millions)</b>					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<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	11.393	4.865	4.850	0.000	4.850

<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>OPA3, MA68000, Soldier Enhancement</i>	9.169	4.058	5.416	0.000	5.416	9.441	4.822	8.459	4.789	Continuing	Continuing
• Ord. #2: <i>OPA2, BA5300, Soldier Enhancement</i>	7.545	5.020	5.469	0.000	5.469	5.000	5.000	5.000	5.000	Continuing	Continuing
• Ord. #3: <i>WTCV, GC0076, Small Arms (SEP)</i>	1.250	5.131	4.161	0.000	4.161	5.154	5.154	5.300	5.300	Continuing	Continuing
• Ord. #4: <i>WTCV, GZ1290, Squad Automatic Wpn (Mods)</i>	22.134	7.196	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #5: <i>WTCV, GZ2800, M16 Rifle Mods</i>	1.181	4.285	3.965	0.000	3.965	3.618	3.469	3.482	3.500	Continuing	Continuing
• Ord. #6: <i>WTCV, GB3007, M4 Carbine Mods</i>	16.746	17.885	16.613	0.000	16.613	13.672	13.414	14.043	14.410	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S58: <i>SOLDIER ENHANCEMENT PROGRAM</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. #7: <i>WTCV, GO1500, Sniper Rifle</i>	0.223	0.229	0.242	0.000	0.242	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #8: <i>WTCV,GC0925, Mods</i>	3.763	6.310	6.263	0.000	6.263	3.096	3.230	0.000	0.000	Continuing	Continuing
• Ord. #9: <i>PAA, F47500, 7.62mm AP</i>	10.000	10.000	10.000	0.000	10.000	6.000	2.000	0.000	0.000	Continuing	Continuing
• Ord. #10: <i>PAA, F47600, 5.65mm AP</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #11: <i>OMA, 121017, Central Funding &amp; Fielding</i>	92.606	89.100	39.137	0.000	39.137	79.642	113.198	0.000	0.000	Continuing	Continuing
• Ord. #12: <i>WTCV, G14904 - M4 Carbine</i>	150.610	62.738	48.804	0.000	48.804	45.065	19.502	46.582	46.708	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
The Soldier Enhancement Program (SEP) focuses on COTS initiatives and integration efforts that lend themselves to accelerated acquisition and fielding in the near term (within three years). New SEP candidates are reviewed and approved semi-annually. SEP items are procured from multiple appropriations, i.e., OMA, OPA, WTCV, and PAA.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S58: <i>SOLDIER ENHANCEMENT PROGRAM</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	TBD Location could not be determined.	25.275	1.854		1.843		0.000		1.843	Continuing	Continuing	0
<b>Subtotal</b>			25.275	1.854		1.843		0.000		1.843			0.000

**Remarks**

Candidates for the Soldier Enhancement Program are received, reviewed, and approved semi-annually. Contractual efforts are focused on procuring prototypes for testing.

**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			
Various	C/Various	TBD Location could not be determined.	3.051	0.596		0.601		0.000		0.601	Continuing	Continuing	0
<b>Subtotal</b>			3.051	0.596		0.601		0.000		0.601			0.000

**Remarks**

Support costs vary annually depending on the type of items that are being evaluated. Research, Development, and Engineering Centers support to evaluate these items also varies annually depending on the number and types of items.

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

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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			
Various	C/Various	Nothing entered for Activity and Location. Location could not be determined.	4.842	1.643		1.690		0.000		1.690	Continuing	Continuing	0
<b>Subtotal</b>			4.842	1.643		1.690		0.000		1.690			0.000

**Remarks**

Testing costs vary annually depending on number and type of items being evaluated.

**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	C	PEO Soldier Ft Belvoir, Va	5.936	0.772		0.716		0.000		0.716	Continuing	Continuing	0
<b>Subtotal</b>			5.936	0.772		0.716		0.000		0.716			0.000

**Remarks**

Costs vary annually depending on number and type of items being evaluated.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S58: <i>SOLDIER ENHANCEMENT PROGRAM</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>	39.104	4.865	4.850	0.000	4.850			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S60: <i>CLOTHING &amp; 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>
S60: <i>CLOTHING &amp; EQUIPMENT</i>	18.636	15.273	9.711	0.000	9.711	10.343	9.621	5.930	5.999	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
Funding supports pre-production development of state-of-the-art individual clothing and equipment to improve the survivability, mobility, comfort, and sustainment affecting the quality of life 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							14.605	6.800	4.799	0.000	4.799
Individual Soldier Ballistic Protection (FY09): Continued efforts to integrate incremental capability improvements into Interceptor Body Armor in response to operational feedback. Initiated and completed Soldier Protection Demonstration VII excursion to demonstrate efficacy of IOTV design improvements. Initiated and completed the ergonomics analysis of the IOTV in response to operational feedback on female Soldier sizing and functionality. Completed initial evaluation of advanced dielectric stack (laser protective) ballistic protective spectacle lenses and received prototypes for formal test and evaluation in FY10. Initiated and completed SPD VII and ballistic testing of Plate Carrier systems to reduce weight and cube to increase Soldier mobility. Continued development of the Enhanced Combat Helmet (ECH) in cooperation with the Marines to support a FY10 production and fielding decision. Assessed head protection component technologies to mitigate the effects of ballistic/blast and non-ballistic impact (crash) threats. Procured four Non-Destructive Test Equipment (NDTE) systems to assess and establish ballistic plate performance & reliability. (FY10-11) Conduct formal test and evaluation of advanced dielectric stack (laser protective) ballistic protective spectacle lenses and transition to production. Continue incremental improvements (sizing, functionality, heat management, & reduce weight/cube of Interceptor Body Armor System and transition new technologies as they mature. Leverage emerging blast testing data analysis to establish performance baseline of next generation PPE. Continue with NDTE software improvements. Make											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S60: <i>CLOTHING &amp; 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>NDTE and ECH production and fielding decisions. Continue to improve ballistic &amp; advanced laser protection on combat eyewear. Improve lens coatings to improve scratch &amp; fog resistance.</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 system integration and formal DT/OT 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 improved Fire Resistant (FR) Army Combat Uniform (ACU) and the Army Aviation Combat Uniform. 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) Apply appropriate FR materials to hot weather vehicle crewmen uniforms and FR Fuel Handlers coveralls. Conduct product improvements for clothing bag items. Conduct user evaluations of clothing bag items. Publish an updated combat glove Approved Products List (APL). System Engineering Change Proposals (ECPs) and technology insertions to update components and synergy of Generation (GEN) IV Extended Cold Weather</p>		1.604	2.175	2.107	0.000	2.107

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S60: <i>CLOTHING &amp; 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>Clothing System (ECWCS) to provide FR protection in cold weather clothing. Evaluate Improved Physical Fitness Uniform (IPFU) trunks and t-shirts. Improve fit of Army Combat Uniforms for women.</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>Individual Equipment: (FY09) Conducted Engineering Manufacturing Development (EMD) of preproduction and production representative systems utilizing advancements in technology for load bearing equipment, hydration technologies including water filtration and Nuclear, Biological, Chemical (NBC) hydration, and other mission essential and/or mission specific equipment for Soldiers. Prove out as much commonality as feasible across a broad spectrum of user and mission scenarios. Purchase equipment and conduct pilot testing for Radio Frequency Identification (RFID). (FY10-11) Continue to refine design and incorporate new material/technology that pertains to form, fit, and function of the load bearing equipment. Continue to serve the Airborne community by developing equipment that is tailorable to Airborne operations. Purchase Advanced Ram Air Parachute test items and conduct developmental testing and operational testing. Continue to certify lights for the Approved Family of Flashlight List (AFFL) Certification Program.</p>		1.996	2.298	2.405	0.000	2.405

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S60: <i>CLOTHING &amp; 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 #4  Soldier Cooling: (FY11) Continue to enhance system performance and reliability. Continue to design for improved comfort, decreased weight/cube and improved power 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	0.000	0.400	0.000	0.400
Program #5		0.000	4.000	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S60: <i>CLOTHING &amp; 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>
Misalignment of Congressional Add for Composite Bottles. Funding should be shown under project S61  <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		0.431	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>			<b>PROJECT</b> S60: <i>CLOTHING &amp; 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>	
Accomplishments/Planned Programs Subtotals						18.636	15.273	9.711	0.000	9.711	
<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, 0603827.S53, Clothing and Equipment</i>	11.674	8.145	7.106	0.000	7.106	6.572	6.648	6.867	6.945	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>											
Acquisition strategies will vary in methods: (1) Quick fixes in 12-24 months or less from concept to Type Classification (TC), (2) modernization improvements which require limited RD&E and will be completed in more than 24-48 months from inception to Type Classification, and (3) fully integrated development that will require substantial RDT&E funding and will be completed in four years or more.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S60: <i>CLOTHING &amp; 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	6.100	1.070		1.391		0.000		1.391	Continuing	Continuing	0
Various - 2	C	Various Location could not be determined.	8.249	8.998		3.500		0.000		3.500	Continuing	Continuing	0
<b>Subtotal</b>			14.349	10.068		4.891		0.000		4.891			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.	5.529	2.145		2.050		0.000		2.050	Continuing	Continuing	0
<b>Subtotal</b>			5.529	2.145		2.050		0.000		2.050			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S60: <i>CLOTHING &amp; EQUIPMENT</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			
Various	C	Various Location could not be determined.	3.821	2.060		1.870		0.000		1.870	Continuing	Continuing	0
<b>Subtotal</b>			3.821	2.060		1.870		0.000		1.870			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	2.357	1.000		0.900		0.000		0.900	Continuing	Continuing	0
<b>Subtotal</b>			2.357	1.000		0.900		0.000		0.900			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			
	26.056	15.273		9.711		0.000		9.711			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
APEL Recertification			#	#	#																							
Recertify Combat Eyewear Protection (APEL)									#	#	#																	
APEL Recertification - 2												#																
Recertify Combat Eyewear Protection (APEL) - 2																	#	#										
APEL Recertification - 3																					#							
Transition Laser Protective Eyewear to Production								#	#	#	#	#																
Integrate/Test Spiral I Material Enhancements and Transition to Production										#	#	#	#	#	#													
Transition Spiral I to Production															#													
Integrate/Test Spiral II Material Enhancements and Transition to Production																	#	#	#	#	#	#						
Transition Spiral II to Production																						#						
Integrate/Test Spiral I Head Protection Enhancements & Transition to Production																	#	#	#	#	#	#						
Transition Spiral I to Production - 2																						#						
NDTE transition to production									#	#																		
Evaluate/test NDTE System/Softare Capability Upgrades				#	#	#	#	#	#	#	#																	
Integrate/Test Spiral I NDTE Software Upgrades & Transition to Production															#	#	#	#	#	#								
Transition Spiral I to Production - 3																					#							
																					#	#	#	#	#	#		

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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	
Integrate/Test Spiral II NDTE Software Upgrades & Transition to Production																													
Transition Spiral II to Production - 2																												#	
Transition 7.62 Helmet to Production							#																						
Evaluate/test Improved Non-Ballistic Impact Protection							#	#	#	#	#																		
Transition Soft Armor Upgrades to Production				#																									
Transition Hard Armor Upgrades to Production							#																						
A2CU P3I				#	#	#	#																						
Develop Hot Weather Variant (A2CU/ICVC				#	#	#	#	#	#	#	#																		
Transition Moisture Wicking FR T-Shirt to Production									#																				
Modular Boot Transition to Production											#																		
FR FHC Tech Insertion		#	#	#	#																								
FR FHC Material Evaluation						#	#																						
Improved ACS P3I (Conform to Plate Carriers)					#	#	#	#	#	#	#																		
ICVC Fabric Upgrades		#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#									
FR Clothing Upgrades				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#									
GEN IV Product Improvement	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
ATPS T-11 MS C		#																											
ATPS P3I																										#	#	#	#

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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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<b>PROJECT</b> S60: <i>CLOTHING &amp; 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
ARAPS Development and Testing				#	#	#	#	#	#	#	#	#	#	#	#													
Navigational Aid DV/DT							#	#	#	#	#																	
MOLLE Upgrades				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#							
Cold Weather Stove trans to production							#																					
Spiral II		#	#																									
Individual Water Treatment Device DT/OT			#	#	#	#	#	#	#	#	#	#	#															
Increment I - NEPHS			#																									
Increment I - IWTD													#	#														
Increment II - NEPHS - Refill in a Field Environment										#	#	#	#															
IWTD (Increment 1) EMD				#	#																							
NBC Hydration (Increment III)														#	#	#	#	#	#	#	#	#						
IWTD (Increment II)																#	#	#	#	#	#							
Ruck Sack for Airborne DPS Improvements				#	#	#	#	#																				
Flashlights - AFFL Certification						#	#	#	#	#																		
FR Glove APL Certification						#	#	#	#	#																		
Navigational Aid DT/OT					#	#	#	#	#																			
Soldier Cooling DT/OT												#	#															
Transition Soldier Cooling to Production														#														

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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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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
APEL Recertification	3	2009	1	2010
Recertify Combat Eyewear Protection (APEL)	1	2011	3	2011
APEL Recertification - 2	4	2011	4	2011
Recertify Combat Eyewear Protection (APEL) - 2	2	2013	3	2013
APEL Recertification - 3	3	2014	3	2014
Transition Laser Protective Eyewear to Production	4	2010	4	2011
Integrate/Test Spiral I Material Enhancements and Transition to Production	2	2011	3	2012
Transition Spiral I to Production	3	2012	3	2012
Integrate/Test Spiral II Material Enhancements and Transition to Production	2	2013	3	2014
Transition Spiral II to Production	3	2014	3	2014
Integrate/Test Spiral I Head Protection Enhancements & Transition to Production	2	2013	3	2014
Transition Spiral I to Production - 2	3	2014	3	2014
NDTE transition to production	1	2011	2	2011
Evaluate/test NDTE System/Software Capability Upgrades	4	2009	3	2011
Integrate/Test Spiral I NDTE Software Upgrades & Transition to Production	2	2012	3	2013
Transition Spiral I to Production - 3	3	2013	3	2013
Integrate/Test Spiral II NDTE Software Upgrades & Transition to Production	4	2013	1	2015
Transition Spiral II to Production - 2	1	2015	1	2015

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S60: <i>CLOTHING &amp; EQUIPMENT</i>

Event	Start		End	
	Quarter	Year	Quarter	Year
Transition 7.62 Helmet to Production	3	2010	3	2010
Evaluate/test Improved Non-Ballistic Impact Protection	3	2010	3	2011
Transition Soft Armor Upgrades to Production	4	2009	4	2009
Transition Hard Armor Upgrades to Production	3	2010	3	2010
A2CU P3I	4	2009	3	2010
Develop Hot Weather Variant (A2CU/ICVC	4	2009	3	2011
Transition Moisture Wicking FR T-Shirt to Production	1	2011	1	2011
Modular Boot Transition to Production	3	2011	3	2011
FR FHC Tech Insertion	2	2009	1	2010
FR FHC Material Evaluation	2	2010	3	2010
Improved ACS P3I (Conform to Plate Carriers)	1	2010	3	2011
ICVC Fabric Upgrades	2	2009	3	2013
FR Clothing Upgrades	4	2009	3	2013
GEN IV Product Improvement	1	2009	3	2015
ATPS T-11 MS C	2	2009	2	2009
ATPS P3I	4	2014	3	2015
ARAPS Development and Testing	4	2009	4	2012
Navigational Aid DV/DT	3	2010	3	2011
MOLLE Upgrades	4	2009	2	2014
Cold Weather Stove trans to production	3	2010	3	2010

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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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Event	Start		End	
	Quarter	Year	Quarter	Year
Spiral II	2	2009	3	2009
Individual Water Treatment Device DT/OT	3	2009	2	2012
Increment I - NEPHS	3	2009	3	2009
Increment I - IWTD	1	2012	2	2012
Increment II - NEPHS - Refill in a Field Environment	2	2011	1	2012
IWTD (Increment 1) EMD	1	2010	2	2010
NBC Hydration (Increment III)	2	2012	3	2014
IWTD (Increment II)	2	2013	3	2014
Ruck Sack for Airborne DPS Improvements	1	2010	1	2011
Flashlights - AFFL Certification	3	2010	3	2011
FR Glove APL Certification	4	2010	4	2011
Navigational Aid DT/OT	3	2010	3	2011
Soldier Cooling DT/OT	4	2011	1	2012
Transition Soldier Cooling to Production	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S61: <i>ACIS ENGINEERING 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>
S61: <i>ACIS ENGINEERING DEVELOPMENT</i>	12.988	10.458	10.295	0.000	10.295	13.917	14.146	14.402	14.635	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>This project conducts Engineering Development programs to enhance the warfighting effectiveness of aircrews on Army fixed and rotary-winged aircraft through improved endurance, force protection, and situational awareness/understanding. These programs include Air Soldier System and equipment which are unique and necessary for the improved performance of Army aircrews conducting full spectrum operations in the future integrated battlefield. The Air Soldier program will use the Soldier-as-a-System model to provide a fully integrated ensemble. Improved endurance is achieved through the pursuit of lighter weight materials and integrated components that reduce weight and bulk. Innovations in miniaturized electronics contribute to this key objective. Enhancements in ballistic, impact, directed energy protection, as well as fire resistant materials will contribute to soldier force protection. Systems that improve awareness and understanding of both the tactical environment and aircraft systems will increase the efficiency and effectiveness of the aircrew in addition to contributing to their lethality in combat. The encrypted Aircraft Wireless Intercom System (AWIS) will provide a hands-free telecommunication device to allow aircrew to communicate via intercom without the use of communication cords, thereby eliminating a safety hazard for aircrew operating in the rear of the aircraft. Air Soldier will enhance and maximize mission performance, comfort, safety, and survivability of aircrews. These funds resource improved laser eye protection and helmets to improve performance and increased commonality. Maximum advantage will be taken of simulation to reduce program technical risk through early user evaluation and to reduce program design and test cost and schedules. This program does not duplicate any aircraft platform program efforts. Both joint and service independent efforts continue to be pursued under the scope of this program. Within this Project, FY 2009 funding was included for the development of the Personnel Recovery Support Equipment (PRSE) support program. FY 2010 and later funding for PRSE development will be provided in the RDTE Project of S70, Personnel Recovery Support System within this same Program Element of 0604601A, Infantry Support Weapons.</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							4.189	10.176	10.295	0.000	10.295
Funding in FY 2009 and FY 2010 continues integration of preplanned Air Warrior Increment III including AWIS encryption certification. Funding in FY 2010 and 2011 will be utilized for EDM Software development and Air Soldier improvements.											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S61: <i>ACIS ENGINEERING 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 #2 Development of Personnel Recovery Support Equipment (PRSE)  <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		6.799	0.000	0.000	0.000	0.000
Program #3		2.000	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S61: <i>ACIS ENGINEERING 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>Congressional Add of \$4M in FY10 for Composite Bottles for Survival Egress Air was misaligned and requires reprogramming to this line from 654601 S60 Clothing and Equipment Engineering Development.</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>Economic Assumption, FFRDC and 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>		0.000	0.282	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>			<b>PROJECT</b> S61: <i>ACIS ENGINEERING 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											
Accomplishments/Planned Programs Subtotals							12.988	10.458	10.295	0.000	10.295
<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 0603827A, PROJ S51 - Adv Dev</i>	1.301	0.137	0.141	0.000	0.141	0.145	0.148	0.152	0.155	Continuing	Continuing
• Ord. #2: <i>Aircraft Procurement, Army SSN AZ3110 - ACIS</i>	48.149	61.572	52.423	0.000	52.423	85.030	80.974	88.329	62.945	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
System Development and Demonstration efforts for the Air Warrior program include the Air Warrior Aircraft Wireless Intercom System (AWIS) and Air Soldier System. The AWIS is a hands-free telecommunication device using radio signals for aircrew communication. The Air Soldier System program integrates 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 improved laser eye protection. Development efforts are awarded through competitive cost plus fixed fee contracts or by Military Interdepartmental Purchase Requests (MIPRs) to other government agencies.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S61: <i>ACIS ENGINEERING 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			
Air Warrior and Air Soldier Development	C/CPFF	Various Location could not be determined.	7.918	9.644		9.740		0.000		9.740	Continuing	Continuing	0
Personnel Recovery Support Equipment Development	C	Various Location could not be determined.	24.042	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Congressional Add, Composite Bottles for Survival Egress Air	C/TBD	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>			31.960	9.644		9.740		0.000		9.740			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			
Matrix Support	C	Various Government Location could not be determined.	0.096	0.376		0.251		0.000		0.251	0	.761	0
<b>Subtotal</b>			0.096	0.376		0.251		0.000		0.251	0.000	0.761	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S61: <i>ACIS ENGINEERING DEVELOPMENT</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>
Developmental Testing	C	Various Location could not be determined.	0.077	0.079		0.056		0.000		0.056	0	.316	0
<b>Subtotal</b>			0.077	0.079		0.056		0.000		0.056	0.000	0.316	0.000
<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>
PM Administration	C	Various Government	0.408	0.359		0.248		0.000		0.248	0	1.144	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S61: <i>ACIS ENGINEERING DEVELOPMENT</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			
		Location could not be determined.											
<b>Subtotal</b>			0.408	0.359		0.248		0.000		0.248	0.000	1.144	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
<b>Project Cost Totals</b>	32.541	10.458		10.295		0.000		10.295			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
Air Soldier System Development and Demonstration and Qualification Testing							#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Electronic Data Manager (EDM) Software				#	#	#	#																					

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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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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Air Soldier System Development and Demonstration and Qualification Testing	3	2010	3	2015
Electronic Data Manager (EDM) Software	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S62: <i>Counter-Defilade Target Engagement - SDD</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>S62: Counter-Defilade Target Engagement - SDD</i>	0.000	21.751	34.416	0.000	34.416	10.237	0.605	0.000	0.000	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							0.000	9.578	18.967	0.000	18.967
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		
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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 Engineering and Training 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		0.000	1.364	2.530	0.000	2.530
Program #3 Development Test and Evaluation -  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	9.200	11.889	0.000	11.889

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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>
<i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #4 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	1.000	1.030	0.000	1.030
Program #5 Small Business Innovative Research (SBIR)/Small Business Technology Transfer (STTR) Programs  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.609	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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>		<b>PROJECT</b> S62: <i>Counter-Defilade Target Engagement - SDD</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				0.000	21.751	34.416	0.000	34.416			
<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: PE 0603827A, Project S55</i>	5.382	2.586	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	7.968
• 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 transition from the Technology and Development phase to Engineering and Manufacturing Development (EMD) phase by achieving Milestone B in 3Q FY2010. 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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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2011 Army</b>										<b>DATE:</b> February 2010			
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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/CPFF	ATK Minneapolis MN	0.000	10.187		18.967		0.000		18.967	Continuing	Continuing	0
<b>Subtotal</b>			0.000	10.187		18.967		0.000		18.967			0.000

**Remarks**  
The XM25 IAWS contract award is subject to the Joint Requirements Oversight Council (JROC) approval of the Capability Development Document (CDD).

**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	Multiple Location could not be determined.	0.000	1.114		2.330		0.000		2.330	Continuing	Continuing	0
Training Development Support	C	PEO STRI Location could not be determined.	0.000	0.250		0.200		0.000		0.200	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.364		2.530		0.000		2.530			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S62: <i>Counter-Defilade Target Engagement - SDD</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			
Development Test (Government)	C	Various Location could not be determined.	0.000	9.200		11.889		0.000		11.889	Continuing	Continuing	0
<b>Subtotal</b>			0.000	9.200		11.889		0.000		11.889			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 Soldier Weapons Picatinny Arsenal NJ	0.000	1.000		1.030		0.000		1.030	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.000		1.030		0.000		1.030			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	21.751		34.416		0.000		34.416			0.000

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	<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S62: <i>Counter-Defilade Target Engagement - SDD</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
MS B						#																						
Design, Develop & Fabricate							#	#	#	#																		
Development Tests & Evaluation							#	#	#	#	#	#																
MS C/Type Classification-Low Rate Initial Production															#													
Production Qualification Test (PQT)															#	#												
Initial Operational Test & Evaluation (IOT&E)															#	#	#											
Low Rate Initial Production (LRIP)															#	#	#	#	#	#								
Type Classification - Standard																											#	

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S62: <i>Counter-Defilade Target Engagement - SDD</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
MS B	2	2010	2	2010
Design, Develop & Fabricate	3	2010	2	2011
Development Tests & Evaluation	3	2010	1	2012
MS C/Type Classification-Low Rate Initial Production	2	2012	2	2012
Production Qualification Test (PQT)	2	2012	3	2012
Initial Operational Test & Evaluation (IOT&E)	3	2012	1	2013
Low Rate Initial Production (LRIP)	2	2012	4	2013
Type Classification - Standard	1	2014	1	2014

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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>
S63: <i>SMALL ARMS IMPROVEMENT</i>	5.787	27.559	19.805	0.000	19.805	18.231	14.404	14.481	14.438	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>The Small Arms Improvement program funds Engineering and Manufacturing Development (EMD) of engineering models/studies and the integration of commercial items with weapons/ammunition. Small arms include individual and crew-served 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 small arms weapons/ammunition. Focus areas include the demonstration, integration and study of light weight materials, coatings, concealants, scouting, observation, lethal and non-lethal ammunition, and equipment. Benefits include improvements to fire control equipment, optics, training devices, component mounts, weapon mounts, suppressors, magazines, and ammunition. In accordance with congressional language and the Secretary of the Army's direction, the Army initiated a new start individual weapon in FY10. The new carbine will provide the Soldier with an enhanced weapons capability and will be competed utilizing a best value, full and open competition to meet operational requirements. The requirement for the new individual carbine is being coordinated with other joint services to equip the warfighter with an accurate, reliable, Soldier-centric basic weapon capability which will be evaluated against current and emerging threats and incorporates technology advancements in the small arms industry mitigating capability gaps and shortcomings in currently fielded carbines. New starts in FY2011 consists of Personnel Defense Weapon, 30 Round 5.56mm Magazine, Modular Handgun and Precision Sniper Rifle. The Improved Weapons Coating transitions from 0603827A in FY2011.</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							0.000	0.000	0.000	0.000	0.000
New Weapons											
<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 #2 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	3.185	3.363	0.000	3.363
Program #3 - Prototype Fabrication  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	2.087	1.950	0.000	1.950

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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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>		<b>PROJECT</b> S63: <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>
<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 - 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				0.000	2.998	3.485	0.000	3.485
Program #5 - Demonstration				0.000	0.920	0.350	0.000	0.350

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S63: <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>
<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 Arms Weapons Enhancements		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 #7		1.584	3.527	1.267	0.000	1.267

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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>
- 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						
Program #8 - 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		1.428	0.290	0.830	0.000	0.830

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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 #9				1.310	6.283	3.700	0.000	3.700
- 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 #10				0.450	0.225	0.300	0.000	0.300
- 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								

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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	0.000	0.000	0.000	0.000
Ammunition						
<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		0.335	1.664	1.310	0.000	1.310
- 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						

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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 #13		0.200	1.480	1.105	0.000	1.105
- 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 #14		0.430	0.492	0.750	0.000	0.750
- 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>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 #15 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		0.050	0.000	0.200	0.000	0.200
Program #16 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		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>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 #17		0.000	0.257	0.650	0.000	0.650
- 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						
Program #18		0.000	0.180	0.355	0.000	0.355
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						

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S63: <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 #19		0.000	0.230	0.190	0.000	0.190
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 #20		0.000	0.541	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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>		<b>PROJECT</b> S63: <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 #21 Increase of \$3.2 million for ACSW Lt Wt 50 Caliber incorrectly placed on S63  <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	3.200	0.000	0.000	0.000				
Accomplishments/Planned Programs Subtotals			5.787	27.559	19.805	0.000	19.805				
<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>WTCV, GZ1290, Squad Automatic Weapon (SAW) MODS</i>	11.067	28.709	5.922	0.000	5.922	4.960	4.950	5.055	5.108	Continuing	Continuing
• Ord. #2: <i>WTCV, GZ2800, M16 Rifle MODS</i>	1.178	4.173	3.855	0.000	3.855	3.484	3.274	3.260	3.251	Continuing	Continuing
• Ord. #3: <i>WTCV, GB3000, MK19 MODS</i>	7.631	8.139	4.286	0.000	4.286	3.543	0.000	0.000	0.000	Continuing	Continuing
• Ord. #4: <i>WTCV, GZ1300, M240 Medium Machine Gun MODS</i>	17.066	22.709	15.852	0.000	15.852	15.759	6.743	4.680	4.643	Continuing	Continuing
	16.746	31.375	14.044	12.900	26.944	13.158	12.641	13.145	13.382	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S63: <i>SMALL ARMS IMPROVEMENT</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. #5: <i>WTCV, GB3007, M4 Carbine MODS</i>											
• Ord. #6: <i>WTCV, GB4000, M2 Machine Gun MODS</i>	0.000	35.314	0.000	15.000	15.000	14.895	0.000	0.000	0.000	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
Primary strategy is to mature and finalize design efforts, award RDT&E hardware contracts, and test and evaluate systems that will result in type classification and follow-on production contract awards.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S63: <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.	2.158	4.078		4.240		0.000		4.240	Continuing	Continuing	0
<b>Subtotal</b>			2.158	4.078		4.240		0.000		4.240			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			
Development	C	RDECOM - ARDEC Picatinny Arsenal, NJ	6.354	7.682		4.951		0.000		4.951	Continuing	Continuing	0
Logistics	C	TACOM Rock Island Arsenal, IL	0.340	0.617		0.630		0.000		0.630	Continuing	Continuing	0
Human Research and Eng Directorate	C	Aberdeen Proving Ground (APG) MD	0.740	0.520		0.485		0.000		0.485	Continuing	Continuing	0
S3.2 Million for ACSW 50 Caliber incorrectly placed on S63	C	Nothing entered for Activity and Location.	0.000	3.200		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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S63: <i>SMALL ARMS IMPROVEMENT</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>			7.434	12.019		6.066		0.000		6.066			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			
Developmental Testing	C	Developmental Test Command (DTC) Aberdeen Proving Ground (APG), MD	2.926	6.127		5.704		0.000		5.704	Continuing	Continuing	0
Operational Testing	C	Army Test and Evaluation Command (ATEC) Alexandria, VA	1.689	3.240		2.175		0.000		2.175	Continuing	Continuing	0
Validation Testing	C	Developmental Test Command (DTC) Aberdeen Proving Ground (APG), MD	3.442	1.062		0.560		0.000		0.560	Continuing	Continuing	0
<b>Subtotal</b>			8.057	10.429		8.439		0.000		8.439			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S63: <i>SMALL ARMS IMPROVEMENT</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>
Program Management	C	PM Soldier Weapons Picatinny Arsenal, NJ	1.537	0.940		0.880		0.000		0.880	Continuing	Continuing	0
Travel	C	PM Soldier Weapons Picatinny Arsenal, NJ	0.210	0.238		0.180		0.000		0.180	Continuing	Continuing	0
<b>Subtotal</b>			1.747	1.178		1.060		0.000		1.060			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>			19.396	27.704		19.805		0.000		19.805			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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>			<b>PROJECT</b> S63: <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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S63: <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
Carbine Competition				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#								
Personal Defense Weapon								#	#	#	#	#	#	#	#	#	#	#	#	#								
Modular Handgun								#	#	#	#	#	#	#	#	#												
Precision Sniper Rifle								#	#	#	#	#	#	#	#	#	#	#	#	#								
Light Weight Machine Gun																					#	#	#	#	#	#	#	#
MS C							#																					
Improved Weapons Coating								#	#	#	#	#	#	#	#	#	#	#	#	#								
30 Round 5.56mm Magazine								#	#	#	#	#																
Improved Counter Defilade Fuze								#	#	#	#	#																
Micro Mechanical S&A				#	#	#	#	#	#	#	#	#	#	#	#	#												
Light Weight Small Caliber Ammo				#	#	#	#																					
XM1112 40MM Airburst Non-Lethal				#	#	#	#	#	#	#	#	#																
Integrated Fire Control for Small Arms																#	#	#	#	#	#	#	#	#	#	#	#	#

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S63: <i>SMALL ARMS IMPROVEMENT</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Carbine Competition	4	2009	3	2013
Personal Defense Weapon	4	2010	3	2013
Modular Handgun	4	2010	3	2012
Precision Sniper Rifle	4	2010	3	2014
Light Weight Machine Gun	4	2013	3	2015
MS C	3	2010	3	2010
Improved Weapons Coating	4	2010	3	2013
30 Round 5.56mm Magazine	4	2010	3	2011
Improved Counter Defilade Fuze	4	2010	3	2011
Micro Mechanical S&A	4	2009	3	2012
Light Weight Small Caliber Ammo	4	2009	3	2010
XM1112 40MM Airburst Non-Lethal	4	2009	3	2011
Integrated Fire Control for Small Arms	4	2012	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</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>
S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>	0.000	1.314	1.260	0.000	1.260	1.073	1.079	1.151	1.133	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>This project provides system research, development, and testing of the Personnel Recovery Support System/Personnel Recovery Support Equipment (PRSE) that supports operations to report and locate isolated, missing, detained or captured soldiers. The current PRSE program consists of the development of personnel recovery equipment and the research, development, and test of upgrades to system components in order to enhance and increase system performance and ensure continued successful interoperability within the relevant theaters of operation. FY 2009 and prior year RDTE funding was provided in the RDTE Project of S61, Aircrew Integrated Systems (ACIS) Engineering Development within the PE of 0604601A, Infantry Support Weapons. This project is established to separately manage and account for Personnel Recovery Support development from Aircrew Integrated Systems.</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							0.000	1.314	1.216	0.000	1.216
Development of Personnel Recovery Support System(PRSS)/Personnel Recovery Support Equipment (PRSE)											
<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: PB 2011 Army</b>							<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>			<b>PROJECT</b> S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</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 Economic Assumption, FFRDC and 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	0.044	0.000	0.044
Accomplishments/Planned Programs Subtotals							0.000	1.314	1.260	0.000	1.260
<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>Other Procurement, Army, SSN G01101 - Personnel Recovery Support System (PRSS)</i>	0.000	6.959	7.813	0.000	7.813	8.643	8.206	8.423	8.687	0	48.731
	0.000	61.572	52.423	0.000	52.423	85.030	80.974	88.329	62.945	0	431.273

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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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>			<b>PROJECT</b> S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</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 SSN AZ3110 - ACIS, includes funding of PRSE aircraft mods</i>											
<b>D. Acquisition Strategy</b>											
The Personnel Recovery Support System/Personnel Recovery Support Equipment (PRSE) program development effort provides integration and optimization of personnel recovery systems performance support equipment being executed through cost plus fixed fee contracts and Military Interdepartmental Purchase Requests to other governmental agencies.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</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			
Personnel Recovery Support Equipment Development	C	Various Location could not be determined.	0.000	0.714		0.660		0.000		0.660	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.714		0.660		0.000		0.660			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			
Matrix Support	C	Various Government Location could not be determined.	0.000	0.213		0.213		0.000		0.213	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.213		0.213		0.000		0.213			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>				<b>PROJECT</b> S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</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.	0.000	0.225		0.225		0.000		0.225	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.225		0.225		0.000		0.225			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			
PM Administration	C	Various Government Location could not be determined.	0.000	0.162		0.162		0.000		0.162	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.162		0.162		0.000		0.162			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	1.314	1.260	0.000	1.260			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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>			<b>PROJECT</b> S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</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-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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</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
Personnel Recovery Support Equipment (PRSE) Development Oversight				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
PRSE Development				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
PRSE Prototypes						#																						
PRSE Integration						#	#	#	#																			
Block Upgrades & Adaptations to New Platforms									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604601A: <i>Infantry Support Weapons</i>	<b>PROJECT</b> S70: <i>PERSONNEL RECOVERY SUPPORT SYSTEM (PRSS)</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Personnel Recovery Support Equipment (PRSE) Development Oversight	4	2009	3	2015
PRSE Development	4	2009	3	2015
PRSE Prototypes	2	2010	2	2010
PRSE Integration	2	2010	1	2011
Block Upgrades & Adaptations to New Platforms	1	2011	3	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</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	2.169	5.683	3.710	0.000	3.710	5.742	5.753	5.861	5.966	Continuing	Continuing
H07: <i>FAMILY OF MED TAC VEH</i>	2.169	5.683	3.710	0.000	3.710	5.742	5.753	5.861	5.966	Continuing	Continuing

**Note**

Not applicable for this item.

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

This Program Element (PE) supports continued modernization of the Army's medium truck and trailer fleet and the Armored Security Vehicle (ASV). In the medium fleet, the Family of Medium Tactical Vehicles (FMTV) replaces aging M35 2 1/2-ton trucks, and M809 and M900 Series 5-ton trucks that are beyond their economic useful life of 15-20 years. FMTV fills 2 1/2-ton Light Medium Tactical Vehicle (LMTV) and 5-ton truck Medium Tactical Vehicle (MTV) requirements, and includes companion trailers, performing over 55% of the Army's local and line haul, and unit resupply missions, and operates throughout the theater as multi-purpose transportation vehicles in combat, combat support and combat service support units. The ASV is an all-wheel drive armored vehicle that provides ballistic protection, overhead protection and protection against landmines. It is used by the Military Police to perform missions of area security, maneuver and mobility support, police intelligence, and law and order across the entire operational continuum. It is also being used as a Convoy Protection Platform for Combat Support and Combat Service Support units. This PE funds government technical insertion initiatives that will feed into implementation of the Tactical Wheeled Vehicle (TWV) Modernization Strategy and the TWV Armoring Strategy as a bridge to future tactical vehicle efforts. This PE allows the PM to leverage technology and address capability gaps in performance and reliability as identified by the user community and reported in the field. FY09 funding will be used to continue Technology Insertion and address field issues requiring RDT&E funds to do so. FY10-15 funds will be used to increase protection and survivability of the FMTV through continued development and integration of armor enhancements and applications. ASV funds will be used to develop a Military Police Non-Lethal A-Kit to accept a Non-Lethal Mission Enhancement Package.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</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	1.943	5.683	5.729	0.000	5.729
Current President's Budget	2.169	5.683	3.710	0.000	3.710
Total Adjustments	0.226	0.000	-2.019	0.000	-2.019
• 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	0.282	0.000			
• SBIR/STTR Transfer	-0.054	0.000			
• Adjustments to Budget Years	0.000	0.000	-2.019	0.000	-2.019
• Adjustments to Balance	-0.002	0.000	0.000	0.000	0.000

**Change Summary Explanation**

Change Summary Explanation: FY 2009: Funds increased to support Caterpillar Transmission effort. FY 2011: Funds were decremented to provide for higher priority programs.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>	<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</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
<i>H07: FAMILY OF MED TAC VEH</i>	2.169	5.683	3.710	0.000	3.710	5.742	5.753	5.861	5.966	Continuing	Continuing
Quantity of RDT&E Articles											

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

This Program Element (PE) supports continued modernization of the Army's medium truck and trailer fleet and the Armored Security Vehicle (ASV). In the medium fleet, the Family of Medium Tactical Vehicles (FMTV) replaces aging M35 2 1/2-ton trucks, and M809 and M900 Series 5-ton trucks that are beyond their economic useful life of 15-20 years. FMTV fills 2 1/2-ton Light Medium Tactical Vehicle (LMTV) and 5-ton truck Medium Tactical Vehicle (MTV) requirements, and includes companion trailers, performing over 55% of the Army's local and line haul, and unit resupply missions, and operates throughout the theater as multi-purpose transportation vehicles in combat, combat support and combat service support units. The ASV is an all-wheel drive armored vehicle that provides ballistic protection, overhead protection and protection against landmines. It is used by the Military Police to perform missions of area security, maneuver and mobility support, police intelligence, and law and order across the entire operational continuum. It is also being used as a Convoy Protection Platform for Combat Support and Combat Service Support units. This PE funds government technical insertion initiatives that will feed into implementation of the Tactical Wheeled Vehicle (TWV) Modernization Strategy and the TWV Armoring Strategy as a bridge to future tactical vehicle efforts. This PE allows the PM to leverage technology and address capability gaps in performance and reliability as identified by the user community and reported in the field. FY11 funding will be used to continue technology insertion and address field issues requiring RDT&E funds to do so. ASV funds will be used to develop a Military Police Non-Lethal A-Kit to accept a Non-Lethal Mission Enhancement Package.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1	1.499	0.000	0.000	0.000	0.000
FMTV Automotive Technological Evaluation, Testing & Insertion					
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>	<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</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 FMTV Automotive Technological Evaluation, Testing & Insertion  <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	0.154	0.000	0.000	0.000
Program #3 FMTV Automotive Technological Evaluation, Testing & Insertion  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	2.740	0.000	2.740

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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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>		<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</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 FMTV Suspension  <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	0.364	0.000	0.000	0.000
Program #5 FMTV Armor Spiral Development				0.000	2.965	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>	<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</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 FMTV CAT Transmission		0.670	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 #7		0.000	1.091	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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>		<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</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>
FMTV CAT Transmission  <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 ASV Military Police Non-Lethal Mission Enhancement Package  <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	0.951	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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>		<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</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 ASV Military Police Non-Lethal Mission Enhancement Package  <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	0.970	0.000	0.970
Program #10 Small Business Innovative Research/Small Business Technical 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	0.158	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>				<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</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						2.169	5.683	3.710	0.000	3.710	
<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>OPAI Family of Medium Tactical Vehicles (D15500)</i>	631.476	1,359.606	918.195	516.351	1,434.546	408.428	396.611	486.170	381.239	3,602.300	8,700.376
• Ord. #2: <i>OPA I Armored Security Vehicle (ASV) (D02800)</i>	318.732	149.379	114.478	52.780	167.258	0.000	0.000	0.000	0.000	0	635.369
<b>D. Acquisition Strategy</b>											
FMTV - Technological insertion will be accomplished by a Fixed Price or Cost Plus Fixed Fee (Level of Effort) basis. ASV - The Mission Enhancement Package (MEP) effort will be completed by TARDEC on a level of effort basis.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>				<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</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			
FMTV Automotive Technological Evaluation and Insertion	C/Various	BAE Systems TVS Sealy, TX/Other	4.197	0.140		2.740		0.000		2.740	Continuing	Continuing	0
FMTV Suspension	C/Various	TARDEC Warren, MI	0.000	0.400		0.000		0.000		0.000	Continuing	Continuing	0
FMTV Armor Spiral Development	C/Various	TARDEC Warren, MI	0.000	2.965		0.000		0.000		0.000	Continuing	Continuing	0
FMTV CAT Transmission	C	BAE Systems TVS Sealy, TX	0.493	0.000		0.000		0.000		0.000	Continuing	Continuing	0
ASV Mission Enhancement Package (MEP)	C	TARDEC Warren, MI	0.000	0.978		0.970		0.000		0.970	Continuing	Continuing	0
<b>Subtotal</b>			4.690	4.483		3.710		0.000		3.710			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			
FMTV Export Power Test	C	Aviation Ground Support Equipment	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>				<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</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.											
FMTV CAT Transmission Test	C	Aberdeen Test Center Location could not be determined.	0.000	1.200		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.200		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
		4.690	5.683	3.710	0.000	3.710		

**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>	<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</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
FMTV Armor Technology Insertion				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
ASV Mission Enhancement Package (MEP)					#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
FMTV Competitive Rebuy Award			#																									
FMTV Competitive Rebuy & Follow-on Production				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604604A: <i>MEDIUM TACTICAL VEHICLES</i>	<b>PROJECT</b> H07: <i>FAMILY OF MED TAC VEH</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
FMTV Armor Technology Insertion	4	2009	3	2015
ASV Mission Enhancement Package (MEP)	1	2010	3	2015
FMTV Competitive Rebuy Award	3	2009	3	2009
FMTV Competitive Rebuy & Follow-on Production	4	2009	3	2015

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng 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	5.428	0.973	5.335	0.000	5.335	13.981	3.030	0.947	0.000	0	35.029
198: <i>Target Defeating System</i>	5.428	0.000	2.425	0.000	2.425	10.606	1.918	0.000	0.000	Continuing	Continuing
200: <i>SMOKE/OBSCURANT SYSTEM</i>	0.000	0.973	2.910	0.000	2.910	3.375	1.112	0.947	0.000	Continuing	Continuing

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

Project 0604609A supports the conducting of System Development and Demonstration (SDD) for 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 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. Program element supports the conduct of SDD in smoke and obscurant agents, munitions, and devices to improve the survivability of the combined armed forces, complement combined weapon systems, and enhance force effectiveness and combat power. U.S. Forces must be able to effectively neutralize and degrade energy weapon systems and electro-optical systems/smart weapons that operate in the full range of the electromagnetic spectrum. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection smoke systems. The smoke obscuration technologies supported by this program element enhance smoke systems as force multipliers.

**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	5.584	0.978	5.363	0.000	5.363
Current President's Budget	5.428	0.973	5.335	0.000	5.335
Total Adjustments	-0.156	-0.005	-0.028	0.000	-0.028
• Congressional General Reductions		-0.005			
• 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	-0.156	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.028	0.000	-0.028

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>				<b>PROJECT</b> 198: <i>Target Defeating 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>
198: <i>Target Defeating System</i>	5.428	0.000	2.425	0.000	2.425	10.606	1.918	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 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 Prepare MDD and Milestone A documentation.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							0.288	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 198: <i>Target Defeating 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 Modeling, simulation, and toxicology 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		0.278	0.000	0.625	0.000	0.625
Program #3 PGOC development.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.646	0.000	1.800	0.000	1.800

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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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>		<b>PROJECT</b> 198: <i>Target Defeating 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 SOM 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				3.000	0.000	0.000	0.000	0.000
Program #5 Test and Evaluation of PGO and SOM systems.  <i>FY 2009 Accomplishments:</i> FY 2009				1.216	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>				<b>PROJECT</b> 198: <i>Target Defeating 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 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											5.428	0.000	2.425	0.000	2.425
<b>C. Other Program Funding Summary (\$ in Millions)</b>															
			<b><u>FY 2011</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2011</u></b>						<b><u>Cost To</u></b>				
<b><u>Line Item</u></b>	<b><u>FY 2009</u></b>	<b><u>FY 2010</u></b>	<b><u>Base</u></b>	<b><u>OCO</u></b>	<b><u>Total</u></b>	<b><u>FY 2012</u></b>	<b><u>FY 2013</u></b>	<b><u>FY 2014</u></b>	<b><u>FY 2015</u></b>	<b><u>Complete</u></b>	<b><u>Total Cost</u></b>				
• Ord. #1: <i>RDT&amp;E, BA4, PE 0603627A, Project E79 Smoke, Obscurant and Target Defeating Sys - Adv Dev</i>	3.721	4.894	2.425	0.000	2.425	4.436	0.000	0.000	0.000	0	15.476				
• Ord. #2: <i>RDT&amp;E, BA5, PE 0604609A, Project 200 Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	0.000	0.973	2.910	0.000	2.910	3.375	1.112	0.947	0.000	0	9.317				
<b>D. Acquisition Strategy</b> Development of PGO and SOM systems will 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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>				<b>PROJECT</b> 198: <i>Target Defeating 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			
Concept Development (SOM)	C/CPFF	L3 Melbourne, FLGDRS, Westminster, MD	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Concept Development (PGOC)	C/CPFF	TBD Location could not be determined.	0.000	0.000		1.200		0.000		1.200	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		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			
M&S Development/ Toxicology Effort	C	ECBC APG, MD	0.000	0.000		0.625		0.000		0.625	Continuing	Continuing	0
Engineering Studies	C	ECBC APG, MD	0.000	0.000		0.200		0.000		0.200	Continuing	Continuing	0
Requirements Support	C	Chemical School FLW, MO	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.825		0.000		0.825			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 198: <i>Target Defeating System</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			

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			
Conduct Hardware Testing	C	DTC/ATEC 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			
Project Management Personnel	C	JPM NBC CA APG, MD	0.000	0.000		0.400		0.000		0.400	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.400		0.000		0.400			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 198: <i>Target Defeating 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			

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	0.000		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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>
<b>PROJECT</b> 198: <i>Target Defeating 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
Material Development Decision Review				#																								
Milestone A						#																						
Contract Award							#																					
Modeling & Simulation Effort								#	#	#	#	#	#	#	#	#												
Design & Fabrication								#	#	#	#																	
Technology Feasibility Test #1												#																
Redesign													#	#	#													
Fabrication														#	#	#												
Technology Feasibility Test #2																#	#											
Milestone B																		#										
Contract Award - 2																			#									
Design and Fabrication																			#	#	#	#	#	#				
Engineering Design Test																									#			
Redesign - 2																								#	#	#		
Fabrication - 2																										#	#	
SOM Schedule									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#					
Technology Feasibility Test									#	#																		
Milestone B - 2											#																	
Contract Award - 3												#																
Design and Fabrication - 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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 198: <i>Target Defeating 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
Engineering Design Test - 2																	#											
Redesign - 3																	#	#	#									
Fabrication - 3																			#	#								
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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 198: <i>Target Defeating System</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Material Development Decision Review	1	2010	1	2010
Milestone A	3	2010	3	2010
Contract Award	4	2010	4	2010
Modeling & Simulation Effort	4	2010	2	2013
Design & Fabrication	4	2010	3	2011
Technology Feasibility Test #1	4	2011	4	2011
Redesign	1	2012	3	2012
Fabrication	3	2012	1	2013
Technology Feasibility Test #2	1	2013	2	2013
Milestone B	3	2013	3	2013
Contract Award - 2	4	2013	4	2013
Design and Fabrication	4	2013	1	2015
Engineering Design Test	1	2015	1	2015
Redesign - 2	1	2015	3	2015
Fabrication - 2	3	2015	4	2015
SOM Schedule	1	2011	3	2014
Technology Feasibility Test	1	2011	2	2011
Milestone B - 2	3	2011	3	2011

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 198: <i>Target Defeating System</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
Contract Award - 3	4	2011	4	2011
Design and Fabrication - 2	4	2011	1	2013
Engineering Design Test - 2	1	2013	1	2013
Redesign - 3	1	2013	3	2013
Fabrication - 3	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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<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>				<b>PROJECT</b> 200: <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>
200: <i>SMOKE/OBSCURANT SYSTEM</i>	0.000	0.973	2.910	0.000	2.910	3.375	1.112	0.947	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 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 Prepare and conduct MDDR and Milestone A (PGOC).  <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	0.973	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 200: <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 PGOC 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		0.000	0.000	2.910	0.000	2.910
Program #3 Test and evaluation of PGOC and SOM systems.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>			<b>PROJECT</b> 200: <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 Continue development and refinement of SOM alternatives.							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											
Accomplishments/Planned Programs Subtotals							0.000	0.973	2.910	0.000	2.910
<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, BA4, PE 0603627A, Project E79 Smoke,</i>	3.721	4.894	2.425	0.000	2.425	4.436	0.000	0.000	0.000	0	15.476

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 200: <i>SMOKE/OBSCURANT SYSTEM</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>
<i>Obscurant and Target Defeating Sys - Adv 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	10.606	1.918	0.000	0.000	0	20.377

**D. Acquisition Strategy**

Development of PGOC and SOM systems will include design, construction, modeling and testing of prototypes.

**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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target</i> <i>Defeating Sys - Eng Dev</i>				<b>PROJECT</b> 200: <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			
Concept Development (SOM)	C/CPFF	TBD Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Concept Development (SOM) - 2	C/CPFF	TBD Location could not be determined.	0.000	0.000		2.010		0.000		2.010	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		2.010		0.000		2.010			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 Toxicology Studies	C	Various Location could not be determined.	0.000	0.000		0.100		0.000		0.100	Continuing	Continuing	0
Requirements Support	C	Chemical School FLW, MO	0.000	0.225		0.000		0.000		0.000	Continuing	Continuing	0
Engineering Studies	C	ECBC APG, MD	0.000	0.300		0.400		0.000		0.400	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.525		0.500		0.000		0.500			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>				<b>PROJECT</b> 200: <i>SMOKE/OBSCURANT SYSTEM</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>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>
Project Management Personnel	C	JPM NBC CA APG, MD	0.000	0.448		0.400		0.000		0.400	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.448		0.400		0.000		0.400			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>			0.000	0.973		2.910		0.000		2.910			0.000
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>
<b>PROJECT</b> 200: <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
Material Development Decision Review				#																								
Milestone A						#																						
Contract Award							#																					
Modeling & Simulation Effort								#	#	#	#	#	#	#	#	#	#											
Design & Fabrication								#	#	#	#																	
Technology Feasibility Test #1												#																
Redesign													#	#	#													
Fabrication														#	#	#												
Technology Feasibility Test #2																#	#											
Milestone B																		#										
Contract Award - 2																			#									
Design and Fabrication																			#	#	#	#	#	#				
Engineering Design Test																									#			
Redesign - 2																								#	#	#		
Fabrication - 2																									#	#		
SOM Schedule									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#					
Technology Feasibility Test									#	#																		
Milestone B - 2											#																	
Contract Award - 3												#																
Design and Fabrication - 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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 200: <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
Engineering Design Test - 2																	#											
Redesign - 3																	#	#	#									
Fabrication - 3																			#	#								
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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target</i> <i>Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 200: <i>SMOKE/OBSCURANT SYSTEM</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Material Development Decision Review	1	2010	1	2010
Milestone A	3	2010	3	2010
Contract Award	4	2010	4	2010
Modeling & Simulation Effort	4	2010	2	2013
Design & Fabrication	4	2010	3	2011
Technology Feasibility Test #1	4	2011	4	2011
Redesign	1	2012	3	2012
Fabrication	3	2012	1	2013
Technology Feasibility Test #2	1	2013	2	2013
Milestone B	3	2013	3	2013
Contract Award - 2	4	2013	4	2013
Design and Fabrication	4	2013	1	2015
Engineering Design Test	1	2015	1	2015
Redesign - 2	1	2015	3	2015
Fabrication - 2	3	2015	4	2015
SOM Schedule	1	2011	3	2014
Technology Feasibility Test	1	2011	2	2011
Milestone B - 2	3	2011	3	2011

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	<b>PROJECT</b> 200: <i>SMOKE/OBSCURANT SYSTEM</i>

Event	Start		End	
	Quarter	Year	Quarter	Year
Contract Award - 3	4	2011	4	2011
Design and Fabrication - 2	4	2011	1	2013
Engineering Design Test - 2	1	2013	1	2013
Redesign - 3	1	2013	3	2013
Fabrication - 3	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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<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604611A: <i>JAVELIN (AAWS-M)</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	9.999	0.000	9.999	17.400	49.556	74.349	123.821	Continuing	Continuing
499: <i>JAVELIN (AAWS-M)</i>	0.000	0.000	9.999	0.000	9.999	17.400	49.556	74.349	123.821	Continuing	Continuing
<b>Note</b> Not applicable for this item.											
<b>A. Mission Description and Budget Item Justification</b> Javelin Increment II continues the development and evolution of the Army's only man-portable missile system. The Increment II program improves Javelin's lethal effects on soft and irregular targets and field fortifications while maintaining its anti-tank effectiveness by adding a Multi-purpose Warhead. Javelin Increment II will provide increased effective range, precision and a regret/fratricide avoidance capability with the addition of Precision Terminal Guidance. Increment II Component Modernization includes a state of the art seeker and other improvements, which will also mitigate major obsolescence issues, allowing Javelin to maintain its overmatch capability well into the 21st Century. The Javelin is a medium-range, man-portable, shoulder launched fire and forget missile system. Javelin is a critical system because of its precision strike, man-portability, high reliability, and capability to engage multiple targets (tanks, armored personnel carriers, bunkers, helicopters, walls, etc). These key system aspects support the Army's move to a more versatile, deployable, lethal, survivable, joint/expeditionary and sustainable force. The Javelin has a high kill rate against all known armor threats, field fortifications, and irregular targets. Javelin is operational at extended ranges, under adverse weather conditions, and in the presence of battlefield obscurants, advanced vehicle camouflage techniques and Active Protection Systems (APS). The system is hardened against countermeasures and does not require extensive training for effective employment by providing for software improvements to maintain lethality against evolving targets and countermeasures, and increase the robustness of system performance in all environments.											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604611A: <i>JAVELIN (AAWS-M)</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	9.999	0.000	9.999
Total Adjustments	0.000	0.000	9.999	0.000	9.999
• 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	9.999	0.000	9.999

**Change Summary Explanation**

FY2010 increase of \$9.999 million for Engineering and Manufacturing Development phase of the Javelin Increment II 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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604611A: <i>JAVELIN (AAWS-M)</i>				<b>PROJECT</b> 499: <i>JAVELIN (AAWS-M)</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>
499: <i>JAVELIN (AAWS-M)</i>	0.000	0.000	9.999	0.000	9.999	17.400	49.556	74.349	123.821	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>Javelin Increment II continues the development and evolution of the Army's only man-portable missile system. The Increment II program improves Javelin's lethal effects on soft and irregular targets and field fortifications while maintaining its anti-tank effectiveness by adding a Multi-purpose Warhead. Javelin Increment II will provide increased effective range, precision and a regret/fratricide avoidance capability with the addition of Precision Terminal Guidance. Increment II Component Modernization includes a state of the art seeker and other improvements, which will also mitigate major obsolescence issues, allowing Javelin to maintain its overmatch capability well into the 21st Century. The Javelin is a medium-range, man-portable, shoulder launched fire and forget missile system. Javelin is a critical system because of its precision strike, man-portability, high reliability, and capability to engage multiple targets (tanks, armored personnel carriers, bunkers, helicopters, walls, etc). These key system aspects support the Army's move to a more versatile, deployable, lethal, survivable, joint/expeditionary and sustainable force. The Javelin has a high kill rate against all known armor threats, field fortifications, and irregular targets. Javelin is operational at extended ranges, under adverse weather conditions, and in the presence of battlefield obscurants, advanced vehicle camouflage techniques and Active Protection Systems (APS). The system is hardened against countermeasures and does not require extensive training for effective employment by providing for software improvements to maintain lethality against evolving targets and countermeasures, and increase the robustness of system performance in all environments.</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  Javelin Increment II continues development of a multi-purpose warhead and begins development of precision terminal guidance (PTG) and component modernization.  <i>FY 2009 Accomplishments:</i> FY 2009							0.000	0.000	9.999	0.000	9.999

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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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604611A: <i>JAVELIN (AAWS-M)</i>			<b>PROJECT</b> 499: <i>JAVELIN (AAWS-M)</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						0.000	0.000	9.999	0.000	9.999	
<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>Missile Procurement, Army, CC0007, Javelin</i>	367.888	258.553	163.929	0.000	163.929	136.082	108.876	114.718	120.846	0	1,270.892
<b>D. Acquisition Strategy</b>											
The development effort for the Javelin Increment II program shall be acquired sole source from Javelin Joint Venture/Raytheon/Lockheed Martin who developed and produced the Block 0 and Block I configurations of the system.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604611A: <i>JAVELIN (AAWS-M)</i>	<b>PROJECT</b> 499: <i>JAVELIN (AAWS-M)</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			
Javelin Joint Venture/ Raytheon/Lockheed Martin	C	Tucson Arizona/Orlando, Florida	0.000	0.000		5.746		0.000		5.746	Continuing	Continuing	0
Government Component Test Support	C	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		5.746		0.000		5.746			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			
Other Government Agencies	C	Various Location could not be determined.	0.000	0.000		1.340		0.000		1.340	Continuing	Continuing	0
Javelin Joint Venture/ Raytheon/Lockheed Martin	C	Various Location could not be determined.	0.000	0.000		0.165		0.000		0.165	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		1.505		0.000		1.505			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604611A: <i>JAVELIN (AAWS-M)</i>				<b>PROJECT</b> 499: <i>JAVELIN (AAWS-M)</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			
Javelin Joint Venture/ Raytheon/Lockheed Martin	C	Tucson Arizona and Orlando, Florida	0.000	0.000		1.792		0.000		1.792	Continuing	Continuing	0
Government System Engineering and Program Management	C	Redstone Arsenal Alabama	0.000	0.000		0.956		0.000		0.956	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		2.748		0.000		2.748			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	0.000	9.999	0.000	9.999		

**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604611A: <i>JAVELIN (AAWS-M)</i>	<b>PROJECT</b> 499: <i>JAVELIN (AAWS-M)</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
CDD Development, AoA, and Milestone Documentation								#	#	#	#	#	#	#	#	#												
Milestone B																	#											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604611A: <i>JAVELIN (AAWS-M)</i>	<b>PROJECT</b> 499: <i>JAVELIN (AAWS-M)</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
CDD Development, AoA, and Milestone Documentation	4	2010	4	2012
Milestone B	1	2013	1	2013

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<b>Exhibit R-5, RDT&amp;E Termination Liability:</b> PB 2011 Army							<b>DATE:</b> February 2010	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604611A: <i>JAVELIN (AAWS-M)</i>			<b>PROJECT</b> 499: <i>JAVELIN (AAWS-M)</i>	
<b>Cost (\$ in Millions)</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	
<b>Program Termination Liability</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

**Notes**

The Javelin Increment II EMD contract will incorporate the "Limitation of Funds" clause from the FAR 52.232-22 to limit the Government's liability.

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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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</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	4.550	9.826	3.519	0.000	3.519	3.454	3.598	3.764	3.956	Continuing	Continuing
659: <i>FAMILY OF HVY TAC VEH</i>	0.000	5.671	2.135	0.000	2.135	0.000	0.000	0.000	0.000	Continuing	Continuing
65A: <i>MOVEMENT TRACKING SYSTEM (MTS)</i>	3.422	1.361	1.132	0.000	1.132	1.495	1.601	1.731	1.892	Continuing	Continuing
E50: <i>TRAILER DEVELOPMENT</i>	1.128	2.794	0.252	0.000	0.252	1.959	1.997	2.033	2.064	Continuing	Continuing

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

This program element aligns system development and demonstration of Heavy Tactical Vehicles with Future Modular Force requirements to support combat and combat support missions. These missions include the following: line haul, local haul, and unit resupply. These trucks transport water, ammunition, and general cargo over all terrain and throughout the battle-space. Funding will also be used for developing the Army's next generation of tactical truck, as part of the Army's Tactical Wheeled Vehicle Modernization Strategy. Funding in Project 65A is for the development of the Movement Tracking System (MTS). Funding in Project E50 supports the continued modernization of the Army's trailer fleets and supports the continuous product improvements, technology insertion, and new capabilities for tactical trailers.

**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	4.487	7.477	5.287	0.000	5.287
Current President's Budget	4.550	9.826	3.519	0.000	3.519
Total Adjustments	0.063	2.349	-1.768	0.000	-1.768
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		2.168			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.063	0.181			
• Adjustments to Budget Years	0.000	0.000	-1.768	0.000	-1.768

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>	
<b><u>Change Summary Explanation</u></b> Change Summary Explanation: Funding - FY 2011: Funds realigned to higher priority Army 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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>				<b>PROJECT</b> 659: <i>FAMILY OF HVY TAC VEH</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>
659: <i>FAMILY OF HVY TAC VEH</i>	0.000	5.671	2.135	0.000	2.135	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 existing Heavy Tactical Vehicle programs require insertion of mature, state-of-the-art technologies. FY 11 funds will provide for the demonstration, design evaluations and testing to provide increased capability to enable a more agile, flexible, full spectrum movement of supplies and equipment across the range of military operations throughout the battlefield.											
<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	0.500	0.000	0.000	0.000
<p>Reliability Growth and Study Analysis: The HTVs are required to be operationally reliable in excess of three times the operational reliability of its predecessor. Reliability growth will be studied through analysis of military, U.S. commercial, and foreign commercial trucks. The study will evaluate drivelines, suspension, fuel management, and vehicle maintenance systems and practices that result in peak system performance. The results of the reliability growth study will be used to revise vehicle designs, incorporate proven maintenance methodologies for maintaining HTVs when stored and in use, and to evaluate the reliability requirement of HTVs in terms of the impact of the cost of reliability growth over the system life cycle.</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>											

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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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>		<b>PROJECT</b> 659: <i>FAMILY OF HVY TAC VEH</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  Suspension and Chassis enhancements will balance chassis weight distribution, and carry the added weight of chassis and fuel tank protective applique armor. Fuel Tank development will center on optimizing fuel tank design to direct fuel away from the crew compartment during a mine, IED, or targeted blast event. Vehicle technology from prior program activity and market will be leveraged and integrated into a concept demonstration vehicle that will evaluate and assess required user defined capability growth and product readiness of the technologies for incorporation into the RECAP production environment.  <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	5.057	2.135	0.000	2.135
Program #3  Small Business Innovative Researc / Small Business Technology Transfer Programs (SBIR / STTR)  <i>FY 2009 Accomplishments:</i> FY 2009				0.000	0.114	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>			<b>PROJECT</b> 659: <i>FAMILY OF HVY TAC VEH</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						0.000	5.671	2.135	0.000	2.135	
<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>OPAI DA0500, Family of Heavy Tactical Vehicles (FHTV)</i>	1,974.995	1,414.211	549.741	188.677	738.418	704.960	12.682	68.076	160.770	0	5,074.112
<b>D. Acquisition Strategy</b>											
The Reliability Growth study will be a NAC/TARDEC effort or contracted to an independent third party. The requirement of the study will be written into a SOW by 2nd Qtr FY10, with a planned award by 3rd Qtr FY10. For the Hardware Development Projects, each project will be proceeded by informal market research. Existing technologies will be researched and compared to systems in use in the US Military. Specific scope of work requirements for each project will be developed and refined as data is gathered.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>				<b>PROJECT</b> 659: <i>FAMILY OF HVY TAC VEH</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			
Reliability Growth Study and Analysis	C/TBD	TBD Location could not be determined.	0.000	0.500		0.000		0.000		0.000	Continuing	Continuing	0
Suspension and Chassis Enhancements	C/TBD	TBD Location could not be determined.	0.000	5.171		1.635		0.000		1.635	Continuing	Continuing	0
<b>Subtotal</b>			0.000	5.671		1.635		0.000		1.635			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			
Demonstration Vehicle System	C	Aberdeen Proving Grounds MD	0.000	0.000		0.500		0.000		0.500	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.500		0.000		0.500			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>	<b>PROJECT</b> 659: <i>FAMILY OF HVY TAC VEH</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
Reliability Growth Study and Analysis							#	#	#	#	#	#	#															
Design, Develop and Build								#	#	#	#	#	#	#	#													
Design, Develop and Build Demonstration Vehicle System								#	#	#	#	#	#	#	#													
Test and Evaluation													#	#	#	#												

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>	<b>PROJECT</b> 659: <i>FAMILY OF HVY TAC VEH</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Reliability Growth Study and Analysis	3	2010	1	2012
Design, Develop and Build	4	2010	3	2012
Design, Develop and Build Demonstration Vehicle System	4	2010	3	2012
Test and Evaluation	4	2011	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>				<b>PROJECT</b> 65A: <i>MOVEMENT TRACKING SYSTEM (MTS)</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>
65A: <i>MOVEMENT TRACKING SYSTEM (MTS)</i>	3.422	1.361	1.132	0.000	1.132	1.495	1.601	1.731	1.892	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>Movement Tracking System (MTS) is a satellite based, asset visibility and situational awareness enabler that assists Combat Support/Combat Service Support (CS/CSS) commanders and their staffs. MTS identifies and tracks the location of vehicles, communicates with vehicle operators, and redirects missions on a worldwide, near real-time basis during peacetime operations and war. MTS provides the capability to link ground level operators conducting missions and commanders/managers that plan, direct, and control operations and allows for continuous CS/CSS asset visibility across the tactical area of operations. FY08/09 funding supported development of block modifications on the MTS. This block modification will develop and test required interfaces to Transportation Coordinator's Automated Information for Movement System (TC AIMS II) (direct electronic interface) and Global Combat Support System-Army(GCSS-Army) (direct electronic interface). FY10/11 funding continues interface development &amp; testing.</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							3.347	1.223	0.982	0.000	0.982
Development of block modifications on the Movement Tracking System  <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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>	<b>PROJECT</b> 65A: <i>MOVEMENT TRACKING SYSTEM (MTS)</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 System 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	0.100	0.150	0.000	0.150
Program #3 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		0.075	0.038	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>			<b>PROJECT</b> 65A: <i>MOVEMENT TRACKING SYSTEM (MTS)</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						3.422	1.361	1.132	0.000	1.132	
<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>OPAI D16103000,</i> <i>Movement Tracking System (MTS)</i>	234.267	78.377	93.736	0.000	93.736	71.677	53.922	43.003	45.936	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
RDTE efforts to support block development approach through a continuous series of overlapping modular development and integration testing to include multiple interface developments in support of follow-on production.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>				<b>PROJECT</b> 65A: <i>MOVEMENT TRACKING SYSTEM (MTS)</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, engineering, testing, program management	C	Comtech Mobile Datacom Corp. Germantown, MD	8.798	0.887		0.982		0.000		0.982	Continuing	Continuing	0
<b>Subtotal</b>			8.798	0.887		0.982		0.000		0.982			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			
Software Testing	C	Electronic Proving Ground Yuma, AZ	2.007	0.474		0.150		0.000		0.150	1.079	4.140	0
<b>Subtotal</b>			2.007	0.474		0.150		0.000		0.150	1.079	4.140	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>	10.805	1.361		1.132		0.000		1.132			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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>			<b>PROJECT</b> 65A: <i>MOVEMENT TRACKING SYSTEM (MTS)</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-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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>				<b>PROJECT</b> E50: <i>TRAILER 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>
E50: <i>TRAILER DEVELOPMENT</i>	1.128	2.794	0.252	0.000	0.252	1.959	1.997	2.033	2.064	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This program element supports continued modernization of the Army's trailer fleet. The FY 2011 funds support development and integration of emerging state of the art technology improvements and new capabilities. FY 2011 funding will develop, design and build prototype to meet Army operational capability gaps identified by CASCOM, and also will support continued insertion of new technology to the current fleet, including testing. Other on-going technologies being looked at are corrosion prevention and modularity and transportability enhancements such as improved suspension. Modernized trailers are better able to match the capabilities of today's improved tactical wheeled vehicles and tractors.</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	0.252	0.000	0.252	
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											

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>		<b>PROJECT</b> E50: <i>TRAILER 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>
Program #2		0.200	0.000	0.000	0.000	0.000
<p>Current fleet technical insertion and 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>						
Program #3		0.102	0.000	0.000	0.000	0.000
<p>Design, develop and build System Prototype Demonstrator Trailer(s)</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>						

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>	<b>PROJECT</b> E50: <i>TRAILER 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>
Program #4 Design and develop VIPER Mobile Power Project  <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		0.775	0.000	0.000	0.000	0.000
Program #5 Design, develop, build and test trailers  <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	2.765	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>			<b>PROJECT</b> E50: <i>TRAILER 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>	
Program #6						0.051	0.029	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						1.128	2.794	0.252	0.000	0.252	
<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 1 D01500 Semi-Trailer Flatbed 22.5T M871A3</i>	6.464	2.390	0.000	0.000	0.000	0.000	0.725	0.751	0.000	Continuing	Continuing
• Ord. #2: <i>OPA 1 D01600 Semi-Trailer Flatbed 34T M872A4</i>	96.779	10.972	0.000	0.000	0.000	0.000	0.724	0.000	0.000	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
Conduct feasibility testing on existing tactical semi-trailers. Identify enhanced transportability and safety concepts and other responses to field issues. Modify existing equipment or develop new equipment. The ultimate goal is to develop and test improvements, acquire necessary technical data, and place improved hardware into production.											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>	<b>PROJECT</b> E50: <i>TRAILER DEVELOPMENT</i>

**E. Performance Metrics**

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

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<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>				<b>PROJECT</b> E50: <i>TRAILER 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			
Program Management	C	TACOM-WRN Location could not be determined.	3.293	0.000		0.252		0.000		0.252	Continuing	Continuing	0
Design, develop and build System Prototype Demonstrator Trailers	C	TARDEC-WRN Location could not be determined.	1.949	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Design, develop, build and test trailers	C/TBD	TBD Location could not be determined.	0.000	2.794		0.000		0.000		0.000	Continuing	Continuing	0
Design and development of VIPER Mobile Power	C/TBD	TBD Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			5.242	2.794		0.252		0.000		0.252			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			
Improved Lighting Rqmts	C	TARDEC Warren, Michigan	0.783	0.000		0.000		0.000		0.000	Continuing	Continuing	0
	C		0.000	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604622A: <i>Family of Heavy Tactical Vehicles</i>	<b>PROJECT</b> E50: <i>TRAILER DEVELOPMENT</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			
Design, develop, build and test trailers.		Aberdeen Proving Grounds MD											
<b>Subtotal</b>			0.783	0.000		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>	6.025	2.794	0.252	0.000	0.252			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</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	16.092	7.538	9.892	0.000	9.892	12.001	6.672	6.823	6.948	Continuing	Continuing
586: <i>AIR TRAFFIC CONTROL</i>	16.092	7.538	9.892	0.000	9.892	12.001	6.672	6.823	6.948	Continuing	Continuing

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

This program element (PE) funds continuous efforts in the development of modernized tactical and fixed base Air Traffic Control (ATC) systems that will significantly enhance aviation safety in both the tactical and strategic ATC domains. ATC systems are required to achieve or maintain compliance with civil, military, domestic and international air traffic control and combat identification requirements and mandates. Funding will be utilized to develop, evaluate and integrate candidate technology mandates. Funded in this program element is the development of the Tactical Airspace Integration System (TAIS) Service Oriented Architecture (SOA) and Airspace Improvements Initiative, Advanced Surveillance, Air Traffic Navigation Integration and Coordination System (ATNAVICS) modernization, Mobile Tower System (MOTS), Tactical Terminal Control System (TTCS) Pre-Planned Product Improvements (P3I), Fixed Base Precision Approach Radar (FBPAR) P3I, and maintenance monitoring. ATNAVICS provides all weather instrument flight capabilities to include enroute, terminal, radar precision approach and landing services to all Army, Joint, and allied aircraft. The MOTS is a tactical mobile tower designed to meet the deployability and communication requirements of the current to future force. TAIS SOA develops software and required hardware for airspace management web services, to operate effectively in a dynamic net-centric high band-width interconnected environment. TAIS also integrates advanced surveillance interfaces to further enhance a dynamic airspace management capability. FBPAR is the Army's primary ground controlled precision approach capability to provide recovery operations for aircraft to fixed base airfields during adverse weather conditions. TTCS provides enhanced Air Traffic Services (ATS) communications support to aviation assets conducting reconnaissance, maneuver, medical evacuation, logistics, and intelligence operations across the battlefield. Maintenance monitoring is a remote maintenance capability for ATC systems. Funded project improvements to ATC systems, including the TAIS and ATNAVICS, will align these programs with advanced networking and communications goals, and provide compatibility with the Army Aviation aircraft and avionics upgrade programs including Global Air Traffic Management. In a networked battlefield, joint service systems and radars provide operational data to ATC missions assuming a communications infrastructure and data processing capability is embedded in ATC systems. ATC systems control maintain information relevant to higher level organizations or other external systems; advanced networks and communications allow such information to be transmitted, to include aircraft positional information, weather data, landing surface conditions, airspace density, airspace control orders, restricted airspace, and flight plan data. As the Department of Defense transitions military aircraft to positional self-reporting technologies, Product Manager ATC will demonstrate and test these various technologies prior to integration into the ATC systems. Advanced surveillance relies on aircraft self-reporting technologies which include Automatic Dependent Surveillance Broadcast (ADS-B), Mode 5 and Mode S. Initial testing and integration of these systems are foundational to Advanced Surveillance to increase ATC systems availability to detect, manage, and disseminate aircraft information. ATNAVICS will network its surveillance data to aviation and joint network nodes. TAIS, as a Battlefield Automated System (BAS) of the Army Battle Command System (ABCS), requires the development and testing of web-based services for Airspace Command and Control (AC2) and ATS, and integration of these new web-based services into a SOA supporting Army Battle Command, ATS and Dynamic Airspace Management through advanced surveillance interfaces and providing TAIS situational awareness to the cockpit. TAIS RDTE also includes separate TAIS P3I efforts in FY 09/10, FY12/13 and FY 15. TAIS P3I include, but are not limited to, developing and testing improvements to the air picture adding unmanned aircraft positions. To facilitate increased maintenance and system support, a

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

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remote maintenance capability will be developed for robust maintenance and troubleshooting. FBPAR includes upgrading computer capability. TTCS P3I includes enhanced capability for situational awareness through Force XXI Battle Command, Brigade-and-Below (FBCB2) and interoperability with TAIS.

**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	14.167	7.578	9.657	0.000	9.657
Current President's Budget	16.092	7.538	9.892	0.000	9.892
Total Adjustments	1.925	-0.040	0.235	0.000	0.235
• Congressional General Reductions		-0.040			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	2.300	0.000			
• SBIR/STTR Transfer	-0.375	0.000			
• Adjustments to Budget Years	0.000	0.000	0.235	0.000	0.235

**Change Summary Explanation**

Funding ChangesFY09: +\$2.300M for a critical 2nd Engineering Development Model for the Mobile Tower System.

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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
<i>586: AIR TRAFFIC CONTROL</i>	16.092	7.538	9.892	0.000	9.892	12.001	6.672	6.823	6.948	Continuing	Continuing
Quantity of RDT&E Articles											

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

This program element (PE) funds continuous efforts in the development of modernized tactical and fixed base Air Traffic Control (ATC) systems that will significantly enhance aviation safety in both the tactical and strategic ATC domains. ATC systems are required to achieve or maintain compliance with civil, military, domestic, and international air traffic control and combat identification requirements and mandates. Funding will be utilized to develop, evaluate and integrate candidate technology mandates. Funded in this program element is the development of the Tactical Airspace Integration System (TAIS) Service Oriented Architecture (SOA) and Airspace Improvements Initiative, Advanced Surveillance, Air Traffic Navigation Integration and Coordination System (ATNAVICS) modernization, Mobile Tower System (MOTS), Tactical Terminal Control System (TTCS) Pre-Planned Product Improvements (P3I), Fixed Base Precision Approach Radar (FBPAR) P3I, and maintenance monitoring. ATNAVICS provides all weather instrument flight capabilities to include enroute, terminal, radar precision approach and landing services to all Army, Joint, and allied aircraft. The MOTS is a tactical mobile tower designed to meet the deployability and communication requirements of the current to future force. TAIS SOA develops software and required hardware for airspace management web services, to operate effectively in a dynamic net-centric, high band-width interconnected environment. TAIS also integrates advanced surveillance interfaces to further enhance a dynamic airspace management capability. FBPAR is the Army's primary ground controlled precision approach capability to provide recovery operations for aircraft to fixed base airfields during adverse weather conditions. TTCS provides enhanced Air Traffic Services (ATS) communications support to aviation assets conducting reconnaissance, maneuver, medical evacuation, logistics, and intelligence operations across the battlefield. Maintenance monitoring is a remote maintenance capability for ATC systems. Funded project improvements to ATC systems, including the TAIS and ATNAVICS, will align these programs with advanced networking and communications goals, and provide compatibility with the Army Aviation aircraft and avionics upgrade programs including Global Air Traffic Management. In a networked battlefield, joint service systems and radars provide operational data to ATC missions assuming a communications infrastructure and data processing capability is embedded in ATC systems. ATC systems control or maintain information relevant to higher level organizations or other external systems; advanced networks and communications allow such information to be transmitted, to include aircraft positional information, weather data, landing surface conditions, airspace density, airspace control orders, restricted airspace, and flight plan data. As the Department of Defense transitions military aircraft to positional self reporting technologies, Product Manager ATC will demonstrate and test these various technologies prior to integration into the ATC systems. Advanced surveillance relies on aircraft self-reporting technologies which include Automatic Dependent Surveillance Broadcast (ADS-B), Mode 5, and Mode S. Initial testing and integration of these systems are foundational to Advanced Surveillance to increase ATC systems availability to detect, manage, and disseminate aircraft information. ATNAVICS will network its surveillance data to aviation and joint network nodes. TAIS, as a Battlefield Automated System (BAS) of the Army Battle Command System (ABCS), requires the development and testing of web-based services for Airspace Command and Control (AC2) and ATS, and integration of these new web-based services into a SOA supporting Army Battle Command, ATS and Dynamic Airspace Management through advanced surveillance interfaces and providing TAIS situational awareness to the cockpit. TAIS RDTE also include separate TAIS P3I efforts in FY 09/10, FY12/13 and FY 15. TAIS P3I include, but are not limited to, developing and testing improvements to the air picture adding unmanned aircraft positions. To facilitate increased maintenance and system support, a

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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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remote maintenance capability will be developed for robust maintenance and troubleshooting. FBPAR includes upgrading computer capability. TTCS P3I includes enhanced capability for situational awareness through Force XXI Battle Command, Brigade-and-Below (FBCB2) and interoperability with TAIS.						
<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		12.595	2.473	0.000	0.000	0.000
MOTS System Development, Demonstration & 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 #2		2.020	3.409	5.000	0.000	5.000
TAIS Native New Web Services Dev (AVN BOS) (Formerly BC migration)  <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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</i>	<b>PROJECT</b> 586: <i>AIR TRAFFIC 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>
<i>FY 2011 Base Plans:</i> FY 2011 Base						
<i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #3 TAIS P3I		0.691	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 #4 ATNAVICS Modernization		0.000	0.000	2.239	0.000	2.239
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</i>	<b>PROJECT</b> 586: <i>AIR TRAFFIC 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>
<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 Surveillance  <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	1.982	0.000	1.982
Program #6 Tech and Log support		0.685	0.840	0.561	0.000	0.561

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</i>	<b>PROJECT</b> 586: <i>AIR TRAFFIC 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>
<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	Program Management Support	0.101	0.105	0.110	0.000	0.110
<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	0.211	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</i>	<b>PROJECT</b> 586: <i>AIR TRAFFIC CONTROL</i>

<b>B. Accomplishments/Planned Program (\$ in Millions)</b>					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
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	16.092	7.538	9.892	0.000	9.892

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<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>APA AA0050 - Air Traffic Control</i>	122.413	76.808	82.844	7.555	90.399	111.739	84.916	84.487	85.693	Continuing	Continuing

**D. Acquisition Strategy**  
PM ATC will continue to embrace new technology initiatives for the development of tactical and fixed base ATC equipment and the integration of new technology into existing systems. These systems are required to achieve or maintain compliance with civil, military, domestic and international air traffic control and combat identification requirements and mandates. Funding will be utilized to develop, evaluate, and integrate candidate systems in each key technology area. Technology insertion will be acquired through contract modifications, engineering services tasks, and new/follow-on contracts.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</i>	<b>PROJECT</b> 586: <i>AIR TRAFFIC CONTROL</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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</i>				<b>PROJECT</b> 586: <i>AIR TRAFFIC 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			
MOTS System Development and Demo	C/CPFF	Sierra Nevada Corp Sparks, Nevada	19.754	0.774		0.000		0.000		0.000	Continuing	Continuing	0
MOTS Systems Development Support	C	AMCOM Huntsville, AL and ATEC, Alexandria, VA	0.848	0.125		0.000		0.000		0.000	Continuing	Continuing	0
MOTS Contracted Services	C	AMCOM Location could not be determined.	0.482	0.444		0.000		0.000		0.000	Continuing	Continuing	0
TAIS Native New Web Services Dev (AVN BOS) (Formerly BC Migration)	SS/CPFF	General Dynamics C4S Huntsville, AL	3.204	3.409		5.000		0.000		5.000	Continuing	Continuing	0
TAIS P3I	SS/CPFF	General Dynamics C4S Huntsville, AL	0.000	0.500		0.000		0.000		0.000	Continuing	Continuing	0
ATNAVICS Modernization	SS/CPFF	Raytheon Marlboro, MA	0.000	0.000		2.239		0.000		2.239	Continuing	Continuing	0
Advanced Surveillance	C/Various	Various Location could not be determined.	0.000	0.000		1.982		0.000		1.982	Continuing	Continuing	0
Tech and Log Development Support	C	PM ATC Redstone	1.691	0.840		0.561		0.000		0.561	Continuing	Continuing	0
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

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</i>				<b>PROJECT</b> 586: <i>AIR TRAFFIC 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			
<b>Subtotal</b>			25.979	6.092		9.782		0.000		9.782			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			
MOTS Prototype Testing	C	Various Location could not be determined.	0.802	1.130		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.802	1.130		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			
	C	PM ATC	2.021	0.105		0.110		0.000		0.110	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</i>				<b>PROJECT</b> 586: <i>AIR TRAFFIC CONTROL</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 Support		Redstone Arsenal, AL											
SBIR/STTR	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.211		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			2.021	0.316		0.110		0.000		0.110			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
	28.802	7.538		9.892		0.000		9.892			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</i>	<b>PROJECT</b> 586: <i>AIR TRAFFIC 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
MOTS Milestone C								#																				
TAIS P3I Development	#	#	#	#	#	#	#																					
TAIS P3I Development - 2											#	#	#	#	#	#	#	#	#	#								
TAIS P3I Development - 3																							#	#	#	#		
ATNAVICS Modernization										#	#	#	#	#	#	#	#	#	#	#	#	#	#	#				
Advanced Surveillance									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Fixed Base Par Upgrade																	#	#	#	#								
TTCS											#	#	#	#														
Maintenance Monitoring																							#	#	#	#		

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604633A: <i>AIR TRAFFIC CONTROL</i>	<b>PROJECT</b> 586: <i>AIR TRAFFIC CONTROL</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
MOTS Milestone C	4	2010	4	2010
TAIS P3I Development	1	2009	3	2010
TAIS P3I Development - 2	4	2011	3	2013
TAIS P3I Development - 3	4	2014	3	2015
ATNAVICS Modernization	2	2011	3	2014
Advanced Surveillance	1	2011	3	2015
Fixed Base Par Upgrade	4	2013	3	2014
TTCS	4	2011	3	2012
Maintenance Monitoring	4	2014	3	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604642A: <i>LIGHT TACTICAL WHEELED VEHICLES</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	0.000	0.000	1.990	0.000	1.990	0.000	0.000	0.000	0.000	0	3.980
E40: <i>LTV Prototype</i>	0.000	0.000	1.990	0.000	1.990	0.000	0.000	0.000	0.000	Continuing	Continuing

**Note**

Not applicable for this item.

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

The High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) is a lightweight, high performance, four-wheel drive, air transportable and air droppable, high mobility tactical wheeled vehicle. The HMMWV consists of a basic design with several variants including Cargo/Utility, Armament Carrier, Ambulance, Shelter Carrier and Armored Armament Carrier. FY 2011 Core funding supports improvements to the HMMWV family of vehicles through the development of an ambulance variant on the ECV chassis. Utilizing current production chassis for the ambulance variant incorporates engine technologies and maintainability improvements, which will result in decreased operational support costs. There are no FY 2011 OCO RDTE dollars under this program.

**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	1.990	0.000	1.990
Total Adjustments	0.000	0.000	1.990	0.000	1.990
• 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	1.990	0.000	1.990

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604642A: <i>LIGHT TACTICAL WHEELED VEHICLES</i>	
<b><u>Change Summary Explanation</u></b> Funding - FY 2011 Core: Funds added to support the HMMWV ambulance 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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604642A: <i>LIGHT TACTICAL WHEELED VEHICLES</i>				<b>PROJECT</b> E40: <i>LTV Prototype</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>
E40: <i>LTV Prototype</i>	0.000	0.000	1.990	0.000	1.990	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 High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) is a lightweight, high performance, four-wheel drive, air transportable and air droppable, high mobility tactical wheeled vehicle. The HMMWV consists of a basic design with several variants including Cargo/Utility, Armament Carrier, Ambulance, Shelter Carrier and Armored Armament Carrier. FY 2011 Core funding supports improvements to the HMMWV family of vehicles through the development of an ambulance variant on the ECV chassis. Utilizing current production chassis for the ambulance variant incorporates engine technologies and maintainability improvements, which will result in decreased operational support costs. There are no FY 2011 OCO RDTE dollars under this 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							0.000	0.000	1.990	0.000	1.990
FY 2011 Core Funding supports XM997A3 HMMWV Ambulance Platform Development and 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											

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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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604642A: <i>LIGHT TACTICAL WHEELED VEHICLES</i>			<b>PROJECT</b> E40: <i>LTV Prototype</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						0.000	0.000	1.990	0.000	1.990	
<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>OPAI Hi Mob Multi-Purp Whld Veh (D15400)</i>	1,511.125	1,344.230	0.000	0.000	0.000	202.556	0.000	0.000	27.697	0	3,085.608
<b>D. Acquisition Strategy</b>											
<p>The HMMWV Ambulance strategy involves the integration of the M997A2 ambulance box on an Expanded Capacity Vehicle (ECV) chassis. The new vehicle platform is anticipated to be classified as XM997A3. Integration of the two full materiel release systems is anticipated to allow the XM997A3 to enter the acquisition system post-milestone B. FY 2011 Core RDT&amp;E will be used to fund the developmental testing portion of the XM997A3 program. Developmental testing will occur in a relevant environment at Government and contractor test facilities. The main goals of the developmental testing for this program are: 1.) to ensure that the modified air conditioning configuration on the XM997A3 will meet or exceed the air conditioning requirements of the current ECV platforms; 2.) to ensure that the air conditioning configuration on the XM997A3 will not degrade vehicle powertrain and driveline performance; and 3.) to ensure structural integrity of the integration of the legacy ambulance box on the ECV chassis. This will ensure that the XM997A3 platform will be ready for operational testing to properly support needs of the Army medical community.</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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604642A: <i>LIGHT TACTICAL WHEELED VEHICLES</i>				<b>PROJECT</b> E40: <i>LTV Prototype</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>
FY 2011 Core funding supports XM997A3 Ambulance Platform Development/Testing	SS/FFP	Mishawaka IN	0.000	0.000		0.390		0.000		0.390	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.390		0.000		0.390			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>
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	0	0	0
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000	0.000	0.000	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604642A: <i>LIGHT TACTICAL WHEELED VEHICLES</i>	<b>PROJECT</b> E40: <i>LTV Prototype</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			
FY 2011 Core Funding Supports XM997A3 Structural/Endurance Testing	C	ATC Aberdeen, MD	0.000	0.000		1.600		0.000		1.600	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		1.600		0.000		1.600			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			
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	0	0	0
<b>Subtotal</b>			0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000

**Remarks**

Not applicable

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2011 Army					<b>DATE:</b> February 2010				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604642A: <i>LIGHT TACTICAL WHEELED VEHICLES</i>			<b>PROJECT</b> E40: <i>LTV Prototype</i>			

	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	0.000	1.990	0.000	1.990			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604642A: <i>LIGHT TACTICAL WHEELED VEHICLES</i>	<b>PROJECT</b> E40: <i>LTV Prototype</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
Contract Award									#																			
XM997A3 Developmental 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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604642A: <i>LIGHT TACTICAL WHEELED VEHICLES</i>	<b>PROJECT</b> E40: <i>LTV Prototype</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Contract Award	1	2011	1	2011
XM997A3 Developmental Testing	1	2011	3	2011

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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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch 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>
Total Program Element	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	593.537
<i>F72: NON LINE OF SIGHT LAUNCH SYSTEM</i>	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	Continuing	Continuing

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

This project funds the System Development and Demonstration (SDD) for the Non-Line of Sight Launch System (NLOS-LS), which is part of the Brigade Combat Team (BCT) modernization program. NLOS-LS has been called upon to deliver its enabling lethality capabilities to the Infantry Brigade Combat Teams (IBCTs). NLOS-LS consists of the Precision Attack Missile (PAM) and a highly deployable, platform-independent Container Launch Unit (CLU) with self-contained technical fire control, electronics, communications and software for remote, unmanned operations. This project focuses on the development of a materiel solution to meet the NLOS-LS operational need as delineated in the Future Combat System (FCS) Operational Requirements Document (ORD) and Increment 1 Early-Infantry Brigade Combat Team (E-IBCT) Capabilities Production Document (CPD). The PAM will be vertically launched directly from the CLU based on fire missions received via the BCT network and will be capable of being updated in-flight via on-board radios by the network. The vertical launch capability permits a system that is highly deployable as well as the ability to engage a wide spectrum of targets in diverse environments and terrain. The PAM will have Automatic Target Acquisition (ATA) capability which can be upgraded in future versions. NLOS-LS, delivered during the Increment 1 timeframe, will equip Current Forces with an Advanced Field Artillery Tactical Data System (AFATDS) command based unmanned precision attack missile system. Increment 2 will address objective requirements to meet the Capability Development Document (CDD). These efforts will include Insensitive Munition requirements, incorporation of the Handheld, Manpack and Small Form Fits (HMS)-J and Ground Mobile Radio (GMR) radios into the system, integration of the Blue Force Tracker into the control cell, Data Storage Device (DSD) modifications to alleviate NSA concerns and Integrated Computing System (ICS) updates. Additional threshold requirements planned for BCT modernization program include interoperability with Battle Command, Level 5 Interactive Electronic Technical Manual System, In-Flight Target Updates, disable in flight, 72 hour on-board power, functioning Platform Soldier Mission Readiness System/Logistics Decision Support System. In January 2006, the NLOS-LS Project Office entered into a Memorandum of Agreement with the Navy to pursue NLOS-LS as the Navy's materiel solution for small boat threat on its Littoral Combat Ships.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</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	208.009	88.660	81.675	0.000	81.675
Current President's Budget	253.684	91.223	81.247	0.000	81.247
Total Adjustments	45.675	2.563	-0.428	0.000	-0.428
• Congressional General Reductions		-0.477			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		3.040			
• Congressional Directed Transfers		0.000			
• Reprogrammings	51.500	0.000			
• SBIR/STTR Transfer	-5.825	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.428	0.000	-0.428

**Change Summary Explanation**

Change Summary Explanation: Increased funding in FY 2010 finances FCS Network integration and support NSA Information Assurance.

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>				<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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>
F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</i>	253.684	91.223	81.247	0.000	81.247	58.718	27.418	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 the System Development and Demonstration (SDD) for the Non-Line of Sight Launch System (NLOS-LS), which is part of the Brigade Combat Team (BCT) modernization program. NLOS-LS has been called upon to deliver its enabling lethality capabilities to the Infantry Brigade Combat Teams (IBCTs). NLOS-LS consists of the Precision Attack Missile (PAM) and a highly deployable, platform-independent Container Launch Unit (CLU) with self-contained technical fire control, electronics, communications and software for remote, unmanned operations. This project focuses on the development of a materiel solution to meet the NLOS-LS operational need as delineated in the Future Combat System (FCS) Operational Requirements Document (ORD) and Increment 1 Early-Infantry Brigade Combat Team (E-IBCT) Capabilities Production Document (CPD). The PAM will be vertically launched directly from the CLU based on fire missions received via the BCT network and will be capable of being updated in-flight via on-board radios by the network. The vertical launch capability permits a system that is highly deployable as well as the ability to engage a wide spectrum of targets in diverse environments and terrain. The PAM will have Automatic Target Acquisition (ATA) capability which can be upgraded in future versions. NLOS-LS, delivered during the Increment 1 timeframe, will equip Current Forces with an Advanced Field Artillery Tactical Data System (AFATDS) command based unmanned precision attack missile system. Increment 2 will address objective requirements to meet the Capability Development Document (CDD). These efforts will include Insensitive Munition requirements, incorporation of the Handheld, Manpack and Small Form Fits(HMS)-J and Ground Mobile Radio (GMR) radios into the system, integration of the Blue Force Tracker into the control cell, Data Storage Device (DSD) modifications to alleviate NSA concerns and Integrated Computing System (ICS) updates. Additional threshold requirements planned for BCT modernization program include interoperability with Battle Command, Level 5 Interactive Electronic Technical Manual System, In-Flight Target Updates, disenable in flight, 72 hour on-board power, functioning Platform Soldier Mission Readiness System/Logistics Decision Support System. In January 2006, the NLOS-LS Project Office entered into a Memorandum of Agreement with the Navy to pursue NLOS-LS as the Navy's materiel solution for small boat threat on its Littoral Combat Ships.</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							86.075	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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>
<p>FY09 Accomplishments - PAM Systems Engineering &amp; Program Mgt: Continued system detailed design and Single Channel Radio System (SCRS) radio integration. Completed qualification testing on the battery, warhead, air data module, electronic safe/arming device, and radio antenna subcomponents. Achieved NLOS-LS Certification &amp; Accreditation PAM Build 4 for Authority to Operate (ATO).</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>FY10 Planned Accomplishments - PAM Systems Engineering &amp; Program Mgt: Increment 1: Collect PAM data/design NLOS-LS Interactive Electronic Technical Manual System. Completed NSA Type 1 certification of SCRS radio. Completed 10 GTV flight tests. Successfully performed Stockpile-To-Target Sequence (STS) Testing (GTV 12 and GTV 13). Conducted communications testing with AFATDS and the SCRS RV-5 Radio. Continue subcomponent Qualification Testing on the CAS, ISD, Seeker, Radio, Rocket Motor, and Electronics Unit. Completed Qualification Testing on the Container / health monitor, NNS, RV-5 Radio, PAM, and AUR. Design and implementation of new square Wing Spring to ensure meeting max crosswind requirements. Validated PAM/CLU radio connectivity with DSD sending PAM data. Participate in system integration exercises to improve CONOPS and mission threads.</p>		0.000	7.517	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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 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  FY10 Planned Accomplishments - PAM Systems Engineering & Program Mgt: Increment 2: Continue design efforts to meet threshold requirements such as in-flight target updates and disable in-flight capabilities (requirement compliancy efforts). Support requirements development and system integration of missile improvements with simulations and operational analysis. Continue design efforts to mitigate issues affecting system performance such as soot on dome (affecting performance of both SAL and IR) and improvements to algorithm robustness in high clutter for stationary targets in the IR mode. Continued seeker improvements affecting production (new IR camera core) and system performance.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	17.062	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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						
<b>Program #4</b>  FY11 Planned Accomplishments - PAM Systems Engineering & Program Mgt: Increment 2: Continued development testing and verification of design of in-flight target updates and disenable in-flight capabilities. Continued testing and verification of seeker improvements. Continued support of system simulations, integration of missile improvements and operational analysis. Update PAM Interface Specifications. Perform Independent Verification and Validation (IV&V) of updated tech data package. Continue requirement compliancy efforts to reduce waivers (i.e. Insensitive Munitions compliance and removal of Hazardous 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		0.000	0.000	15.561	0.000	15.561
<b>Program #5</b>		14.049	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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>
<p>FY09 Accomplishments - PAM PROTOTYPE: Increment 1: Built and delivered 23 PAM prototypes for developmental testing that began in FY08.</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 #6</p> <p>FY09 Accomplishments - PAM SOFTWARE: Increment 1: Continued PAM software design, code, testing, and integration of incremental Flight SW builds (PAM Build 5, 5.6, and 6 ) to incorporate Radio Version (RV)4, RV5 radios, and DSD interface.</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>		9.182	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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 #7  FY10 Planned Accomplishments - PAM SOFTWARE: : Increment 1: Complete SRW 1.0.1.1C updates on SCRS. Obtain NSA approval of SCRS and DSD SW. Update PAM Software to address open Software Problem Reports (SPRs) on build 6 SW configurations and algorithm updates. Complete final IV&V for tactical PAM SW.  <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	12.716	0.000	0.000	0.000
Program #8  ***FY10 Planned Accomplishments - PAM SOFTWARE: Increment 2: Continue PAM software design, code, testing, and integration to support new builds to comply with ARMY SW blocking CS13-14. Update PAM network interface for UAV as well as B-Kit Incr 2 communications. Perform incremental Software Formal Qualification testing for build Updates. Assess Tactical Security vulnerability on SW updates to support ATO update. Conduct Single and Multiple Missile Integration Testing on SW updates. Conduct system integration exercises to improve CONOPS and mission threads		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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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 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 Planned Accomplishments - PAM SOFTWARE: Increment 2: Fix any problems that emerge during testing and support IOTE. Continuation of PAM network interface for UAV as well as B-Kit Incr 2 communications. Continuation of PAM SW updates to comply with ARMY SW blocking CS13-14. Complete Software Formal Qualification testing for build Updates. Complete Tactical Security vulnerability assessment on SW updates to support ATO update. Complete Single and Multiple Missile Integration Testing on HW and SW updates. Complete system integration exercises to improve CONOPS and mission threads.  <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	13.840	0.000	13.840

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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 #10  FY09 Accomplishments - CLU Systems Engineering & Program Mgt: Increment 1: System engineering analysis of test results. Finalized Training Support Packages/Level III IETM; continued to evaluate UID/IUID marking. Continued developing NLOS-LS Independent Data Acquisition System (NIDAS). Integration of Nav system into the CLU and transfer alignment to the PAM. Subsystem qualification and CLU-level environmental qualification. Development of Automated Test Equipment (ATE).  <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	53.930	0.000	0.000	0.000	0.000	
Program #11  FY10 Planned Accomplishments - CLU Systems Engineering & Program Mgt: Increment 1: Update Safety Release. Complete NSA Type 1 certification of Data Storage Device. CLU integration and software development. Update CLU Interface Specifications for Build to Final Software. Perform IV&V of updated tech data package. DSD system task integration; validation and certification of crypto key management procedures. Continued	0.000	9.956	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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>
support of field exercises at Ft. Bliss. Incorporation of SRW Rev 5 SCRS radio and DSD into Control Cell per NSA requirements. Complete qualification and delta qualification of subsystems and CLU.  <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  FY10 Planned Accomplishments - CLU Systems Engineering & Program Mgt: Increment 2: Begin integration of the HMS-J radio into the CLU.  <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	14.934	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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 #13  FY11 Planned Accomplishments - CLU Systems Engineering & Program Mgt: Increment 1: Provide support to Increment 1 testing, including IOTE. Increment 2: CLU and System requalification; Data Storage Device redesign and recertification (requirement compliancy effort) to address NSA concerns. Update CLU Interface Specifications to include radio changes and NSA evolving requirements. Perform IV&V of updated tech data package. Complete integration of the HMS-J radio into the CLU. Continued support of field exercise at Ft. Bliss. Participate in AFATDS system integration exercises to validate mission threads for the system. Continue requirement compliancy efforts to reduce waivers. Achieve final NSA certification for unattended operations. Integration of JCR/Blue Force Tracker (BFT) into Control Cell.  <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	23.088	0.000	23.088
Program #14  FY11 Planned Accomplishments - CLU Systems Engineering & Program Mgt: Increment 2: CLU and System requalification; Data Storage Device redesign and recertification (requirement compliancy effort) to address		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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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>
<p>NSA concerns. Update CLU Interface Specifications to include radio changes and NSA evolving requirements. Perform IV&amp;V of updated tech data package. Complete integration of the HMS-J radio into the CLU. Continued support of field exercise at Ft. Bliss. Participate in AFATDS system integration exercises to validate mission threads for the system. Continue requirement compliancy efforts to reduce waivers. Achieve final NSA certification for unattended operations. Integration of JCR/Blue Force Tracker (BFT) into Control Cell.</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 Accomplishments - CLU PROTOTYPE: Increment 1: Build and delivered 7 CLU prototypes for developmental testing that began in FY08.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		3.773	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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 #16  FY09 Accomplishments - CLU SOFTWARE: Continued CLU software design, code, testing, and integration of incremental Flight SW builds (CLU Build 12,13, and 14 ) to incorporate DSD interface and Radio Version RV5 radios PAM Interface. Achieved NLOS-LS Certification and Accreditation on CLU ITR 14.x with SOSCOE RE 2.1 for Authority To Operate and continued software design 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		50.510	0.000	0.000	0.000	0.000
Program #17  FY10 Planned Accomplishments - CLU SOFTWARE: Increment 1: Update CLU Software to address open Software Problem Reports (SPRs) on build 14.x SW configurations. Complete final IV&V for tactical CLU SW. Complete Software Formal Qualification testing for build Updates.		0.000	3.581	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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 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 #18  FY10 Planned Accomplishments - CLU SOFTWARE: : Increment 2: Continue CLU software design, code, testing, and integration to support new builds to comply with ARMY SW blocking CS13-14. Update CLU network interface for B-Kit Incr 2 communications. Update CLU SW to incorporated SOSCOE Interop and Secure RMI CLU-CLU communication. Perform incremental Software Formal Qualification testing for build Updates. Assess Tactical Security vulnerability on SW updates to support ATO update. Conduct Single and Multiple Missile Integration Testing on SW updates to assess system compatibility. Conduct system integration exercises to improve CONOPS, mission threads, and test out SOSCOE Interop functions. Upgrade SINCGARS to CLU communication software.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	6.650	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						
<b>Program #19</b>  FY11 Planned Accomplishments - CLU SOFTWARE: Increment 2: Fix any problems that emerge during testing and support IOTE. Continuation of CLU network interface for B-Kit Incr 2 communications. Continuation of CLU SW updates to comply with ARMY SW blocking CS13-14. Integrate HMS-J and GMR radio for JTRS communication to and from Battle command. Complete Software Formal Qualification testing for build Updates. Complete Tactical Security vulnerability assessment on SW updates to support ATO update. Complete Single and Multiple Missile Integration Testing on SW updates. Complete system integration exercises to improve CONOPS, mission thread and SoSCOE Interop Functions  <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	10.013	0.000	10.013
<b>Program #20</b>		14.415	8.468	8.045	0.000	8.045

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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>FY09, FY10, FY11 Accomplishments - Government Systems Engineering &amp; Prog Mgt: Increment 1 &amp; 2: Continued Gov't management of NLOS-LS acquisition program to include: program management, contract management, system and subsystem level engineering analysis, budget planning and execution, cost analysis, milestone documentation preparation, test program management, PAM and CLU products management, production planning, system software management, AETF support, logistics planning, engineering and logistics subject management expert support, and management of NLOS-LS efforts performed by other government agencies.</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 #21	<p>FY09 Accomplishments - GOVERNMENT TEST: Increment 1: Continued Gov't validation of the IFS in support of Army Technical Evaluation Command (ATEC) accreditation package for the Guided Test Vehicle (GTV). Continued support for developmental test. Supported GTV flight tests with Integrate Flight Simulation and HWIL pre-test predictions and post-test analysis. Conducted 11 PAM GTV flight tests. Began Electronic Warfare (EW) Test; and Nuclear Test; and Electromagnetic Environmental Effects (E3) Tests. Continued AETF evaluations; prepared for Operational Test (OT); updated NLOS-LS Certification and Accreditation of CLU iteration 12 software for ATO. Prepared for Flight LUT and continued support for Live Fire Test and Evaluation with tests,</p>	21.750	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>models, and simulations; model and simulations (IFS and Hardware-in-the-Loop) support for LUT pre-test and associated evaluations; Electronic Warfare Susceptibility tests; Nuclear Effects testing; completed system qualification; participate in ground LUT.</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>FY10 Planned Accomplishment - GOVERNMENT TEST: Increment 1: Modeling and simulation support for system and System of Systems (SoS) testing. Conducted 3 PAM GTV flight tests. Conduct 4 GTV flight tests at Cold Region Test Center, Ft. Greeley, AK. Conduct Flight Limited User Test (6 total PAM flights), Support Increment 1 Technical Test and FY10 LUT of hardware in a classified environment using Single Channel Ground to Air Radio System (SINCGARS) Radios. SRW-compatible radio integration into control cell. Test updated software. Post LUT updates to HW/SW based on tests and prepare for initial Operational Test and Evaluation (IOT&amp;E). Conduct associated training, provide logistics support and data collectors for soldier test events.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	7.870	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #23  FY11 Planned Accomplishment - GOVERNMENT TEST: Increment 1: Modeling and simulation support for system and System of System (SoS) testing Participate in TFT, FDT&E, Ground IOTE and Flight IOTE. Conduct associated training, provide logistics support, and data collectors for soldier test events. Test and verify Current Force interoperability improvements (Pocket-Sized Forward Entry Device (PFED), Forward Observer Software/ System (FOS), Advanced Field Artillery Tactical Data System (AFATDS), Control Cell)  <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	10.700	0.000	10.700
Program #24		0.000	2.469	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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>
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	253.684	91.223	81.247	0.000	81.247

<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>0604647A Non-Line of Sight - Cannon</i>	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
• Ord. #2: <i>0604661A FCS Manned Ground Vehicles &amp; Common Grd Vehicle Components</i>	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860
• Ord. #3: <i>0604660A FCS System of Systems Engr &amp; Program Management</i>	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
• Ord. #4: <i>0604662A FCS Reconnaissance (UAV) Platforms</i>	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	0	197.572

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>										<b>DATE:</b> February 2010	
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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. #5: 0604663A FCS Unmanned Ground Vehicles	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	603.586
• Ord. #6: 0604664A FCS Unattended Ground Sensors	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	56.570
• Ord. #7: 0604665A FCS Sustainment & Training R&D	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
• Ord. #8: 0604666A Spin Out Technology/Capability Insertion	122.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	122.788
• Ord. #9: 0605625A Manned Ground Vehicle	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	Continuing	Continuing
• Ord. #10: WTCV G86100 FCS Core Program	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127
• Ord. #11: WTCV G86200 FCS Spin Out Program	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177
• Ord. #12: WTCV G86000 Ground Combat Vehicle (GCV)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: ACFT A00015 BCT Unmanned Aerial Veh (UAVs) Incr 1	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	Continuing	Continuing
• Ord. #14: ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Incr 2	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	Continuing	Continuing
• Ord. #15: OPA B00001 BCT Unattended Ground Sensor	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing
• Ord. #16: OPA B00004 BCT Unattended Ground Sensor Incr 2	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #17: OPA B00002 BCT Network	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #18: OPA B00003 BCT Network Incr 2	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing

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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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**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. #19: <i>OPA F00001 BCT Unmanned Ground Vehicle</i>											
• Ord. #20: <i>OPA F00002 BCT Unmanned Ground Vehicle Incr 2</i>	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing
• Ord. #21: <i>OPA G80001 BCT Training/Logistics/Management</i>	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: <i>OPA G00002 BCT Training/Logistics/Management Incr 2</i>	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: <i>MSLS C64501 BCT NLOS-LS Incr 1</i>	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
• Ord. #24: <i>MSLS C64601 BCT NLOS-LS Incr 2</i>	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

**D. Acquisition Strategy**

The Army awarded the NLOS-LS SDD contract on 19 March 2004 to Netfires Limited Liability Company (LLC), consisting of Lockheed Martin Corporation, doing business through its Missiles and Fire control and operating entity in Grand Prairie, TX; and the Raytheon Corporation, doing business through its Missile Systems Business Unit in Tuscon, AZ. The NLOS-LS SDD contract was definitized 20 August 2004. The NLOS-LS is technologically mature enough to be included as a desired capability into Current Force Early-Infantry Brigade Combat Teams (E-IBCTs) Increment 1.

**E. Performance Metrics**

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

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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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**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	C/Various	See remarks Location could not be determined.	210.174	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Prototype	C/Various	See remarks Location could not be determined.	46.189	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Software	C/Various	See remarks Location could not be determined.	26.418	0.000		0.000		0.000		0.000	Continuing	Continuing	0
PAM Software	C/Various	See remarks Location could not be determined.	0.000	12.716		13.840		0.000		13.840	Continuing	Continuing	0
CLU Design	C/Various	See remarks Location could not be determined.	0.000	24.890		23.088		0.000		23.088	Continuing	Continuing	0
PAM Prototype	C/Various	See remarks Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
CLU Prototype	C/Various	See remarks Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
PAM Design	C/Various	See remarks Location could not be determined.	0.000	24.579		15.561		0.000		15.561	Continuing	Continuing	0
CLU Software	C/Various	See remarks Location could not be determined.	0.000	10.231		10.013		0.000		10.013	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>				<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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			
<b>Subtotal</b>			282.781	72.416		62.502		0.000		62.502			0.000

**Remarks**

Prime contractors: #1 Lockheed, Dallas, Texas #2 Raytheon, Tuscon, Arizona Sub Contractors: #3 Lockheed, Baltimore, MD #4 ATK, Rocket City, WV #5 Raytheon, Fullerton, CA #6 IGS, Minneapolis, MN #7 IEC, Anaheim, CA #8 KDI, Cincinatti, OH #9 Raytheon, Louisville, KY #10 Sparta, San Diego, CA #11 General Dynamics, Niceville, FL #12 BrenTronics, Commack, NY #13 MOOG, Salt Lake City, UT

**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			
Various	C/Various	MULTI Location could not be determined.	2.793	2.167		2.067		0.000		2.067	Continuing	Continuing	0
<b>Subtotal</b>			2.793	2.167		2.067		0.000		2.067			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>				<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</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	MULTI Location could not be determined.	7.292	7.870		10.700		0.000		10.700	Continuing	Continuing	0
<b>Subtotal</b>			7.292	7.870		10.700		0.000		10.700			0.000

**Remarks**  
Test Sites: WSMR; Eglin Air Force Base; CRTC, Ft. Greeley, AK; RTTC, Redstone Arsenal, AL; APG, Aberdeen, Maryland; Ft. Bliss, TX

**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			
Various	C/Various	MULTI Location could not be determined.	21.115	8.770		5.978		0.000		5.978	Continuing	Continuing	0
<b>Subtotal</b>			21.115	8.770		5.978		0.000		5.978			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>	313.981	91.223	81.247	0.000	81.247			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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>			<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH 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
Spin Out (Early) to IBCT (LUT)			#																									
Spin Out Long Lead Items				#																								
Flight LUT					#																							
CRTC Flights				#	#																							
FY10 LUT				#																								
FY11 FDTE/IOTE								#	#	#																		
Spin Out MS C				#	#	#	#	#																				
Increment 2									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
LRIP					#	#	#	#	#	#	#	#																
Flight OT					#																							
IOC													#															
1st E-IBCT FUE										#	#																	
2nd E-IBCT													#															
3rd E-IBCT															#													
Incr 2 PDR						#																						
Incr 2 CDR									#																			
Incr 2 Production					#	#	#	#	#	#	#	#	#	#														
Incr 2 FDTE&E/STX/LUT 13														#	#													
Incr 2 Milestone C																#												
Incr 2 Initial Operational Capability																										#		

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Spin Out (Early) to IBCT (LUT)	3	2009	3	2009
Spin Out Long Lead Items	4	2009	4	2009
Flight LUT	1	2010	1	2010
CRTC Flights	4	2009	1	2010
FY10 LUT	1	2010	1	2010
FY11 FDTE/IOTE	1	2011	3	2011
Spin Out MS C	4	2009	4	2010
Increment 2	2	2011	2	2015
LRIP	2	2010	1	2012
Flight OT	3	2010	3	2010
IOC	1	2012	1	2012
1st E-IBCT FUE	3	2011	4	2011
2nd E-IBCT	1	2012	1	2012
3rd E-IBCT	3	2012	3	2012
Incr 2 PDR	2	2010	2	2010
Incr 2 CDR	2	2011	2	2011
Incr 2 Production	1	2010	3	2012
Incr 2 FDTE&E/STX/LUT 13	3	2012	4	2012

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>	<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</i>

Event	Start		End	
	Quarter	Year	Quarter	Year
Incr 2 Milestone C	2	2013	2	2013
Incr 2 Initial Operational Capability	2	2015	2	2015

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<b>Exhibit R-5, RDT&amp;E Termination Liability: PB 2011 Army</b>							<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604646A: <i>Non-Line of Sight Launch System</i>			<b>PROJECT</b> F72: <i>NON LINE OF SIGHT LAUNCH SYSTEM</i>
<b>Cost (\$ in Millions)</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>
<b>Program Termination Liability</b>	9.874	0.345	0.350	0.000	0.000	0.000	0.000

**Notes**

The NLOS-LS prime contract incorporates the "Limitation of Funds" clause, FAR 52.232-22, to limit the Government's liability and FAR 52.249-6, Termination (Cost Reimbursement), for contract termination.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604647A: <i>Non-Line of Sight Cannon</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	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
F58: <i>NON LINE OF SIGHT CANNON</i>	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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

This Non-Line of Sight Cannon (NLOS-C) program contained the development effort associated with NLOS-C unique work. The Manned Ground Vehicle (MGV) common sub components for NLOS-C and MGV were included in the MGV PE0604660 Project (FC1). All NLOS-C efforts were stopped in July 09 and terminated in December 09 in accordance with the direction provided by the Department of Defense. The NLOS-C was to be the Army's first fully automated 155-mm howitzer, 38 caliber cannon, that was to provide an automated, 24/7, all-weather, precision fire support to the Future Combat Systems (FCS) Brigade Combat Team (BCT) commander. It was to be organic to the FCS BCT and provide networked, extended-range (30kms), responsive and sustained precision attack of point and area targets in support of the BCT's mission. The NLOS-C was to provide close support and destructive fires for tactical standoff engagement during both offensive and defensive operations in concert with line-of-sight, beyond line-of-sight and other non line-of-sight (NLOS), external and joint capabilities in combat scenarios spanning the spectrum of ground combat. The NLOS Cannon's fully automated ammunition handling system and real-time digital operating environment would have enabled two soldiers to perform tasks that normally require four soldiers on current force systems. The cannon was designed to be able to move rapidly, stop quickly, and deliver lethal first round effects on target in record time largely due to the fully automated gun laying, ammunition handling, and fuse setting of all current and precision guided 155mm artillery rounds. The NLOS-C would have had a multiple round simultaneous impact (MRSI) capability, unmatched sustained rate of fire of six-rounds per minute and precision fires, through the XM982 Excalibur, to provide unprecedented effects on target from a smaller number of systems.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604647A: <i>Non-Line of Sight Cannon</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	89.545	58.216	0.000	0.000	0.000
Current President's Budget	87.038	47.964	0.000	0.000	0.000
Total Adjustments	-2.507	-10.252	0.000	0.000	0.000
• Congressional General Reductions		-10.252			
• 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	-2.507	0.000			

**Change Summary Explanation**

Change Summary Explanation: FY10: Congress decrement a portion of the Special and Other Termination costs

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604647A: <i>Non-Line of Sight Cannon</i>				<b>PROJECT</b> F58: <i>NON LINE OF SIGHT CANNON</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>
F58: <i>NON LINE OF SIGHT CANNON</i>	87.038	47.964	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> Not applicable for this item.											
<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  SYSTEM ENGINEERING AND PROGRAM MANAGEMENT FY09 - Completed all NLOS-C specific design and integration activities required to support NLOS-C and MGV PDR in 2nd quarter FY09 and also SoS PDR in 3rd Qtr FY09. The PDR covered all system and subsystems requirements for the integration and testing of the SDD (threshold configuration) NLOS-C prototypes for delivery in 2011. Conducted the PDR of Core Threshold design and CDR of Initial Production to achieve delivery and fielding of NLOS-C to the Army Evaluation Task Force (AETF) in 2010. Began the Critical Design Activities for the FCS Core NLOS-C (threshold configuration) segment of the program.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							43.551	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604647A: <i>Non-Line of Sight Cannon</i>	<b>PROJECT</b> F58: <i>NON LINE OF SIGHT CANNON</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>PROTOTYPE VEHICLE FY09 - Completed fabrication, integration, and delivered two complete 24-ton prototype NLOS-C systems (P5), (P3), for developmental testing in, and two partial vehicles (P4),(P6) chassis only. Completed mobility integration and check-out of P1 and mission module integration and check-out of P3 in April. Based upon the stop work order the remaining 24 and 30 Ton NLOS-C Platforms were stored until further guidance to continue or termination is provided.</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>		19.256	0.000	0.000	0.000	0.000
<p>Program #3</p> <p>SYSTEM TEST &amp; EVALUATION (TEST) FY09 - Began NLOS-C early prototype developmental testing at Yuma Proving Grounds for mobility, lethality, weapon accuracy, environmental, and safety. P3 testing began at YPG (mobility) and P5 testing at WSMR Electromagnetic Environmental Effects (E3). System Integration Lab (SIL): integration and certification for Independent Validation and Verification (IV2) integration and test. P4</p>		5.334	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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604647A: <i>Non-Line of Sight Cannon</i>		<b>PROJECT</b> F58: <i>NON LINE OF SIGHT CANNON</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>were used for integration and sub-system software/performance testing at the PE SIL in Detroit and the SIF at Minneapolis.</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>MISSION SOFTWARE FY09 - Software: Continued NLOS-C Software Build 2 (SWB2) and completed Life Cycle Architecture (LCA) review in 1st qtr FY09. Completed SWB2 Engineering Cycle (EC) 2.5 software development activity phase in 2nd qtr FY09 and initiated SWB2 EC2.6 software development activity phase in 3rd qtr FY09. Delivered staged delivery drops to HW integration. Completed re-planning of Software Build 3 (SWB3) development activities - moved to beyond FY09 due to funding reduction adjustment. NLOS-C Build 3 software provided fire control input revisions and enhancements to Build 2, complete subsystem fault management, recovery and reporting, and support for Embedded Training (Live, Virtual, Constructive Training Capability) as well as integration of common chassis capabilities for hit avoidance enhancements, and close combat armament system.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>				4.397	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604647A: <i>Non-Line of Sight Cannon</i>	<b>PROJECT</b> F58: <i>NON LINE OF SIGHT CANNON</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 #5</b>  Other Terminations Costs: These funds are for costs that are currently not covered by the Government and are required by FAR part 31. These costs include but are not limited to Allowable Fee, Cost incurred, but not billed to the FAR contract, Unexpired leases, Alterations/restorations required by leases, and Loss of useful value of capital property. These costs were identified in LSI's Contract Funds Status Report (CFSR) dated 30 July 2009.  <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		2.500	0.000	0.000	0.000	0.000
<b>Program #6</b>		12.000	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604647A: <i>Non-Line of Sight Cannon</i>	<b>PROJECT</b> F58: <i>NON LINE OF SIGHT CANNON</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>Special termination liability costs are paid to the contractor and subcontractors as per FAR 31.205 for; Severance Pay, Reasonable costs continuing after termination, Settlement of expenses, and costs to return field service personnel from remote or liaison sites.</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 #7</p> <p>Disposition of Terminated Material FY10- Assuming Termination direction is given this is the estimated cost to develop, commission and manage a detailed Integrated Product Team (IPT) for dispositioning all Hardware and Software both designed and built under the SDD contract and all items furnished by the government (GFX). These funds also include the costs of packaging, transporting, and short and long term storage of selected materials IAW FAR 45/49.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	46.621	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604647A: <i>Non-Line of Sight Cannon</i>	<b>PROJECT</b> F58: <i>NON LINE OF SIGHT CANNON</i>

<b>B. Accomplishments/Planned Program (\$ in Millions)</b>					
	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					
Program #8 Small Business Innovative Research/Small Business Technology Transfer Programs.	0.000	1.343	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	87.038	47.964	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 Non Line of Sight</i>	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	512.290
- <i>Launch System</i>	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860

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<b>Exhibit R-2A, RDT&amp;E Project Justification: PB 2011 Army</b>										<b>DATE:</b> February 2010	
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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 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. #2: <i>0604660A FCS Manned Grd Vehicles &amp; Common Grd Vehicle Components</i>											
• Ord. #3: <i>0604661A FCS System of Systems Engr &amp; Program Management</i>	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
• Ord. #4: <i>0604662A FCS Reconnaissance (UAV) Platforms</i>	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	0	197.572
• Ord. #5: <i>0604663A FCS Unmanned Ground Vehicles</i>	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	603.586
• Ord. #6: <i>0604664A FCS Unattended Ground Sensors</i>	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	56.570
• Ord. #7: <i>0604665A FCS Sustainment &amp; Training R&amp;D</i>	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
• Ord. #8: <i>0604666A Spin Out Technology/Capability Insertion</i>	122.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	122.788
• Ord. #9: <i>0605625A Manned Ground Vehicle</i>	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	0	7,259.443
• Ord. #10: <i>WTCV G86100 FCS Core Program</i>	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127
• Ord. #11: <i>WTCV G86200 FCS Spin Out Program</i>	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177
• Ord. #12: <i>WTCV G86000 Ground Combat Vehicle (GCV)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: <i>ACFT A00015 BCT Unmanned Aerial Veh (UAVs) Incr 1</i>	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	Continuing	Continuing
• Ord. #14: <i>ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Incr 2</i>	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	Continuing	Continuing
	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing

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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. #15: <i>OPA B00001 BCT Unattended Ground Sensor</i>											
• Ord. #16: <i>OPA B00004 BCT Unattended Ground Sensor Incr 2</i>	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #17: <i>OPA B00002 BCT Network</i>	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #18: <i>OPA B00003 BCT Network Incr 2</i>	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
• Ord. #19: <i>OPA F00001 BCT Unmanned Ground Vehicle</i>	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing
• Ord. #20: <i>OPA F00002 BCT Unmanned Ground Vehicle Incr 2</i>	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing
• Ord. #21: <i>OPA G80001 BCT Training/Logistics/Management</i>	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: <i>OPA G00002 BCT Training/Logistics/Management Incr 2</i>	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: <i>MSLS C64501 BCT NLOS-LS Incr 1</i>	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
• Ord. #24: <i>MSLS C64601 BCT NLOS-LS Incr 2</i>	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

**D. Acquisition Strategy**

The Army awarded the original FCS Contract to the Boeing Company, 30 May 2003 as the Lead System Integrator (LSI). The contract was definitized 10 Dec 2003. The LSI contracted BAE ASD (Armored Systems Develop) as the One Team Partner to execute the NLOS-C portion of the SDD contract. The initial plan was to provide eight (8) vehicle platforms which were to be produced cooperatively by BAE and GDLS corporations because of the common chassis components. During FY09, FCS completed the systems of systems platform Preliminary Design Reviews (PDRs). In July 09 the NLOS-C portion of the SDD contract was placed on stop work after completion of all SoS PDR activities and was terminated in December 09. The contract prototype and component assets will be dispositioned in accordance with FAR-45/29 ensuring the most cost efficient method to the government.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604647A: <i>Non-Line of Sight Cannon</i>	<b>PROJECT</b> F58: <i>NON LINE OF SIGHT CANNON</i>

**E. Performance Metrics**

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

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

<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</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	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860
FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</i>	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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

The Future Combat Systems (FCS) Manned Ground Vehicles (MGV) Core Program of Record was terminated in July 2009. FY09 effort prior to termination included completion of design activities leading up to and including MGV SoS PDRs. Associated activities with building Automotive Test Rigs and firing platforms to demonstrate and conduct initial proof of principle on common engine and transmission components long with gun and auto-loading principles. Stop Work contractual direction was issued on June 24th 2009 and was followed by the termination letter on July 17th 2009. The termination letter directed Boeing and its One Team Partners to stop work on all MGV activities except for those items related to the Active Protection System (APS) and portions of the Hit Avoidance Systems (HAS) and Non-Line of Sight-Cannon (NLOS-C). The funding for FY10 will cover the other and special termination cost, the cost for dispositioning all program materials, to include hardware and software, and the cost of continuing the development of the APS to meet future Ground Combat Vehicle (GCV) requirements. For FY09 and prior, this program element supported the development of Manned Ground Vehicles (MGVs) (exclusive of the NLOS-C specific mission equipment). The following common MGV subsystem developments are also included, (NLOS-C common subsystems): armor, suspension, structures, defensive armament system, signature management, Nuclear, Biological, and Chemical, Vetronics, power and energy (includes hybrid electric drive), auxiliary systems and hit avoidance system. Also included in this project is mission specific equipment for the following platforms: Infantry Combat Vehicle (ICV), Mounted Combat System (MCS), Non-Line of Sight Mortar (NLOS-M), Command and Control Vehicle (C2V), Reconnaissance and Surveillance Vehicle (RSV), Field Recovery and Maintenance Vehicle (FRMV), and the Medical Vehicle (MV).

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</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	782.664	368.557	0.000	0.000	0.000
Current President's Budget	760.744	275.116	0.000	0.000	0.000
Total Adjustments	-21.920	-93.441	0.000	0.000	0.000
• Congressional General Reductions		-93.441			
• 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	-21.920	0.000			

**Change Summary Explanation**

Change Summary Explanation: FY10: Congress decremented a portion of the Special and Other Termination costs

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>				<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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>	
FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</i>	760.744	275.116	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> Not applicable to this item.												
<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  CONTRACTOR INFANTRY COMBAT VEHICLE (ICV) FY09 - Engineering & Program Management - Conducted the (ICV) PDR in 2nd qtr FY09 participated and supported FCS SoS PDR in 3rd qtr FY09. Continued to refine the ICV preliminary design of the integrated vehicle, turret, and mission equipment.  <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							12.729	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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>Program #2</p> <p>CONTRACTOR INFANTRY COMBAT VEHICLE (ICV)- FY09 - Prototypes - Accepted delivery of Multi-Media Slip Ring (MMSR), Gun Turret Drive System (GTDS), M240 Machine Gun Remote Operating Kit (ROK), and 30 mm Ammunition Handling System (AHS) prototype hardware brassboards, and integrated these subsystems into the ICV turret test stand and System Integration Lab (SIL) activities. Fabricated the ICV turret firing test stand in the SIL. Began ICV prototype assembly and fabrication activities for the ICV mission equipment and turret.</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>		4.628	0.000	0.000	0.000	0.000
<p>Program #3</p> <p>CONTRACTOR INFANTRY COMBAT VEHICLE (ICV) FY09 - Software - Continued ICV Software Build 2 (SWB2) and completed Life Cycle Architecture (LCA) review in 1st qtr FY09. Completed SWB2 Engineering Cycle (EC) 2.5 software development activity phase in 2nd qtr FY09 and initiated SWB2 EC2.6 software development activity phase in 3rd qtr FY09. Completed re-planning of Software Build 3 (SWB3) development activities - moved to beyond FY09 due to funding reduction adjustment. ICV Build 3 software provides complete subsystem fault management, recovery and reporting, and support for Embedded Training (Live, Virtual,</p>		3.207	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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 Constructive Training Capability) as well as integration of common chassis capabilities for hit avoidance enhancements, and close combat armament system.</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>CONTRACTOR MOUNTED COMBAT SYSTEM (MCS) FY09 - Engineering &amp; Program Management - Conducted Preliminary Design Review (PDR) in 2nd qtr FY09 and enter critical design development phase and supported FCS SoS PDR in 3rd qtr FY09. PDR confirmed alignment between the MCS requirements, functional, allocated, and emerging product baselines and ensured that the preliminary design met the Army's MCS requirements. Supporting this review confirmed the consistency between requirements, architectures, performance analyses and interfaces into the design. The PDR verified that the identified technical risks had acceptable mitigation plans in place in order to proceed into detailed design. Conducted termination activities and started the disposition process of components, materials and support equipment.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		36.308	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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 #5  CONTRACTOR MOUNTED COMBAT SYSTEM (MCS) FY09 - Prototypes - Receive Integrated Computer System (ICS) emulators. Received MCS P21 Electric Gun Turret Drives (EGTD).  <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		1.615	0.000	0.000	0.000	0.000
Program #6  CONTRACTOR MOUNTED COMBAT SYSTEM (MCS) FY09 - Test - Completed 5 month dynamic testing of Firing Platform on TARDEC's Turret Motion Based Simulator (TMBS). Shot over 150 Line-of Sight (LOS)		0.707	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>rounds during 3-month live fire testing of Firing Platform at Aberdeen Proving Grounds. Fired 500 rounds in XM360 Safety Tests #4 and #5 at Aberdeen Proving Grounds.</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 #7</p> <p>CONTRACTOR MOUNTED COMBAT SYSTEM (MCS) - FY09 - Software - Continued MCS Software Build 2 (SWB2) and completed Life Cycle Architecture (LCA) review in 1st qtr FY09. Completed SWB2 Engineering Cycle (EC) 2.5 software development activity phase in 2nd qtr FY09 and initiated SWB2 EC2.6 software development activity phase in 3rd qtr FY09. Completed re-planning of Software Build 3 (SWB3) development activities - moved to beyond FY09 due to funding reduction adjustment. MCS Build 3 software provides MCS Beyond Line of Sight (BLOS) engagements, completes subsystem fault management, recovery and reporting, and support for Embedded Training (Live, Virtual, Constructive Training Capability) as well as integration of common chassis capabilities for hit avoidance enhancements, and close combat armament system.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		2.190	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 #8  CONTRACTOR NLOS-M - FY09 - Engineering & Program Management - Completed detailed design of the Ammunition Handling (AHS), Gun Mount, Gun Pointing, Structures and Twist Capsule/Slip Ring Subsystems. Detailed Design. Primary Weapon Detailed Design was completed. Ammunition Handling and Primary Weapon completed Detailed Design. The NLOS-M Mission Module (MM) and MGV Preliminary Design Review (PDR) completed 1st and 2nd quarter FY09, and supported FCS SoS PDR in 3rd qtr FY09.  <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		14.704	0.000	0.000	0.000	0.000
Program #9		1.567	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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>CONTRACTOR NLOS-M - FY09 - Prototypes - IA&amp;C of the Mortar Firing Platform III (MFPIII) was completed and ready for Phase III testing. Fabrication of MFP 4 began and completed. MFP 4 intent was to be chassis mounted allowing the unit to be fired at maximum range and rates but was halted due to the Stop Work notification.</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 #10</p> <p>CONTRACTOR NLOS-M - FY09 - Test - Reliability Enhancement Testing (RET) began 2rd quarter of FY09 conducted at the Systems Integration Facility (SIF) in Minneapolis, MN. The Reliability Improvement Program (RIP) was able to cycle a total of 6821 round using threshold equipment and actual tactical software. Rounds were cycle under "simulated operational conditions" at different temperatures ranging from 32degrees F to 135degrees F.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.194	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 #11  CONTRACTOR NLOS-M - FY09 - Software - Continued NLOS-M Software Build 2 (SWB2) and completed Life Cycle Architecture (LCA) review in 1st qtr FY09. Completed SWB2 Engineering Cycle (EC) 2.5 software development activity phase in 2nd qtr FY09 and initiated SWB2 EC2.6 software development activity phase in 3rd qtr FY09. Completed re-planning of Software Build 3 (SWB3) development activities. NLOS-M Build 3 software provides Line of Sight (LOS) fire mission operations, complete subsystem fault management, recovery and reporting, and support for Embedded Training (Live, Virtual, Constructive Training Capability) as well as integration of common chassis capabilities for hit avoidance enhancements, and close combat armament system.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		1.739	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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 #12  CONTRACTOR COMMAND & CONTROL VEHICLE (C2V) FY09 - Engineering & Program Management - Prepared Preliminary Design Review (PDR) artifacts for the C2V mission module review in Nov 08 and vehicle level PDR in 2nd Qtr FY09, and supported FCS SoS PDR in 3rd qtr FY09. Completed C2V requirements compliance assessment. Conducted C2V preliminary design review, 1st Qtr FY09. Finalized number of C2V Interface Control Documents (ICDs) and Critical Item Development Specification (CIDS).  <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		11.611	0.000	0.000	0.000	0.000
Program #13  CONTRACTOR COMMAND & CONTROL VEHICLE (C2V) FY09 - Prototypes - Established C2V System Integration Lab (SIL) for phase 1 integration and testing of Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) hardware. Developed prototype mission workstation/ controls hardware.		0.438	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 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  CONTRACTOR COMMAND & CONTROL VEHICLE (C2V) FY09 - Test - Completed C2V rooftop deconfliction phase 2 testing at EPG, Ft. Huachuca, AZ using more mature communications equipment than was used in Phase 1. MGV Rooftops are densely packaged with Antennas, Sensors, Weapons, and Survivability system placements which could cause physical, functional, and electromagnetic conflicts. In addition, there was a potential for co-site interference between MGVs when in close proximity. The three phased Rooftop Deconfliction testing at EPG, Ft. Huachuca was designed for early and ongoing assessments of component interaction for design improvements. The objective was to incrementally add new antennas and sensors as they become available and mature to increase fidelity of the overall testing to reduce co-site interference and influence integrated design of all MGV vehicles. Test results provided data to ensure that antenna placement on the C2V was optimized and that any electromagnetic conflicts were mitigated. Results also provided modeling information for antenna placement and mitigation measures applicable to other MGVs.  <i>FY 2009 Accomplishments:</i> FY 2009		0.068	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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 #15  CONTRACTOR COMMAND & CONTROL VEHICLE (C2V) FY09 - Software - Continued Software Build 2 (SWB2) and completed Life Cycle Architecture (LCA) review in 1st qtr FY09. Completed SWB2 Engineering Cycle (EC) 2.5 software development activity phase in 2nd qtr FY09 and initiated SWB2 EC2.6 software development activity phase in 3rd qtr FY09. Continued integration of latest release of common/C4ISR software/hardware deliveries in C2V SIL for Distributed Systems integration. Completed re-planning of Software Build 3 (SWB3) development activities. C2V Build 3 software provides complete subsystem fault management, recovery and reporting, and support for Embedded Training (Live, Virtual, and Constructive Training Capability) as well as integration of common chassis capabilities for hit avoidance enhancements, and close combat armament system.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		0.795	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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 #16  CONTRACTOR RECONNAISSANCE & SURVEILLANCE VEHICLE (RSV) FY09 - Engineering & Program Management - Conducted RSV mission module review in 1st Qtr FY09 and RSV preliminary design review, 2nd Qtr FY09. Matured RSV design for proposed Critical Design Review (CDR), 2nd Qtr FY10. Finalized several RSV Interface Control Documents (ICDs) and Critical Item Development Specifications (CIDS). Supported FCS SoS PDR in 3rd qtr FY09.  <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		13.025	0.000	0.000	0.000	0.000
Program #17  CONTRACTOR RECONNAISSANCE & SURVEILLANCE VEHICLE (RSV) FY09 - Prototypes - Continued to populate SIL with RSV subcomponents, surrogates, or emulators and other subsystems as available (GPCS, EO CEEU, and Sensor Suite Hardware & Pre-CDR Software) in anticipation of prototype build.		0.723	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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 #18  CONTRACTOR RECONNAISSANCE & SURVEILLANCE VEHICLE (RSV) FY09 - Test - Completed Phase I RSV Rooftop Deconfliction Test at Electronic Proving Grounds (EPG) (Nov 08), and published results for use in Modeling and Simulation (M&S) efforts on all MGV platforms. MGV Rooftops are densely packaged with Antennas, Sensors, Weapons, and Survivability system placements which could cause physical, functional, and electromagnetic conflicts. In addition, there is a potential for co-site interference between MGVs when in close proximity. The three phased Rooftop Deconfliction testing at EPG, Ft. Huachuca is designed for early and ongoing assessments of component interaction for design improvements. The objective is to incrementally add new antennas and sensors as they become available and mature to increase fidelity of the overall testing to reduce co-site interference and influence integrated design of all MGV vehicles.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.064	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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 #19  CONTRACTOR RECONNAISSANCE & SURVEILLANCE VEHICLE (RSV) FY09 - Software - Continued Software Build 2 (SWB2) and completed Life Cycle Architecture (LCA) review in 1st qtr FY09. Completed SWB2 Engineering Cycle (EC) 2.5 software development activity phase in 2nd qtr FY09 and initiated SWB2 EC2.6 software development activity phase in 3rd qtr FY09. Continued integration of latest release of common/ C4ISR software/hardware deliveries in RSV SIL for Distributed Systems integration. Completed re-planning of Software Build 3 (SWB3) development activities. RSV Build 3 software provides complete subsystem fault management, recovery and reporting, and support for Embedded Training (Live, Virtual, and Constructive Training Capability) as well as integration of common chassis capabilities for hit avoidance enhancements, and close combat armament 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		0.475	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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 #20  CONTRACTOR FIELD RECOVERY & MAINTENANCE VEHICLE (FRMV) - FY09 - Engineering & Program Management - Conducted CDR for brassboard hoist winch. Conducted FRMV PDR in 2nd qtr FY09, and supported FCS SoS PDR in 3rd qtr FY09. Refined the FRMV vehicle design in the areas on integrated design, structure, armor, lifting crane platform, recovery system, mission crew system, and maintenance systems. Integrated some FRMV subsystem hardware with software in the FRMV system integration lab, and coordinated sensor and communication systems hardware and software deliveries. Completed Fabrication of a FRMV mockup to be used for stowage and MANPRINT evaluations.  <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		6.238	0.000	0.000	0.000	0.000
Program #21  CONTRACTOR FIELD RECOVERY & MAINTENANCE VEHICLE (FRMV) - FY09 - Prototype - Initiated synthetic rope testing. Initiated procurement of brassboard mission equipment to be used for sub-system testing in FRMV crane test stand.  <i>FY 2009 Accomplishments:</i> FY 2009		3.620	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 #22  CONTRACTOR FIELD RECOVERY & MAINTENANCE VEHICLE (FRMV) - FY09 - Software - Continued FRMV Software Build 2 (SWB2) and completed Life Cycle Architecture (LCA) review in 1st qtr FY09. Completed SWB2 Engineering Cycle (EC) 2.5 software development activity phase in 2nd qtr FY09 and initiated SWB2 EC2.6 software development activity phase in 3rd qtr FY09. Completed re-planning of Software Build 3 (SWB3) development activities. FRMV Build 3 software provides dismounted operation, remote diagnostics and software reprogramming, complete subsystem fault management, recovery and reporting, and support for Embedded Training (Live, Virtual, Constructive Training Capability) as well as integration of common chassis capabilities for hit avoidance enhancements, and close combat armament system.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		1.070	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 #23  CONTRACTOR MEDICAL VEHICLE (MV-E/T) - FY09 - Engineering & Program Management - Conducted MV PDR in 2nd qtr FY09 in preparation for FCS SoS PDR in 3rd qtr FY09. Continued the development maturation of MV integrated design, structure, litter lift handling system, patient stabilization system, medical monitoring equipment, on-board oxygen concentrator, treatment table, blood refrigerator, and shelter. Continued integration of medical equipment sets and patient movement items into the MV-E/T mission modules.  <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		3.646	0.000	0.000	0.000	0.000
Program #24  CONTRACTOR MEDICAL VEHICLE (MV-E/T) - FY09 - Software - Continued MV-E/T Software Build 2 (SWB2) and completed Life Cycle Architecture (LCA) review in 1st qtr FY09. Completed SWB2 Engineering Cycle (EC) 2.5 software development activity phase in 2nd qtr FY09 and initiated SWB2 EC2.6 software development activity phase in 3rd qtr FY09. Completed re-planning of Software Build 3 (SWB3) development activities. MV Build 3 software provides Automatic Network Reporting (ANR) locks, complete subsystem fault		1.548	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>management, recovery and reporting, and support for Embedded Training (Live, Virtual, Constructive Training Capability) as well as integration of common chassis capabilities for hit avoidance enhancements. Conducted termination activities and started the disposition process of components, materials and support equipment.</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 #25</p> <p>CONTRACTOR Common Crew Station (FY09)- Supplier Costs for Integration, assembly, test, and checkout to produce common Crew Systems end-items and display for crew/mission stations. Supplier's Design &amp; development costs for Crew Station Hardware IAW Manned Ground Vehicle (MGV) Product Structure Hierarchy. Developed and releases Request for Proposals for common crew station components included hand &amp; foot controls, intercom adapter, control panels, and seating.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		9.010	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 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #26  CONTRACTOR Common Vetronics (Vehicle Electronics) (FY09) - Supplier Costs to develop/procure Vehicle Electronics (Vetronics) end-items common to one or more vehicle variants. Supplier Costs for Integration, assembly, test, and checkout for common Vetronics components. Hardware and supporting components of the common Vetronics end-items. Does not include integration onto associated vehicles. FY09 - Partially (72%) delivered Core Vetronics power distribution / control systems for IPC MGV Prototypes before Stop Work Order issued. Servo Motor Controller Type VII Contractor selected but, contract not awarded due to stop work order.  <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		36.095	0.000	0.000	0.000	0.000
Program #27		27.784	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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>CONTRACTOR Common Survivability Suite - FY09 - Includes Defensive Armament, Light Weight Armor, Countermeasures, Signature Management, Software, Survivability Sensors, Survivability Processor, Nuclear, Biological, Chemical detection, filtration subsystem and Subsystem IAT&amp;C. Efforts to design, develop, procure, and deliver defensive armament FY09 - Continued LRCM interceptor subcomponent designs. Conducted vehicle vulnerability tests with SRCM. Continued Hit Avoidance System (HAS) detail design analysis and assessment. Completed APS Design Verification Phase I (Technology Readiness Level 6). APS hardware/software Integration and Verification begins. Support Highly Accelerated Life Testing (HALT) and Initial Nuclear Radiation (INR) testing. Complete B1 Threshold Armor and U1 Mine Kit Technology Readiness Level 6 demonstration. Development CCAS Remote Weapon Station. Initiate double pin band track mine testing. Conducted termination activities and started the disposition process of components, materials and support equipment.</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 #28</p> <p>CONTRACTOR Common Traction/Suspension (FY09)- Supplier costs for common vehicle Traction / Suspension subsystem end-items. These items were developed or procured by the Primary Vehicle manufacturer for integration into the Primary Vehicle. Supplier Costs for Integration, assembly, test, and checkout for common</p>		11.312	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>Traction / Suspension end-items. Conducted engineering, analysis and administration effort to integrate the components into the sub-assemblies, labs, test cells, emulators, simulators, final end item(s) and modeling. The cost for labor to fabricate and assemble sub-assemblies, labs, test cells, emulators, simulators, final end item(s) and modeling. This included receiving and in-process inspection associated with the assembly. It included the special tools required for assembly. Completed testing and performance checking. This included the cost of test equipment. All labor and travel related to the delivery and set up of the end item and labor for Vehicle Subsystem Validation. Continued band track testing of segmented and continuous loop track.</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 #29</p> <p>CONTRACTOR Common Powertrain (FY09)- Supplier costs for engineering, analysis to integrate the components into the sub-assemblies, labs, test cells, emulators, simulators, final end item(s) and modeling.. Continued the development and support integration of Propulsion components for Increment 1 design into NLOS-C P7, 8 prototype vehicles. Completed Critical Design review for All electronic propulsion components, Air filtration, E-X Drive, Traction Drive System and Brakes. Completed Test Readiness Review for the Traction Drive System.</p>		57.692	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 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 #30  CONTRACTOR Common Structure (FY09) - Supplier costs for designing developing , procuring , and delivering the Common Hull structure end-items. Supplier continued efforts of design development, procurement, and delivering of Common Base Armor end-items. Completed component deliveries for NLOS Cannon P7, 8, 2 and continue to support Integration. Assembly and Checkout (IAC) of these vehicles. Assemble, and machine hull raw materials. Procured appendages and first hull structure material available.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		10.338	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 #31 CONTRACTOR Common Vehicle Utility (FY09)- Common Vehicle Utility Subsystems are engineered systems that are part of multiple vehicles. Examples are Hydraulic systems, fuel systems, fire suppression systems, Environmental Control systems, and lighting. Supplier costs for design, development or procurement of these Common "Chassis Auxiliary" systems. Effort to design, develop, procure, and deliver the environmental control system end-item(s). Complete objective designs and procure for all SDD prototypes. Completed delivery of hardware in support of NLOS Cannon prototypes through P7, P8 and P2 configurations. Completed designs through PDR level of design detail.  <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		14.610	0.000	0.000	0.000	0.000
Program #32 CONTRACTOR Common Vehicle Software (FY09) - Embedded Software that is required to support operation of Manned Vehicles that is not specifically included in a particular Common Subsystem or Mission Software package. For MGV, this includes software for mode and state control, system arbitration, operator displays,		5.676	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>vehicle performance sensors (Speed, Oil Pressure, Fuel level, etc.) that is common to all MGV's. Mission specific software is rolled up under each Mission platform. This element will also contain costs for Modeling and Simulation effort associated with this Software Subsystem (if any) that is not specifically attributable to a specific Build. Continued Software Build 2 (SWB2) and completed Life Cycle Architecture (LCA) review in 1st qtr FY09. Completed SWB2 Engineering Cycle (EC) 2.5 software development activity phase in 2nd qtr FY09 and initiated SWB2 EC2.6 software development activity phase in 3rd qtr FY09. Modeling &amp; Simulation: Build 1 complete, Build 2 ongoing, Build 3 began (FSE from MS&amp;I). Integration and Verification: began SEIT SIL integration and test. NBC SIL IV2 complete with NBC IV2 complete, began SEIT SIL integration and test. Active Protection System hardware/software Integration and verification began. SOSIL SIM/ IV2 MV model updated. Conducted termination activities and started the disposition process of components, materials and support equipment.</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 #33</p> <p>CONTRACTOR Common Support Equipment (FY09) - Collection point for Supplier effort that includes design and development of Support Equipment end-items Common to multiple platforms, or Support Equipment products. Cost to support testing and evaluation of the components and subsystems resides within the subsystem IPTs PM/SE/PPP effort. Coordinate with LSI management in development of and compliance with UA SoS</p>		9.728	0.000	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>						
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<p>Training Requirements for any such equipment. Continued Common Support Equipment Design ongoing supported the development of Common Chassis SIL test and integration facilities.</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 #34</p> <p>CONTRACTOR Common Controller (FY09)- Supplier's cost to design, develop, build, test and maintain the Hardware for the Common Controller (cc) Successfully completed all Spiral 1 development activities, to include: Integration, Assembly, Test and Checkout (IAT&amp;C) of 6 CC Spiral 1 CC systems. These units were used to support a functional demonstration at the Lockheed Martin Test Track in Grand Prairie, TX as well as a 3 week exercise at Ft. Bliss with AETF soldiers controlling the SUGV, CLI UAV, Urban UGS, and the MULE. Data and lessons learned from these exercises were used by the contractor design team to improve the CC spiral 2 and spiral 3 designs. Basic maintenance and service was performed to keep the six (6) Spiral 1 systems operational and spare cable sets were fabricated. As a result of the termination of the MGTV program the follow-on design and development efforts of the CC were moved to Networks. (4th Qtr FY09).</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		8.487	0.000	0.000	0.000	0.000

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		<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 #35  CONTRACTOR Common Platform Integration (FY09)- The overall management effort within the supplier organizations to manage all manned ground vehicles System Engineering, Integration, Assembly, Test & Checkout, Project Management and Logistics Management work. Supplier costs to Conduct performance and design analyses in the context of the manned ground vehicle family of systems to maintain baseline performance, functional, and logical integration; and to perform system performance analyses and trade studies. Supplier costs to establish and manage the system architectures and requirements including interfaces in order to ensure that Common Subsystems, Mission Equipment, and other components of the Primary Vehicle are integrated into an acceptable unit for SoS integration and testing prior to delivery. Supplier's management effort collected here will be directed in support of functional, physical, and logical integration of each unique system developed including the distributed network, common equipment, and mission equipment. Costs for subcontractor management teams in place to oversee design, development, integration, test, and check out of Common Subsystem end-items, Mission Equipment items, and Primary Vehicle items into the delivered vehicle variants, and to support the LSI in all program planning and management efforts as required. Continued the development of the Common Chassis SIL integration and check out facilities, completed testing of individual common subsystems in preparation for NLOS-C integration and to feed performance/compliance data into MGV PDR.  <i>FY 2009 Accomplishments:</i> FY 2009		151.698	0.000	0.000	0.000	0.000

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		<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 #36  GFX FY09 - APS SME Support, ARDEC IM Explosive Fill Test, ARL/SLAD HA Support, Continue Fragment Impact Test Study. Continued APS SME Support, ARDEC IM Explosive Fill Test, ARL/SLAD HA 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		2.908	0.000	0.000	0.000	0.000
Program #37  Armor Development (FY09)- Develop unique facilities required for ARL Armor development.		4.497	0.000	0.000	0.000	0.000

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		<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 #38  CONTRACTOR Active protection System - FY10 -Continue to design, develop, procure and deliver the Active Protection System (APS)-Long Range APS, Short Range APS, MFRF Radar, HCRDIF Full Spectrum Software, System Engineering, Software and Test to include APS Modeling and Simulation, Design and Construction of Surrogate Test Vehicle (Trailer), Development and Integration of APS Fire Control and MFRF with the Hit Avoidance Countermeasure Controller (HACC), Support to deign low-latency interface between MFRF and ICS, and Other system engineering and software activities specifically required for APS Design and Test Has Controller and Hit Avoidance Countermeasure Controller software Build 2 ongoing.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	68.588	0.000	0.000	0.000

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		<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 #39  Government Testing: FY10 costs are to continue the testing support to APS/HAS effort which includes; Static Warhead/Dynamic Threat Test 1st QTR, which tests the data that will be utilized by Army Materiel Systems Analysis Agency (AMSAA) and Army Research Laboratory (ARL) to refine their Modeling and Simulation (M&S) of the Short Range Counter Measure (SRCM) against different threats (10 foreign threats, to be used from inventory) 1st QTR, SRCM Design Verification Test which will verify SRCM component maturation (20 foreign threats, to be used from inventory; 20 SRCMs to be purchased) 4th QTR, SRCM Warhead (WHD) and M&S and Test, with will examine the "Insensitive Munition (IM)" WHD, M&S and Test, 1st QTR, Also SRCM Baseline and re-design test, SRCM WHD and Rocket Motor test, along with component testing of Long Range Counter Measure (LRCM) against (14 additional foreign threats which need to be purchased) 2nd thru 4th QTRs.  <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	6.719	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>Program #40</p> <p>Disposition of Terminated Material: FY09 and FY10- Develop, commission and manage a detailed Integrated Product Team (IPT) for dispositioning all Hardware and Software both designed and built under the SDD contract and all items furnished by the government (GFX). These funds also include all cost for packaging, transporting, and short and long term storage of selected materials IAW FAR 45/49 that are currently not covered under the contract. Over 30,000 individual items, 8 primary vehicle platforms and 5 SILs will require disposition. These items are displaced among three primary contractors throughout the United States.</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	14.175	0.000	0.000	0.000
<p>Program #41</p> <p>Special termination liability FY09 : Costs are paid to the contractor and subcontractors as per FAR 31.205 for; Severance Pay, Reasonable costs continuing after termination, Settlement of expenses, and the costs to return field service personnel from remote or liaison sites.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		188.000	0.000	0.000	0.000	0.000

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<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 #42  Other Terminations Cost FY09 and FY10: These funds are for costs that are currently not covered by the Government contract and are required by FAR part 31. These costs include but are not limited to Allowable Fee, Cost incurred, but not billed to the FAR contract, Non-cancelable commitments, Unexpired leases, Alterations/restorations required by leases, and Loss of useful value of capital property. These costs began accumulating as of June 30th 2009.  <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		100.000	171.936	0.000	0.000	0.000
Program #43		0.000	6.859	0.000	0.000	0.000

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		<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>
Contractor Fee						
<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 #44		0.000	6.839	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						
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						<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						760.744	275.116	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 Non-Line of Sight - Launch Sytem</i>	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	512.290	
• Ord. #2: <i>0604647A Non-Line of Sight - Cannon</i>	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002	
• Ord. #3: <i>0604661A FCS System of Systems Engr &amp; Program Management</i>	1,022.165	912.399	568.711	0.000	568.711	566.378	5,825.775	618.755	727.415	Continuing	Continuing	
• Ord. #4: <i>0604662A FCS Reconnaissance (UAV) Platforms</i>	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	0	197.572	
• Ord. #5: <i>0604663A FCS Unmanned Ground Vehicles</i>	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	603.586	
• Ord. #6: <i>0604664A FCS Unattended Ground Sensors</i>	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	56.570	
• Ord. #7: <i>0604665A FCS Sustainment &amp; Training R&amp;D</i>	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing	
• Ord. #8: <i>0604666A Spin Out Technology/Capability Insertion</i>	112.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	112.788	
• Ord. #9: <i>0605625A Manned Ground Vehicle</i>	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	Continuing	Continuing	
• Ord. #10: <i>WTCV G86100 FCS Core Program</i>	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127	
• Ord. #11: <i>WTCV G86200 FCS Spin Out Program</i>	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177	

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army										DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				PROJECT				
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)			PE 0604660A: FCS Manned Grd Vehicles & Common Grd Vehicle				FC1: FCS MANNED GRD VEHICLES & COMMON GRD VEHICLE				
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<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. #12: WTCV G86000 Ground Combat Vehicle (GCV)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: ACFT A00015 BCT Unmanned Aerial Veh (UAVs) Incr 1	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	Continuing	Continuing
• Ord. #14: ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Incr 2	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	Continuing	Continuing
• Ord. #15: OPA B00001 BCT Unattended Ground Sensor	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing
• Ord. #16: OPA B00004 BCT Unattended Ground Sensor Incr 2	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #17: OPA B00002 BCT Network	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #18: OPA B00003 BCT Network Incr 2	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
• Ord. #19: OPA F00001 BCT Unmanned Ground Vehicle	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing
• Ord. #20: OPA F00002 BCT Unmanned Ground Vehicle Incr 2	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing
• Ord. #21: OPA G80001 BCT Training/Logistics/Management	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: OPA G00002 BCT Training/Logistics/Management Incr 2	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: MSLS C64501 BCT NLOS- LS Incr 1	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604660A: <i>FCS Manned Grd Vehicles &amp; Common Grd Vehicle</i>	<b>PROJECT</b> FC1: <i>FCS MANNED GRD VEHICLES &amp; COMMON GRD VEHICLE</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. #24: <i>MSLS C64601 BCT NLOS-LS Incr 2</i>											

**D. Acquisition Strategy**

The Army awarded the original FCS Contract to the Boeing Company, 30 May 2003 as the Lead System Integrator (LSI). The contract was definitized 10 Dec 2003. The LSI contracted BAE Systems and General Dynamic Land Systems (GDLS) as One Team Partner's to execute the the MGV portion of the SDD contract. The MGV family consist of (7) vehicle platforms which was to be produced cooperatively by BAE and GDLS corporations. During FY09, FCS completed the systems of systems platform Preliminary Design Review (PDRs). In July 09 the MGV portion of the SDD contract was terminated after completion of all SoS PDR activities. The contract prototype and component assets will be dispositioned in accordance with FAR-45/29 ensuring the most cost efficient method to the government. The Active Protection System (APS) will be continued under the current SDD contract through FY10, at which time the Acquisition Strategy will be re-evaluated.

**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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</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	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</i>	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>This Program Element (PE) includes contractor efforts and government efforts to ensure that we are just not fielding a group of systems and black boxes to the soldier, rather we are fielding systems and black boxes that integrated together provide increased capability for the soldier that are supportable and trainable. The PE includes effort associated with System of System (SoS) engineering, SoS integration, SoS logistics, SoS training, SoS test, and SoS program/ business management. This project also includes the following government effort: Title 10 contract oversight, SoS engineering, SoS architecture, SoS test, modeling and simulation, analysis, government furnished equipment, and program management. This project includes support to other DOD agencies for joint programs and collaboration efforts with PEO Integration and associated Complementary Programs. Beginning in FY 2010, this Program Element includes all system engineering, test, logistics, training and program management cost associated with IBCT Increment 1 and IBCT Increment 2 development. Beginning in FY11 all fee is moved to appropriate funding Program Element. In FY09 system level PDRs and a Network PDR were conducted which culminated a successful SoS Preliminary Design Review (PDR) conducted in May 09. SoS PDR completed all engineering efforts associated with establishing the Future Combat Systems (FCS) functional baseline for 14 +1 systems. After the SoS PDR, the remaining FCS Brigade Combat Team (BCT) effort was terminated and additional system engineering efforts were conducted for the first two increments of IBCT capability (Increment 1 and Increment 2). Development for these increments included requirements decomposition and allocation, specification and interface development, architecture development, design and analysis, and verification/validation of prototypes. Contractor SoS Engineering - Conducted technical reviews, top level trade studies, and architectural design of IBCT Increment 1 and IBCT Increment 2, including requirements decomposition, requirements flow down to platforms, development of specifications, interface definitions, configuration management oversight, specialty engineering, and the analysis and verification of integrated force effectiveness. Contractor Program Management - Execute the full range of program management functions, including the development of processes and tools, Earned Value Management, Risk, software development, etc. used to manage the Army's brigade modernization incremental approach (to include over 600 subcontractors/partners) to achieve the SoS program requirements within the available dollars and schedules. Test and Evaluation - Includes contractor and government test and analysis to verify the performance of each increment. This work validates the specifications and verifies that the specifications meet the applicable requirements document Operational Requirements Document (ORD) or Capabilities Design Document (CDD) and operational and organizational requirements. Component and platform level developmental testing is included in the respective platform program elements. Contractor Logistics includes the development of the "factory to foxhole" products and services required to design, develop, assemble, integrate, and test the supportability processes. This includes: validating maneuver logistics; Performance Based Logistics (PBL), ensuring data collection for logistics decision support system software is adequate to support logistics modeling verification and validation; maximizing commonality of hardware and software to reduce the lifecycle costs and logistical footprint; provides integration of supportability including diagnostics functions and conducts logistics technical reviews at the system, vehicle, and component levels; increased Reliability Availability Maintainability Test (RAM-T) goals; and Pit-Stop Engineering designs for maintenance. Training - Includes contractor analysis to support incremental training and development of training capabilities associated with</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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>
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Increment deliveries. Includes the design and development, engineering, integration, and testing of embedded training; unique training devices; associated training systems engineering; training products; Training Support Packages; and training system integration. This mission assures that the training system is designed as an integral part of the overall incremental design to meet program and KPP requirements. Due to termination of FCS MGVs, Class IV UAV, MULE-T and MULE C the embedded training requirement for FY10 and out is reduced to SUGV, Class 1 UAV and the ARV-A-L (UGV), sensors and the associated Common Controllers (CC); Battle Command capability; and Network Interface Kits (NIK) for IBCT INC1 and IBCT INC2. Government Support Costs-Includes funding for government personnel for labor, travel, training, supplies, and other support costs (support contractors, Automated Data Processing (ADP), communications, supplies, and equipment). Supports other services for Joint Programs, Multinational Project Arrangements, and collaborative efforts. Includes the procurement of Government Furnished Equipment/Items/Data (GFX) for Boeing. GFX is used when procurement through the Government is less expensive than through the contractor.

**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	1,414.756	1,067.191	690.570	0.000	690.570
Current President's Budget	1,022.165	912.399	568.711	0.000	568.711
Total Adjustments	-392.591	-154.792	-121.859	0.000	-121.859
• Congressional General Reductions		-154.792			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-353.041	0.000			
• SBIR/STTR Transfer	-39.550	0.000			
• Adjustments to Budget Years	0.000	0.000	-121.859	0.000	-121.859

**Change Summary Explanation**

Change Summary Explanation: FY09: Congress approved reprogramming request for additional funds to the program's higher priority needsFY10: Congress reduced the program FY11: Program made a Work Breakdown Structure realignment to meet the Congressional request to have the contractor's fee spread to the individual Program Elements.

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>				<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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>
FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</i>	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b> Not applicable for this item.											
<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  CONTRACTOR PROGRAM MANAGEMENT - Increment 1: Implement processes, models, tools & management structure to integrate all subcontractor partners into one team to meet cost, schedules, and technical performance requirements in the contract to include program overview, Earned Value Management, briefings, technology reviews, reports, program risk, subcontract management, data, operation management, contract management, procurement and acquisition management along with Small and Minority Business Integration, SDD Affordability/CAIV/ Life Cycle Management and development of program baseline & Integrated Master Schedule. In FY09 supported FCS Core and Common Spin Out; FY10 includes Program Management for the remainder of Increment 1 effort through LUT 10  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010						94.814	55.686	0.095	0.000	0.095	

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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  CONTRACTOR PROGRAM MANAGEMENT - Increment 2: Implement processes, models, tools & management structure to integrate all subcontractor partners into one team to meet cost, schedules, and technical performance requirements in the contract to include program overview, Earned Value Management, briefings, technology reviews, reports, program risk, subcontract management, data, operation management, contract management, procurement and acquisition management along with Small and Minority Business Integration, SDD Affordability/CAIV/ Life Cycle Management and development of program baseline & Integrated Master Schedule. Increment 2 effort begins in FY10 and extends through MS C.  <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	166.511	104.154	0.000	104.154
Program #3		143.484	53.224	9.100	0.000	9.100

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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  GOVERNMENT - SYSTEM ENGINEERING & PROGRAM MANAGEMENT - SYSTEM ENGINEERING - Increment 2: Participate and ensure the government and soldiers best interest/values are considered in the following: System of System (SoS) reviews, trade studies, architectural mgt, requirements decomposition, rqmts flow down, development of specifications, interface definitions, configuration mgt oversight, specialty engineering, analysis and verification of integrated force effectiveness, Software, Risk, M&S, Simulation, Performance/Product/Producibility Assurance, Integration & Verification, Technology and Experimentation Management. FY10 & FY11 includes system engineering and analysis effort required to support the IBCT Incr 2 architecture & requirements development, system level CDRs analysis, and finally preparation for the IBCT Incr 2 CDR. PROGRAM MANAGEMENT: Provide integrated program management (i.e. planning, directing, tools and controlling functions), for all development activities to include data and supplier management, program control, government training, procurement and contracts management, operations management for incremental BCTs and new combat vehicle development. Provide Congressional Title 10 oversight, cost analysis and management, budget development, justification and tracking, Earned Value Management, Integrated Master Schedule development and management, Complementary Program management and operations management associated with contractor management. Also includes TRADOC support for requirement analysis, AoA support, and Milestone reviews.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	68.187	87.012	0.000	87.012

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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  CONTRACTOR SOS Engineering & Integration FY09: Conducted the SoS Preliminary Design Review (SoS PDR - May 09), Conducted Network PDR. Continued development and maturation of the SoS Architecture. Updated and maintained program technical baseline consisting of releasing the next version of the SoS Specification and Prime Item Development Specifications. Executed IMT1 in Jan 09 at WSMR with a total of 45 Soldiers from the I CAB and received User feedback on the WMI. Conducted Simulation Based Soldier Assessment (SBSA) in July 09 to evaluate WMI screens not included in IMT1. Managed execution of System Level Integrated Product Teams Preliminary Design Reviews (PDR). Updated the Integrated Analysis Plan and execute assessments in the areas of KPP achievability, MANPRINT, Manpower Estimate, Human Systems Integration, Safety, Information Assurance and force effectiveness for SoS PDR. Safety Assessment and MANPRINT analysis reports along with an update of the Programmatic NEPA Assessment and a Programmatic ESOH Evaluation will be completed for SO and core program. Updated, maintained and released the Design Concept Baseline and released the System of Systems/System Design Description. Completed adjudication of SO CDD & CPD along with continued maturation of SO technical baseline for integration of SO SoS TFT/FDT&E/ LUT and prepare for SO MS C in FY10.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		189.373	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 #6</b>  CONTRACTOR SOS ENGINEERING & INTEGRATION FY 10 - IBCT INCREMENT 1: Conduct the Increment 1 delta CDR, conduct Industrial Capability Assessment for all major suppliers in support of PRR, and support MS C Decision review. Plan and conduct UGS IQT, develop, test and release SOSCOE Build 2.6 and 2.7 and conduct Battle Command NSQT, implement engineering changes to correct faults detected from FY 09 TFT/FDT&E/LUT and conduct FY10 TFT/FDT&E/LUT.  <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	8.869	0.000	0.000	0.000
<b>Program #7</b>  CONTRACTOR SOS ENGINEERING & INTEGRATION FY 10 - IBCT INCREMENT 2: Manage the execution Integrated System Level Critical Design Reviews (CDRs for Class I Unmanned Air Vehicles (UAV),		0.000	42.120	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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>Common Controller, Small Unmanned Ground Vehicle (SUGV), ARV(L), Autonomous Navigation System (ANS), NIK and Network; and Build Readiness Checkpoint for Inc 2 Battle Command. Conduct Simulation Assessment to evaluate WMIs. Update the Integrated Analysis Plan and execute assessments in the areas of areas of KPP achievability, MANPRINT, Manpower Estimate, Human Systems Integration, Safety, Information Assurance and force effectiveness in support of the SoS CDR. Update Program NEPA Assessment and complete a Programmatic ESOH Evaluation. Conduct requirements decomposition for Incr 2.</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>CONTRACTOR SoS Engineering &amp; Integration FY11 - IBCT INCREMENT 1: Complete engineering changes/ corrective actions identified from FY10 test cycle to support the FY11 IVT/TFT and FDT&amp;E/IOT&amp;E.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	0.000	1.132	0.000	1.132

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 #9  CONTRACTOR SoS Engineering & Integration FY11 - IBCT INCREMENT 2: Continue systems engineering architecture/decomposition of TRADOC's requirements and development of Inc 2 Performance Specification: Manage the integration of the Class I Unmanned Aerial Vehicles (UAV), Common Controller, Small Unmanned Ground Vehicle (SUGV), ARV-A (L), Autonomous Navigation System (ANS) and the Network. Complete the SoS Critical Design Review 3QFY11 and demonstrate ability to meet the required capabilities. Substantiate, via Integrated Platform/Network Analysis and requirements traceability, achievement of the Key Performance Parameters. Complete Human Systems Integration assessments to ensure the Soldier can effectively operate the provided systems in a safe and effective manner.  <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	37.219	0.000	37.219
Program #10		15.626	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>CONTRACTOR SoS TEST and M&amp;S FY09 - Developed IMT1 Master Procedures Set. Began Preparation for the Test Infrastructure (HW, SW, Participants, and Facilities) to support IBCT Incr 1 LUT 10. Early planning to support SSEI development of Integrated phase. Completed Update to ITEP supports CR changes to FCS program. Provided contractor input to the TEMP update to include annexes for Spin Out Early to the IBCT. Supported the BCT SW Build 2 Early Distributed Qualification Test (B2E DSQT), Integrated Verification 1 Integrated Mission Test 1 (IV1 IMT1).</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>CONTRACTOR SoS TEST and M&amp;S FY10 - IBCT Increment 1: Plan and execute qualification testing of the new form factor U/T-UGS, Range Extension Relay (RER) updated Network Integration Kit (NIK) - formerly B-kit, updated SUGV, and Class I Block. Develop detailed Test Plan for three Technical Field Tests (TFT) in a classified network environment. Support integration of Increment 1 SW and HW in support of the TFT. Conducts dry runs for record for TFT. Provide support to the FY10 FDTE and LUT.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	25.716	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 #12  CONTRACTOR SoS TEST and M&S FY10 - IBCT Increment 2: - Initiate the development of the detailed test plan, test procedures, and test training plans for the Laboratory Based Maturation Assessment. Initiate the development of the detailed test plan, test procedures, and test training plans for the Field Based Maturation Assessment. Initiate the development of the detailed test plan, test procedures, and test training plans for the Technical Field Test A.  <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	27.913	0.000	0.000	0.000
Program #13		0.000	0.000	36.938	0.000	36.938

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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>CONTRACTOR SoS TEST and FY11 -Increment 2: Complete detailed planning of the qualification testing of the IBCT Increment 2 platforms. Complete detailed test planning for the IBCT Increment 2 Technical field Tests (TFT A and TFT B). Conduct Pre-Test Readiness Review for Technical Field Test A. Conduct Benchmarks and Checkouts for the Laboratory Based Maturation Assessment (LBMA). Conduct Benchmarks and Checkouts for the Field Based Maturation Assessment (FBMA).</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 #14</p> <p>GOVERNMENT - SYSTEM TEST &amp; EVALUATION (STE) and M&amp;S FY09 - MGV testing focused on the NLOS-C SDD prototype testing at YPG, WSMR and APG. This includes Firing Tests on P1, Automotive test on P3, Improved Mobility/RAM test on P4, E3, Safety, Mobility, Firing test on P5, Safety and RAM test on P6, and Reliability test on P7 as well as the continuation of the NLOS-C Firing Platform. NLOS-M Firing Platform and Proof testing continued as well as the continuation of MGV Top Deck Deconfliction/Co-site testing at EPG on the RSV and the NLOS-C. NLOS-C/M compartmentation testing continued as will Automate Fire Extinguisher System (AFES) testing at APG, MGV CBRN materials testing at DPG MGV Band track testing also continued at YPG and Armor development testing to include structure testing and coupons will occur at ARL/APG. HAS/APS also continued throughout FY09 as will the APS Countermeasure Munitions testing. MCS testing continued with</p>		91.852	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>the firing of the MSC Firing Platform at APG, MCS Armament safety and qualification testing at APG and MCS Ammunition Compatibility testing. Supports Test ammunition requirements for all FCS firing and ammunition tests. DREN connectivity between the LSI and OTP SILs will continue. ATEC will again provide 42 MY SME support to the LSI and surge engineering support as required to support tests. Continued testing of armor recipes. Initiates Class IV UAV Army/Navy cooperative E3 testing. Funds the development and modifications of modeling and simulation test tools for future test events. These tools include test event design tools as well as test data collection capabilities. Additionally these tools include stimulators used to test FCS systems. Funds the operational and maintenance costs of the Common Control Nodes and WSMR and APG. These facilities are program test facilities used in support of system of system tests events. In July 2009 all MGTV and NLOS-LS test activity were stopped except for APS related activities.</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>GOVERNMENT - SYSTEM TEST &amp; EVALUATION (STE) and M&amp;S FY09 Continued - Continued funding of the Cross Command Collaboration Effort (3CE). Developed, integrated, delivered and supported the M&amp;S federation required to execute IBCT Increment 1 FDT&amp;E and Situational Training Exercises (STXs), providing the larger brigade scale context for the soldiers participating in these events. Performed requirements analysis</p>		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>and design, developed, and integrated technologies and data related to FCS Program LUT3 and user needs, with emphasis on IP2. Continued enhancements of the Communications Effects Server (CES) to support Quality of Service TRL6 testing. Provided funding for FCS unique enhancements of GFX M&amp;S software, including: OneSAF FCS Unit-level behavior modeling, Tactical Network Gateway, FCS Battle Command stimulation, ability to command and control the SAF at the Company and Battalion levels; updates to geospatial data products required for simulations in order to accurately represent the WSMR and Ft. Bliss terrain associated with FY10 test events; and modifications to MATREX and NVIG Tool Set to adapt to additional required federation interactions necessary to complete FCS operational threads in simulation. Continued the integration of representations of insurgents and the impact of urban terrain, building interiors, and competing urban radio frequencies into One SAF and the CES.</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 #16</p> <p>GOVERNMENT - SYSTEM TEST &amp; EVALUATION (STE) and M&amp;S FY10 - IBCT Increment 1: Conduct a simulation based test in support of Incr 1 . Provides for range support for IBCT Increment 1 platform qualification testing, three IBCT Increment 1 Technical Field Tests and the LUT 10. Provide SME support to the contractor and surge engineering support as required to support specific IBCT Increment 1 test events. Funds the</p>		0.000	83.534	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>development and modification of modeling and simulation test tools for future test events. These tools include test event design tools as well as test data collection capabilities. Funds the operational and maintenance and hardware (HW) refresh costs of the Common Control Nodes and WSMR and APG. Funds for infrastructure and test facilities that will support the IBCT Increment 1 testing. Funds DREN connectivity to selected contractor sites. Transitions from funding of the Cross Command Collaboration Effort (3CE) to establish the Army Acquisition M&amp;S Enterprise Solution (AAMSES) to support the new Army Modernization strategy. AAMSES will provide the required capability to transition overarching M&amp;S development and integration responsibility from the contractor to the Government, and provide for a sustainable simulation environment to allow soldiers to execute and evaluate modernization capabilities in an operationally relevant and realistic synthetic environment. Continues funding of modifications to M&amp;S GFX software to accurately represent Increment 1 systems, networks and Battle Command. Funds the execution of 6 M&amp;S Integration Events in the critical path leading up to the FY10 TFT and LUT events. Starts development of Brigade-scale simulation environment that will be required to support the FY11 IOT&amp;E, to include comparative evaluation of IBCTs with and without Increment 1 material in a validated and realistic operational and threat environment.</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 #17		0.000	20.238	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>GOVERNMENT - SYSTEM TEST &amp; EVALUATION (STE) and M&amp;S FY10 - IBCT Increment 2: Begins transition of Increment 2 M&amp;S being developed by the contractor to the Government. Verifies and validates WNW waveform models that will be used to evaluate the Increment 2 network performance at Brigade and higher scale in FY11 and beyond. Continues funding of modifications to M&amp;S GFX software to accurately represent Increment 2 systems, networks and Battle Command. Establishes Government capability to execute top-level M&amp;S federation integration, execution and support to allow soldiers to exercise and evaluate Increment 2 systems, networks and Battle Command software in an operationally relevant and realistic environment.</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>GOVERNMENT - SYSTEM TEST &amp; EVALUATION (STE) and M&amp;S FY11 - IBCT Increment 1: Funds the planning and conduct Increment 1 Initial Operational Test to include range support, threat, data collection and analysis. Continue to fund SME support to the contractor. Detail plan range support for production verification testing of IBCT Increment 1 systems. Funds overarching M&amp;S integration activity within the Government, to include responsibility for integration of M&amp;S GFX and VV&amp;A in support of Army-led Increment 1 comparative IOT&amp;E. Provides operationally relevant and realistic brigade and above scale environment to allow a single live CAB to conduct IOT&amp;E operations in coordination with soldiers controlling two additional CABs, the</p>		0.000	0.000	76.365	0.000	76.365

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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>Brigade headquarters, and elements of the above Brigade force in simulation environment. Provides funding for enhancements of OneSAF to support: adaptation to incremental releases of Integrated Battle Command/Network software; updated representations of Increments 1 equipment; and updated unit-level representations of Incr 1 IBCT units. Funds the AAMSES established in FY10 to deliver common integrated M&amp;S environment to support FY11 and beyond Increment 2 events.</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 #19</p> <p>GOVERNMENT - SYSTEM TEST &amp; EVALUATION (STE) and M&amp;S FY11 - IBCT Increment 2: Provide SME support to the contractor and surge engineering support as required to support specific Increment 2 test events. Provides range support and threat representation to support contractor technical field test. Funds the development and modification of modeling and simulation test tools for future test events. These tools include test event design tools as well as test data collection capabilities. Funds the operational and maintenance and hardware (HW) refresh costs of the Common Control Nodes and WSMR and APG. Funds for infrastructure and test facilities that will support the Increment 2 testing. Funds DREN connectivity to selected contractor sites. Provides funding for enhancements of OneSAF to support: adaptation to incremental releases of Integrated Battle Command/Network software; updated representations of Increment 2 equipment; and updated unit-level</p>		0.000	0.000	47.148	0.000	47.148

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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>representations of Increment 2 units. Funds overarching M&amp;S integration activity within the Government, to include responsibility for integration of M&amp;S GFX and VV&amp;A in support of Army-led major program events. Completes transition of lifecycle responsibility and product management of the CES from the prime contractor to the Government, to support Army BCT Modernization network analysis, assessment and test. Continue platform simulation development supporting: BCS and Network Software integration and test; Brigade level integration and test; design and analysis trade studies; technology readiness demonstrations; laboratory and field test events; and soldier training.</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 #20	<p>CONTRACTOR TRAINING Specs and Products FY09 - Continued development of individual and collective tasks analyses to support the Embedded Training design and content. Developed interface requirement specifications and began preparation of interface design specifications. Updated and Delivered: Training Management Plan, Training Data Products Report, Training Support Packages, Training Facilities Survey Report. Continued to develop and update Embedded Training capability and products for the FCS program: Training (Instructional) Support Packages (TSPs), Interactive Multi-media Instruction (IMI), and Embedded Training software. Completed Platform PDR and SoSPDR architecture products. Delivered Individual Task Lists in</p>	18.919	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>support of System PDRs (CI IV UAS, MGV, CC, A/GPCS). Delivered Final Task Analysis Report and TSP Development Plan in support of System CDRs (CI IV UAS, ANS, MULE, CC, A/GPCS.). Continued Key Performance Parameter (KPP) #6 (Training) requirements analysis development, and execution. Continued integration of Training software with Warfighter Machine Interface (WMI). Delivered Training Common Components (TCC) Build 2 Engineering Release 1 (Apr 09) and TCC Build 2 Engineering Release 3 (Sep 09). Modified existing Training Aids, Devices, Simulators and Simulations (TADSS) such as Close Combat Tactical Trainer (CCTT), Synthetic Environment Core (SE Core), Gaming, and other TADSS as required to provide continuity and training assets to the IBCT. In conjunction with MGV termination, Embedded Training efforts for MGV were terminated in July 2009.</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 #21</p> <p>CONTRACTOR TRAINING Specs and Products FY10 - IBCT INCREMENT 2: Design and develop initial increment of Embedded Training capability for Inc 2 common controller. Develop Interactive Multimedia Instruction (IMIs) and Graphic Training Aids (GTAs) to support individual training. Update IBCT Inc 2 Training Support Packages (TSPs) as basis to provide individual training at Army Schools during ARFORGEN. Provide embedded MILES-based live training "E Bullets" based live training supported on the Common Controller (CC).</p>		0.000	59.096	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>Initiate development of embedded live, virtual and constructive capabilities of ARV-A(L) operator tasks on CC. Update Current Force TADSS, such as CCTT, SE Core, Gaming and other TADSS necessary to provide continuity to the IBCT.</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>CONTRACTOR TRAINING Specs and Products FY11 - IBCT INCREMENT 2: Continue development of IBCT Inc 2 capabilities including the delivery of initial Embedded Training capabilities for Inc 2 systems utilizing GFX Training Common Components (TCCs). Support design and test requirements of Contractor and Government. Develop Inc 2 Phase I Build capabilities integrated with Warfighter Machine Interfaces (WMI). Provide iterative updates to TCC capabilities hosted on SoSCOE. Update Current Force TADSS, such as CCTT, SE Core, Gaming and other TADSS as necessary to provide continuity to the IBCT.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	0.000	25.856	0.000	25.856

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 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 #23</p> <p>CONTRACTOR - SUPPORTABILITY / LOGISTICS FY09 - Provided test support for equipment testing and demonstrations for SoS supportability performance verification. Validated Maneuver Sustainment, PBL, and other applicable support concepts during testing, demonstrations, and validations. Ensure sensor collection of data for logistics decision support system software is adequate to support logistics modeling verification and validation efforts as well as operational PBL. Ensured Supportability architectures and requirements are implemented during design, development, fabrication and test of Vehicle Systems to achieve Transportability, Deployability and Operational Availability. Conducted Logistics Planning, Modeling and Simulations to mitigate risk and verify reductions in FCS Logistics Footprint while increasing Readiness &amp; Availability. Identified the logistics test requirements for the soldier or warfighter level health tests and the requirements for integration testing with multiple systems and platforms as well as the system of system level testing. Provided and administer a TSP capable of sustaining test and evaluation efforts. Planned for the conduct of maintenance and provision of repair parts, tools, test fixtures, and facilities. Provided technical support to all logistics 1) demonstrations and simulations and 2) system verification, validation, and integration tests to ensure that requirements for RAM-T and supportability are met. Provided support for Verification &amp; Validation of IETMs, prognostics diagnostic equipment, data collection, and instrumentation. Provided analysis develop requirements for integration and test of Current Force spiral testing. Maintenance Plan, Readiness report to SU, Sustainment request Handling, Class (I, III,V,IX) supply &amp; Distribution Status. In July 2009 MGV supportability efforts were terminated.</p>		5.990	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 #24  CONTRACTOR - SUPPORTABILITY / LOGISTICS FY10 - IBCT INCREMENT 1: Provide test support for equipment testing and demonstrations for Increment 1 systems supportability performance verification. Validate Maneuver Sustainment and other applicable support concepts during testing, demonstrations, and validations. Ensure sensor collection of data for logistics decision support system software is adequate to support logistics modeling verification and validation efforts. Complete integration of logistics requirements for the IBCT Increment 1 systems. Ensure Supportability architectures and requirements are implemented during design, development, fabrication and test of IBCT Increment 1 platforms/systems to achieve Transportability, Deployability and Operational Availability. Complete data products for supportability planning, PBL planning, IETM development, Level of Repair Analysis, Logistics Management Information (LMI) Logistics Demonstrations, UID Implementation, Core Logistics Analysis and Source of Repair Analysis and diagnostic models. Complete ILS assessments to ensure that requirements for RAM-T and supportability are met. Provide support for Logistics Demonstration Planning and readiness reviews, 4QFY10  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	3.965	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 #25  CONTRACTOR - SUPPORTABILITY / LOGISTICS FY10 - IBCT INCREMENT 2: Define, develop & integrate requirements for the IBCT Increment 2 platforms and systems. Ensure Supportability architectures and requirements are implemented during design, development, fabrication and test of IBCT Increment 2 and platforms/systems to achieve Transportability, Deployability and Operational Availability. Plan for , review and provide CDR data products for Increment 2 systems for supportability planning, PBL planning, IETM development, Level of Repair Analysis, Logistics Management Information (LMI) Logistics Demonstrations, UID Implementation, Core Logistics Analysis and Source of Repair Analysis and diagnostic models. Identify the logistics test requirements for the soldier or warfighter level health tests and the requirements for integration testing with multiple systems and platforms as well as the system of system level testing. Plan, prepare for and complete CDR ILS assessments for Increment 2 systems to ensure that requirements for RAM-T and supportability are met. Provide Logistics Demonstration Plan.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	22.945	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 #26  CONTRACTOR - SUPPORTABILITY / LOGISTICS FY11- IBCT INCREMENT 2: Define, develop & integrate requirements for the IBCT Increment 2 platforms and systems. Ensure Supportability architectures and requirements are implemented during design, development, fabrication and test of IBCT Increment 2 platforms/ systems to achieve Transportability, Deployability and Operational Availability. Plan for , review and provide SoS CDR and IQT data products for supportability planning, PBL planning, IETM development, Level of Repair Analysis, Logistics Management Information (LMI) Logistics Demonstrations, UID Implementation, Core Logistics Analysis and Source of Repair Analysis and diagnostic models. Identify the logistics test requirements for the soldier or warfighter level health tests, and the requirements for integration testing with multiple systems and platforms as well as the system of system level testing. Plan, prepare for and complete CDR and IQT ILS assessments to ensure that requirements for RAM-T and supportability are met. Provide Logistics Demonstration Plan.  <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	21.060	0.000	21.060

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 #27  CONTRACTOR FEE - IBCT Increment 1: This includes both the Boeing incentive and fixed fee. Beginning in FY11 fee is included in each PE. Fee is calculated only on new effort not cost overruns.  <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		320.707	21.364	0.123	0.000	0.123
Program #28  CONTRACTOR FEE - IBCT Increment 2: This includes both the Boeing incentive and fixed fee. Beginning in FY11 fee is included in each PE. Fee is calculated only on new effort not cost overruns.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	100.052	22.523	0.000	22.523

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 #29  Government Other - IBCT Increment 1: This includes support to both PM and non-PM government support offices that provide technical expertise (PEO C3T, TRADOC, UAMBL, ARL, FFID, etc). This also includes other technical support contracts like the Sandia Labs - FCS Integrated Support Team (FIST), (MITRE), Software Steering Committee from University South California and University of Maryland which also reviews Boeing software performance, logistics products, network requirements and capabilities. It includes all electronic hardware and software required for government personnel (computers, Blackberry, software, internet and ACE software agreements). CIO and Security management within the PM. Tech base insertion into the FCS program to reduce program TRL Risk. TRADOC support of analysis to support spinout and the future new combat vehicle 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		112.013	32.473	10.204	0.000	10.204

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 #30  Government Other - IBCT Increment 2: This includes support to both PM and non-PM government support offices that provide technical expertise (PEO C3T, TRADOC, UAMBL, ARL, FFID, etc). This also includes other technical support contracts like the Sandia Labs - FCS Integrated Support Team (FIST), (MITRE), Software Steering Committee from University South California and University of Maryland which also reviews Boeing software performance, logistics products, network requirements and capabilities. It includes all electronic hardware and software required for government personnel (computers, Blackberry, software, internet and ACE software agreements). CIO and Security management within the PM. Tech base insertion into the FCS program to reduce program TRL Risk. TRADOC support of analysis to support spinout and the future new combat vehicle 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	69.160	68.865	0.000	68.865
Program #31  GOVERNMENT GFX- Increment 1 -FY09 - FY11 - - Deliver Increment 2, Phase 1 build early to IBCT Training IPT in Jul 10. Provided M2, MK19 and the M240 ammunition required for LSI testing Support Model and SIM updates to support JEFX08 and Experiment 2.		29.387	2.309	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 #32  GOVERNMENT GFX- Increment 2 -FY09 - FY11 - Continue Technical Management Integration support throughout the development of the Training Common Components (TCC) efforts (OneSAF, OneTESS, Common Training Instrumentation Architecture and SE Core). SMEs develop strategies to transition TCCs into Warfighter Machine Interface (WMI) and Battle Commandsoftware, Deliver TCC Increment 2, Phase 1 in Jul 10. Continue development of TCC Software Architecture and Software for Increment 2, Phase II. Deliver Increment 2, Phase II in 4QFY10. Fully integrate TCCs with Warfighter Machine Interfaces and applications running as a single SOSCOE application. Continue Live/Virtual/Constructive interoperability between Live and Constructive training capabilities (AAR, TM, EM, LTTEs, DL) for an integrated WMI solution. Provide Government oversight of additional TCC construction and Live/Constructive Integration.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	10.104	17.342	0.000	17.342

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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 #33  IBCT Platform A-Kit Development FY10 - IBCT Increment 1: Redesign/design A-Kits with new Legacy equipment reflecting space claim of current production configurations for the 1151 and 1165 HMMWV variants. Create Technical Data packages for the A-Kits with installation drawings. Create installation instructions for both HMMWV variants. Perform additional qualification testing. Install A-Kit, Legacy equipment and support B-Kit installation on HMMWV test vehicles. Support all LSI/government testing. Update/create all logistics documentation needed to support the A-Kit. Supports the integration of the IBCT enhanced capabilities into MRAP variants.  <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	3.810	0.000	0.000	0.000
Program #34		0.000	0.000	3.575	0.000	3.575

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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>IBCT Platform A-Kit Development FY11 - IBCT Increment 2: Provides for the integration of IBCT enhanced capabilities (ICS, GPCS, GMR) into the MRAP and HMMWV. Funds the start of development for the integration kit, procurement of material and labor to build prototype A- kits and modify the Stryker to accept the ICS and GPCS. Also includes development of any training materials as well as supportability and fielding plans.</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 #35</p> <p>Termination Costs - Cost for Special Termination FCS (BCT) SoS engineering effort.</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	9.576	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 #36 Small Business Innovative Research/Small Business Technology Transfer Programs.						0.000	25.547	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						1,022.165	912.399	568.711	0.000	568.711	
<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>0604660A FCS MGV Manned Ground Vehicles &amp; Common Grd Vehicle Components</i>	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860
• Ord. #2: <i>0604662A FCS Reconnaissance (UAV) Platforms</i>	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	0	197.572
	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	603.586

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army										DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				PROJECT				
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)			PE 0604661A: FCS Systems of Systems Engr & Program Mgmt				FC2: FCS SYSTEM OF SYSTEMS ENGR & PROGRAM MGMT				
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
Line Item	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. #3: 0604663A FCS Unmanned Ground Vehicles											
• Ord. #4: 0604664A FCS Unattended Ground Sensors	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	56.570
• Ord. #5: 0604665A FCS Sustainment & Training R&D	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	0	3,488.259
• Ord. #6: 0604646A Non Line of Sight - Launch System	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	512.290
• Ord. #7: 0604647A Non Line of Sight - Cannon	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
• Ord. #8: 0604666A FCS Spin Out Technology/Capability Insertion	122.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	122.788
• Ord. #9: WTCV G86100 FCS Core Program	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127
• Ord. #10: WTCV G86200 FCS Spin Out Program	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177
• Ord. #11: 0605625A Manned Gound Vehicles	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	Continuing	Continuing
• Ord. #12: WTCV G86000 Ground Combat Vehicle (GCV)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: ACFT A00015 BCT Unmanned Aerial Veh (UAVs) Incr 1	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	Continuing	Continuing
• Ord. #14: ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Incr 2	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	Continuing	Continuing
• Ord. #15: OPA B00001 BCT Unattended Ground Sensor	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing
• Ord. #16: OPA B00004 BCT Unattended Ground Sensor Incr 2	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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. #17: <i>OPA B00002 BCT Network</i>											
• Ord. #18: <i>OPA B00003 BCT Network Incr 2</i>	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
• Ord. #19: <i>OPA F00001 BCT Unmanned Ground Vehicle</i>	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing
• Ord. #20: <i>OPA F00002 BCT Unmanned Ground Vehicle Incr 2</i>	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing
• Ord. #21: <i>OPA G80001 BCT Training/Logistics/Management</i>	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: <i>OPA G00002 BCT Training/Logistics/Management Incr 2</i>	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: <i>MSLS C64501 BCT NLOS-LS Incr 1</i>	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
• Ord. #24: <i>MSLS C64601 BCT NLOS-LS Incr 2</i>	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

**D. Acquisition Strategy**

A 23 June 2009 Acquisition Decision Memorandum (ADM) directed the cancellation of the FCS (BCT) acquisition program. It also instructed the Army to transition to an Army modernization plan consisting of a number of integrated acquisition programs. At that time, the SO E-IBCT was designated a pre-MDAP, with a Milestone C decision scheduled for the first quarter FY2010. A follow-on ADM was issued 9 July 2009. In it, the Army was directed to continue efforts to improve the brigades beyond the Early Infantry Brigade Combat Team acquisition until a standalone program(s) is defined later in 2010. An Army BCT Modernization Defense Acquisition Board (DAB) was then held on October 16, 2009 to review the Army's plans for the post-Future Combat Systems efforts and confirm the Army brigade modernization acquisition plans were consistent with the Secretary of Defense's guidance. An ADM issued after this DAB stated: "The approach, for Increment 1 (Early-Infantry Brigade Combat Team (E-IBCT)) and the Ground Combat Vehicle(GCV) effort, is consistent with the Secretary's guidance and each is being positioned for more in-depth review and acquisition decisions later in 2009." The Increment 1 E-IBCT Milestone C took place 22 December 2009 and was approved in an ADM dated 24 December 2009. The Program Executive Officer-Integration (PEO-I) has modified the existing contract to be compliant with the forementioned ADMs. This budget justification reflects the Milestone C approved Increment 1 (E-IBCT) program and the follow-on IBCT modernization program planned by the Army.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</i>
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>				<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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>
Contractor SEPM	C	The Boeing Company- ST. LOUIS MO, see remark 4	0.000	222.197		104.249		0.000		104.249	Continuing	Continuing	0
Contractor System Requirements and Integration	C	The Boeing Company- ST. LOUIS MO, see remark 4	0.000	50.989		38.351		0.000		38.351	Continuing	Continuing	0
Contractor Training Products	C	The Boeing Company- ST. LOUIS MO, see remarks 1-4	0.000	59.096		25.856		0.000		25.856	Continuing	Continuing	0
Contract Fee	C	The Boeing Company- ST. LOUIS MO	0.000	121.416		22.646		0.000		22.646	Continuing	Continuing	0
Contractor Supportability/ Log	C	The Boeing Company- ST. LOUIS MO	0.000	26.910		21.060		0.000		21.060	Continuing	Continuing	0
Contractor IBCT Platform A-Kit Development	C	The Boeing Company - ST. Louis MO	0.000	3.810		3.575		0.000		3.575	Continuing	Continuing	0
<b>Subtotal</b>			0.000	484.418		215.737		0.000		215.737			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>				<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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>
<b>Remarks</b> Remark 1: Subcontractor: Computer Science Corp. Federal Sector Defense Group, Fsls Church, VA. Remark 2: Subcontractor: Dynamics Research Corp. Systems Division, Andover, MD. Remark 3: Subcontractor: Northrop Grumman, Info Tech, Def Enterprise Solutions Div, Mclean, VA. Remark 4: Subcontractor: SAIC Corp., San Diego, CA													
<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>
Government SEPM	C	PM FCS(BCT) - St Louis MO	0.000	121.411		96.112		0.000		96.112	Continuing	Continuing	0
Government GFX	C	PM FCS(BCT) - St Louis MO	0.000	12.413		17.342		0.000		17.342	Continuing	Continuing	0
Government - Other Support	C	PM FCS(BCT) St. Louis, MO	0.000	101.633		79.069		0.000		79.069	Continuing	Continuing	0
SBIR/STTR	C	OSD Location could not be determined.	0.000	25.547		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	261.004		192.523		0.000		192.523			0.000
<b>Remarks</b>													

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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			
Contractor - SoS Test	C	The Boeing Company - St. Louis MO	0.000	53.629		36.938		0.000		36.938	Continuing	Continuing	0
Government STE and M&S	C	PM FCS(BCT) St. Louis, MO , see remarks 1-3	0.000	103.772		123.513		0.000		123.513	Continuing	Continuing	0
<b>Subtotal</b>			0.000	157.401		160.451		0.000		160.451			0.000

**Remarks**

Remark 1. Subcontractor, Netversant Co., Baltimore, MD Remark 2. Subcontractor, 3D Research, Huntsville, AL Remark 3. Subcontractor, Jacobs/Sverdrup, Aberdeen, MD

**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			
Special Termination	C	The Boeing Company St. Louis, MO	0.000	9.576		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	9.576		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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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>	0.000	912.399	568.711	0.000	568.711			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</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
Increment 1 Total Program Tasks			#	#	#	#	#	#	#	#	#	#																
Incr 1 Limited User Test FY 09			#																									
Incr 1 STX / FDT&E / LUT 10					#	#																						
Incr 1 Milestone C				#																								
Incr 1 Production Contract Award					#																							
Incr 1 Production Delivery						#	#	#	#	#																		
Incr 1 Initial Operational Test & Evaluation											#																	
Incr 1 First Unit Equipped											#																	
Incr 1 Initial Operational Capability												#																
Increment 2 Total Program Tasks									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Incr 2 CDR									#																			
Incr 2 FDT&E / STX / LUT 13													#	#														
Incr 2 Milestone C																#												
Incr 2 Initial Operational Capability																											#	

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604661A: <i>FCS Systems of Systems Engr &amp; Program Mgmt</i>	<b>PROJECT</b> FC2: <i>FCS SYSTEM OF SYSTEMS ENGR &amp; PROGRAM MGMT</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Increment 1 Total Program Tasks	3	2009	3	2011
Incr 1 Limited User Test FY 09	3	2009	3	2009
Incr 1 STX / FDT&E / LUT 10	2	2010	3	2010
Incr 1 Milestone C	4	2009	4	2009
Incr 1 Production Contract Award	1	2010	1	2010
Incr 1 Production Delivery	3	2010	2	2011
Incr 1 Initial Operational Test & Evaluation	3	2011	3	2011
Incr 1 First Unit Equipped	3	2011	3	2011
Incr 1 Initial Operational Capability	1	2012	1	2012
Increment 2 Total Program Tasks	2	2011	2	2015
Incr 2 CDR	2	2011	2	2011
Incr 2 FDT&E / STX / LUT 13	3	2012	4	2012
Incr 2 Milestone C	2	2013	2	2013
Incr 2 Initial Operational Capability	2	2015	2	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV) Platforms</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	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	Continuing	Continuing
FC3: <i>FCS RECONNAISSANCE (UAV) PLATFORMS</i>	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	Continuing	Continuing

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

The XM 156 Class I system for System Development and Demonstration (SDD) provides the dismounted soldier Reconnaissance, Surveillance, and Target Acquisition (RSTA) and has the ability to hover and stare for military operations on rural and urban terrain. The Class I provides imagery data in order to recognize personnel and provide targeting information to the BCT Modernization network during day and night operations and in adverse weather conditions from as high as 1000 feet above ground level. The Army has incorporated an expedited Class I into IBCT Increment 1 (IBCT INC 1) to provide additional Intelligence, Surveillance and Reconnaissance (ISR) capability to the soldier starting in 2011. The Class I IBCT Increment 1 capability will consist of a 25 pound vehicle with a Commercial Off the Shelf (COTS) Electro Optical (EO) sensor and a COTS Infra-Red (IR) sensor and a gasoline based propulsion system. The Class I solution for the IBCT Increment 2 (IBCT INC 2) capability will consist of a 41 pound vehicle featuring an Electro Optical Infra-Red Laser Designator Laser Range Finder (EO/IR/LD/LRF) sensor and a heavy fuel based propulsion system. To meet BCT INC 1 CPD objective requirements, the class I platform requires laser target designation capability which will be incorporated in INC 2. In order for the Class I to carry the laser designation and range finding capability, the airframe and propulsion system must be upgraded to accommodate the additional payload capability. The IBCT INC 2 air vehicle operates in complex urban and rural terrains with a vertical take-off and landing capability. The Class I system is carried in two custom Modular Lightweight Load-carrying Equipment (MOLLEs) and is air droppable with the soldier. The Class I program will integrate and test the following sensor as part of Project FC6, PE 0604665A: Electro Optical Infra-Red Laser Designator Range Finder (EO/IR/LD/LRF) sensor. The XM157 Class IV UAV has a range and endurance appropriate for the brigade mission. The Class IV supports the Brigade Combat Team (BCT) Commander with communications relay, long endurance persistent stare, and wide area surveillance encompassing a 75km radius. Unique missions include Wide Band Communications Relay and minefield detection. Additionally, Class IV has the payloads to enhance the Reconnaissance, Surveillance, and Target Acquisition (RSTA) capability by cross-cueing multiple sensors. It operates at survivable altitudes from a standoff range, conducted both day and night and during adverse weather. The Class IV is a collaboration with the Navy's Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) Fire Scout program. The Class IV uses a two phase assembly process. Phase I Integration corresponds to approximately 90% of the complete assembly, which includes major components-airframe, engine, and wiring harness. Phase II Integration adds the unique avionics and payloads completing the Class IV UAV. The unique avionics and payload equipment includes: 1) Type IV Integrated Computer System (ICS); 2) Warfighter's Information Network - Tactical (WIN-T) JC4ISR radio (provisioned for); 3) Airborne Standoff Minefield Detection System (ASTAMIDS) EO/IR/LRF/LD/CM payload; 4) STARLite Synthetic Aperature Radar/Ground Moving Target Indicator (SAR/GMTI) payload; 5) JTRS - Airborne, Maritime and Fixed (AMF) Communications Relay Package (CRP); 6) Universal Ground Data Terminal (UGDT); and 7) Universal Ground Control Station (UGCS). Based on recent determination by the Army the Class IV program was terminated in January of 2010. Future incremental development will incorporate a Class 4 type platform to conduct both the RSTA and Communications relay mission.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV) Platforms</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	57.190	68.701	9.006	0.000	9.006
Current President's Budget	55.923	75.107	50.304	0.000	50.304
Total Adjustments	-1.267	6.406	41.298	0.000	41.298
• Congressional General Reductions		-0.394			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		6.800			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-1.267	0.000			
• Adjustments to Budget Years	0.000	0.000	41.298	0.000	41.298

**Change Summary Explanation**

Change Summary Explanation: FY11: Program made a Work Breakdown Structure realignment to meet the Congressional request to have the contractor's fee spread to the individual Program Elements

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>				<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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>
FC3: <i>FCS RECONNAISSANCE (UAV) PLATFORMS</i>	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b> Not applicable for this item.											
<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  UAV Class I FY09 - Conducted Class I INC 1 PDR 1Q FY09. Began design effort required to support the Class I INC 2 critical design review scheduled for 4Q FY10. Approximately 500 drawings are estimated to be required; forty drawings were completed. Began manufacturing and fabrication of 4 engines and airframes for Engineering Development Assets (EDAs) where EDAs are to be used to conduct initial Class I INC 1 risk reduction testing. Conducted IQT and LUT in FY09. Continued Class I INC 2 system integration in the Class I system integration laboratory to support software development for EO/IR/LD/LRF sensor control, air vehicle flight controls, heavy fuel engine integration and executing mission sets, in order to meet threshold requirements.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							26.754	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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  UAV Class I FY10 IBCT Increment 1 - Supported successful MS C decision for IBCT INC 1 in 1Q FY10. Conduct of Integrated Qualification Test (IQT) and Limited User Test (LUT) for Class I Block 0. Upgrade of 11 Class I IBCT INC 1 Systems with Digital Data Link (DDL) (C2 and video) radios. Conduct and support IQT in 3Q FY10 and support LUT in 4Q FY10 with 11 Class I IBCT INC 1 systems. Conduct IQT and LUT 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		0.000	12.900	0.000	0.000	0.000
Program #3  UAV Class I FY10 IBCT Increment 2 - Conduct Class I critical design review 4Q FY10. A total number of 500 drawings are estimated to be required for the Class I system, where 400 drawings are estimated to be released by Critical Design Review (CDR). Continue maturation of the Heavy Fuel Engine and Airframe. Finalize Airworthiness Qualification Specifications. Start Integration of prototype EO/IR/LD/LRF Sensor on the Air Vehicle.		0.000	21.491	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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  UAV Class I FY11 IBCT Increment 2 - Continue Class I system integration in the Class I system integration laboratory to support software development for Optical Infra-Red Laser Designator Laser Range Finder (EO/IR/LD/LRF) sensor control, air vehicle flight controls, heavy fuel engine integration, executing mission sets, and to support risk reduction testing of Engineering Development Assets (EDAs) in order to meet threshold requirements. Perform test-fix-test in the Class I system integration lab for EO/IR/LD/LRF sensor control and air vehicle flight control software. Provide engineering support for early risk reduction flight testing and environmental testing. Provide engineering support for integration activities for System Development and Demonstration (SDD) air vehicle equipment for IQT. Deliver 4 engines and airframes for EDAs, where the EDAs are to be used to conduct initial Class I risk reduction testing and early environmental risk reduction testing. Begin Class I risk reduction testing with 4 EDAs to include early environmental testing. Begin assembly and integration of 10 prototype air vehicles for delivery in 1QFY12 to support IQT in FY12.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	50.304	0.000	50.304

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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 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>UAV Class IV FY09 - Conducted the Class IV UAVS Preliminary Design Review in Dec 2008. Conducted Joint Executive Steering group meetings on Common Air Vehicle with Navy to ensure cost effective decisions in Electromagnetic Environmental Effects (E3) and structures. Planned and initiated the efforts needed to complete the CDR effort and associated designs in FY10. Developed weight and endurance improvement plans to meet ORD requirements. Managed interfaces between Class IV and STARLite SAR/GMTI, and ASTAMIDS programs. . Completed Phase 1 assembly (install common Army/Navy components) of Air Vehicles A6-A8. Accepted delivery of emulator and brass board Air Platform Communications Systems (APCS) Hardware for initial integration into BCT SILs. Conducted Joint Navy/Army Common System Level E3 Testing on Navy platform. Main rotor hub fatigue testing (envelope expansion to Army usage) conducted by RTTC using loaned Navy and Schweizer developed test hardware (Navy structures personnel participating). Began integration of Build 2 Final Engineering Release SW into NGC System Integration Lab (SIL) for IQT. Completed development of Class IV Simulation S/W Build 2. Began development of Class IV Simulation S/W Build 3 (incorporate BC B3E and B3F operational code, ASI simulation updates as required, air vehicle updates based on flight test data, and enhanced dynamic weather/terrain updates). Continued development of Operational Flight Software Build 2.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		29.169	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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 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 #6</p> <p>UAV Class IV FY10 IBCT Increment 2 - Continued to support design changes to remaining Class IV 94 drawings. Supported through 1Q FY10 Engineering activities to include NG SIL integration of the Integrated Computer System, JTRS radios, and BC 2F software. Northrop Grumman Corporation Phase II Integration activities (integrate avionics and electronics) began in FY10. Began planning efforts to support IBCT INC 2. Continued through 1Q FY10 hardware and software system integration, including completion of the BC2F software IV&amp;V at the NG UMS System Integration Lab (SIL) for purposes of Airworthiness Certification. Based on Army direction, Class IV activities was terminated in Jan 2010. This cost element includes all "other" termination liability costs. Army working to transfer existing assets to Navy or Special Forces.</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	22.003	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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  UAV Class IV IBCT Special Termination costs - Special termination costs include severance pays, settlement expenses, and return of field service representatives.  <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	10.000	0.000	0.000	0.000
Program #8  MQ-8B Fire Scout Army - Congressional earmark - Due to aforementioned cancellation of Class IV UAV, the program no longer has a requirement for these funds. Currently in the process of transferring this earmark to a more appropriate budget line.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	6.800	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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 #9</b>  Air Sensor Hardware FY11 IBCT Increment 2 - Deliver 14 Electro Optical Infrared (EOIR/LD) Class 1 Sensors. Support sensor integration in the Class I UAV SIL in preparation for UAV tether flights. Continue sensor weight reduction and reliability improvement. Evaluate alternatives for UAV Class I threat detection. Prior to FY11 all Air Sensor Hardware included in Networks PE 0604665A FC6.  <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>Program #10</b>		0.000	1.913	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>				<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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											
<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						55.923	75.107	50.304	0.000	50.304	
<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 Non Line of Sight - Launch System</i>	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	512.290
• Ord. #2: <i>0604647A Non Line of Sight - Cannon</i>	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
• Ord. #3: <i>0604660A FCS Manned Grd Vehicles &amp; Common Grd Vehicle Components</i>	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860
• Ord. #4: <i>0604661A FCS System of Systems Engr &amp; Program Management</i>	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Army										DATE: February 2010	
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				PROJECT				
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)			PE 0604662A: FCS Reconnaissance (UAV) Platforms				FC3: FCS RECONNAISSANCE (UAV) PLATFORMS				
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
Line Item	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. #5: 0604663A FCS Unmanned Ground Vehicles	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	603.586
• Ord. #6: 0604664A FCS Unattended Ground Sensors	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	56.570
• Ord. #7: 0604665A FCS Sustainment & Training R&D	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
• Ord. #8: 0604666A FCS Spin Out Technology/Capability Insertion	122.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	122.788
• Ord. #9: 0605625A FCS Manned Ground Vehicles	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	0	7,259.443
• Ord. #10: WTCV G86100 FCS Core Program	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127
• Ord. #11: WTCV G86200 FCS Spin Out Program	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177
• Ord. #12: WTCV G86000 Ground Combat Vehicle (GCV)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: ACFT A00015 BCT Unmanned Aerial Veh (UAVs) Incr 1	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	Continuing	Continuing
• Ord. #14: ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Incr 2	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	Continuing	Continuing
• Ord. #15: OPA B00001 BCT Unattended Ground Sensor	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing
• Ord. #16: OPA B00004 BCT Unattended Ground Sensor Incr 2	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #17: OPA B00002 BCT Network	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #18: OPA B00003 BCT Network Incr 2	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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. #19: <i>OPA F00001 BCT Unmanned Ground Vehicle</i>											
• Ord. #20: <i>OPA F00002 BCT Unmanned Ground Vehicle Incr 2</i>	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing
• Ord. #21: <i>OPA G80001 BCT Training/Logistics/Management</i>	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: <i>OPA G00002 BCT Training/Logistics/Management Incr 2</i>	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: <i>MSLS C64501 BCT NLOS-LS Incr 1</i>	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
• Ord. #24: <i>MSLS C64601 BCT NLOS-LS Incr 2</i>	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

**D. Acquisition Strategy**

A 23 June 2009 Acquisition Decision Memorandum (ADM) directed the cancellation of the FCS (BCT) acquisition program. It also instructed the Army to transition to an Army modernization plan consisting of a number of integrated acquisition programs. At that time, the SO E-IBCT was designated a pre-MDAP, with a Milestone C decision scheduled for the first quarter FY 2010. A follow-on ADM was issued 9 July 2009. In it, the Army was directed to continue efforts to improve the brigades beyond the Early Infantry Brigade Combat Team acquisition until a standalone program(s) is defined later in 2010. An Army BCT Modernization Defense Acquisition Board (DAB) was then held on October 16, 2009 to review the Army's plans for the post-Future Combat Systems efforts and confirm the Army brigade modernization acquisition plans were consistent with the Secretary of Defense's guidance. An ADM issued after this DAB stated: "The approach, for Increment 1 (Early-Infantry Brigade Combat Team (E-IBCT)) and the Ground Combat Vehicle (GCV) effort, is consistent with the Secretary's guidance and each is being positioned for more in-depth review and acquisition decisions later in 2009." The Increment 1 E-IBCT Milestone C took place 22 December 2009 and was approved in an ADM dated 24 December 2009. The Program Executive Officer-Integration (PEO-I) has modified the existing contract to be compliant with the aforementioned ADMs. This budget justification reflects the Milestone C approved Increment 1 (E-IBCT) program and the follow-on IBCT modernization program planned by the Army.

**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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>				<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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			
Class I	C	Boeing Co. St. Louis, MO See Remark 1	0.000	34.391		50.304		0.000		50.304	Continuing	Continuing	0
Class IV	C	Boeing Co. St. Louis, MO See Remark 2	0.000	22.003		0.000		0.000		0.000	Continuing	Continuing	0
MQ-8B FIRESOUCOUT	C/TBD	TBD See Remark 3 Location could not be determined.	0.000	6.800		0.000		0.000		0.000	Continuing	Continuing	0
Class IV Special Termination Costs	C	Boeing Co. St. Louis, MO	0.000	10.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	73.194		50.304		0.000		50.304			0.000

**Remarks**

Remark 1: Subcontractor: Honeywell International, Inc - Albuquerque, New Mexico  
 Remark 2: Subcontractor: Northrop Grumman Unmanned Systems - San Diego, CA  
 Remark 3: With cancellation of Class IV, the program cannot utilize the MQ-8B Firescout earmarked funding provided by Congress.

**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			
SBIR/STTR	C	OSD Location could not be determined.	0.000	1.913		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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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			
Adjustment to budget years	C	ABO Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.913		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	75.107		50.304	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>
<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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
Increment 1 Total Program Tasks			#	#	#	#	#	#	#	#	#	#																
Incr 1 Limited User Test FY 09			#																									
Incr 1 STX / FDT&E / LUT 10					#	#																						
Incr 1 Milestone C				#																								
Incr 1 Production Contract Award				#																								
Incr 1 Production Delivery						#	#	#	#	#																		
Incr 1 Initial Operational Test & Evaluation											#																	
Incr 1 First Unit Equipped											#																	
Incr 1 Initial Operational Capability												#																
Increment 2 Total Program Tasks									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Incr 2 CDR									#																			
Incr 2 FDT&E / STX / LUT 13													#	#														
Incr 2 Milestone C																#												
Incr 2 Initial Operational Capability																											#	
Incr 1 Program Tasks			#	#	#	#	#	#	#	#	#	#																
Class I E-IBCT CDR (Old date)			#																									
Class I E-IBCT Prototypes (Old date)		#																										
Class I E-IBCT IQT (Old date)	#	#	#																									
Class I E-IBCT UAV Airworthiness Approval				#																								
Class I T-IBCT CDR						#																						

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</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	
Class I T-IBCT Prototype Deliveries (10)											#	#	#																
Class I T-IBCT Qualification Testing (IQT)											#	#	#	#	#														
Class I T-IBCT Airworthiness Approval (Old date)																#													
Class IV UAV Critical Reviews - CDR						#																							
Class IV UAV Prototype Deliveries (8)										#	#																		
Class IV UAV Initial Qualification Testing (IQT)										#	#	#	#	#															
Class IV UAV Airworthiness Approval											#																		

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Increment 1 Total Program Tasks	3	2009	3	2011
Incr 1 Limited User Test FY 09	3	2009	3	2009
Incr 1 STX / FDT&E / LUT 10	2	2010	3	2010
Incr 1 Milestone C	4	2009	4	2009
Incr 1 Production Contract Award	1	2010	1	2010
Incr 1 Production Delivery	3	2010	2	2011
Incr 1 Initial Operational Test & Evaluation	3	2011	3	2011
Incr 1 First Unit Equipped	3	2011	3	2011
Incr 1 Initial Operational Capability	1	2012	1	2012
Increment 2 Total Program Tasks	2	2011	2	2015
Incr 2 CDR	2	2011	2	2011
Incr 2 FDT&E / STX / LUT 13	3	2012	4	2012
Incr 2 Milestone C	2	2013	2	2013
Incr 2 Initial Operational Capability	2	2015	2	2015
Incr 1 Program Tasks	3	2009	3	2011
Class I E-IBCT CDR (Old date)	3	2009	3	2009
Class I E-IBCT Prototypes (Old date)	2	2009	2	2009
Class I E-IBCT IQT (Old date)	1	2009	3	2009

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604662A: <i>FCS Reconnaissance (UAV)</i> <i>Platforms</i>	<b>PROJECT</b> FC3: <i>FCS RECONNAISSANCE (UAV)</i> <i>PLATFORMS</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
Class I E-IBCT UAV Airworthiness Approval	1	2010	1	2010
Class I T-IBCT CDR	3	2010	3	2010
Class I T-IBCT Prototype Deliveries (10)	3	2011	1	2012
Class I T-IBCT Qualification Testing (IQT)	3	2011	3	2012
Class I T-IBCT Airworthiness Approval (Old date)	4	2012	4	2012
Class IV UAV Critical Reviews - CDR	2	2010	2	2010
Class IV UAV Prototype Deliveries (8)	2	2011	3	2011
Class IV UAV Initial Qualification Testing (IQT)	2	2011	2	2012
Class IV UAV Airworthiness Approval	3	2011	3	2011

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</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	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	853.534
FC4: <i>FCS UNMANNED GROUND VEHICLES</i>	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	Continuing	Continuing

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

There are three products covered by the Unmanned Ground Vehicle (UGV) Program Element: the family of Multifunction Utility/Logistics Equipment (MULE) platforms, the Small Unmanned Ground Vehicle (SUGV) platform, and the Autonomous Navigation System (ANS). Small Unmanned Ground Vehicle (SUGV), designated as the XM-1216, is a lightweight (32 lbs), man-portable, DC powered UGV capable of conducting Military Operations in Urban Terrain (MOUT) to include tunnels, sewers, and caves. The SUGV provides an unmanned capability for those missions that are manpower intensive or high-risk such as Urban Intelligence, Surveillance, and Reconnaissance (ISR) missions in a MOUT environment and Chemical/Toxic Materials reconnaissance missions without exposing soldiers directly to the hazard. SUGV IBCT Increment 1 (IBCT INC 1): The Army has included the current SUGV IBCT INC 1 configuration into Spin Out to the IBCT. The IBCT INC 1 SUGV does not meet all of the INC 1 Capability Production Document (CPD) threshold requirements. The Army believes that the current level of technology will still greatly enhance our Soldiers' capabilities on the battlefield. The SUGV IBCT INC 1 features an enhanced SUGV chassis with an integrated Commercial off the Shelf (COTS) sensor head and radio. The procurement and fabrication of the SUGV prototypes for testing were purchased as part of this development effort in FY08. SUGV IBCT Increment 2 (IBCT INC 2): The SUGV configuration for IBCT INC 2 is based on the INC1 CPD objective requirements. It will weigh 32 pounds and is capable of carrying up to 4 lbs of payload weight. The SUGV will have the following capabilities: a harden militarized EO/IR sensor to meet stringent day & night detection of enemy personnel & systems, a NSA compliant radio, provide grid location of the enemy, tether payload, manipulator arm, Chemical, Radiological, Nuclear (CRN) capabilities and the potential for integrating future technologies for Laser Target Designator (LTD), Sense Through the Wall (STTW) and Mine/Unexploded ordnance (UXO)/Improvised Explosive Device (IED) detection ability. The SUGV will utilize the Common Controller for command & control and connectivity to the network to pass battlefield images to higher headquarters for situational awareness. The SUGV can operate up to 6 hours on a single charge (two BB2590 batteries). Multifunction Utility/Logistics Equipment (MULE) IBCT Increment 2: The MULE vehicle is a 3.5-ton UGV that will support dismounted and mounted operations. The MULE consists of three major components: Common Mobility Platform, Autonomous Navigation System (ANS), and two mission equipment packages (MEPs)/variants. The three variants sharing a common mobility platform are: MULE-Countermine (MULE-CM), MULE-Transport (MULE-T) and the Armed Robotics Vehicle-Assault-Light (ARV-A (L)). The MULE-CM and MULE-T configurations were terminated in Jan 2010 by the Army. The ARV-A (L) is a lethal platform with two weapon systems: the M240 Machine Gun & two Javelin missiles. The ARV-A-L will employ a target acquisition package to include aided target recognition. This integrated package will support the dismounted infantry and mounted operations providing the capability to locate and destroy enemy platforms and positions. The ARV-A(L) is CH-47 transportable and designed to maintain hard surface road-speeds of up to 65 KPH. The ARV-A (L) will be fielded as part of IBCT INC 2 and is based on current TRADOC defined requirements. Autonomous Navigation System (ANS) IBCT Increment 2: ANS is the mission sensor and computational package that will be integrated on the ARV-A (L) to provide robotic semiautonomous capability. The ANS primary system components are: Laser Radar (LADAR) Imaging Perception Module (LIPM), Imaging Perception Module (IPM), Millimeter Wave Radar (MMWR), GPS/INS, Self-Cleaning System, Precision Timing Module, and the ANS

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>
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Computer System (ACS). ANS provides Global Positioning System (GPS)/Inertial Navigation System (INS) for core navigation, targeting support and timing. ANS provides the sensors and software processing for unmanned operations for day, night, all weather conditions and the platform mobility control for on/off roads, cross country and complex terrain. MMWR provides tracking in rain, smoke, or fog along with an early warning for approaching vehicles with high closing rates. ACS provides SoSCOE interface, path planning, video processing, hardware sensor processing, object processing and platform speed and curvature commands. The ANS software development baseline is a phased approach consisting of three builds. Build 1 supported simulation and early prototypes using external waypoints at limited speeds. Increment 2, Phase 1 supports emulator and prototype operational hardware to support entry into Mule IQT in 2011. INC 2, Phase 2 will meet all ANS threshold ORD requirements for platform speed, terrain types and operational modes: semiautonomous and leader-follower. ANS for unmanned platforms will be incorporated into IBCT INC 2. In July 2009, the ANS effort associated with Manned Ground Vehicle (MGV) integration was terminated. The ARV-L will include the following C4ISR systems: Joint Tactical Radio System (JTRS)/Ground Mobile Radio (GMR) radios, Integrated Computer System (ICS), Medium Range EO/IR sensor and the Acoustic sensor. The SUGV will incorporate the following C4ISR systems: HMS radios, EO/IR sensor, and Chemical, Radiological & Nuclear (CRN) sensor. IN FY09 and FY10 these are funded by PE 0604665A FC6 (Networks). In FY11 they are included in the platform PE.

**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	102.976	125.616	42.517	0.000	42.517
Current President's Budget	104.571	124.962	249.948	0.000	249.948
Total Adjustments	1.595	-0.654	207.431	0.000	207.431
• Congressional General Reductions		-0.654			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	4.300	0.000			
• SBIR/STTR Transfer	-2.705	0.000			
• Adjustments to Budget Years	0.000	0.000	207.431	0.000	207.431

**Change Summary Explanation**

Change Summary Explanation: Funding: FY11: Program made a Work Breakdown Structure realignment to meet the Congressional request to have the contractor's fee spread to the individual Program Elements

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>				<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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>
FC4: <i>FCS UNMANNED GROUND VEHICLES</i>	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b> Not applicable for this item.											
<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 SUGV FY 09 INC 1 - SUGV completed Characterization Testing at Aberdeen Proving Grounds 3Q FY09. 15 SUGV INC1 systems were used to support the INC1 TFT A-C, FDT&E, and LUT 09. In addition, these 15 SUGV systems were also used by the AETF to conduct Platoon and Company Situational Training Exercises. SUGV FY09 INC 2- Continued SUGV INC 2 design efforts in support of SUGV Critical Design Review (CDR) scheduled for 3QFY10. Developed design and program artifacts to support the CDR to insure that the SUGV INC 2 CDR design meets the Prime Item Development Specifications (PIDS) requirements. Continued the effort to integrate the Electro Optical/Infrared (EOIR) and other components into the SUGV design prior to the CDR. Drawings completed to date is 300. Conducted Engineering and Manufacturing Readiness Level (EMRL) 2 assessment of production planning maturation activities for the SUGV system to support CDR and development of Production Plans to include schedules and capacity planning. Implemented Cost Reduction Initiatives such as Lean and producibility trades to meet Average Unit Procurement Cost (AUPC) targets. Completed design of the SUGV system leading up to the SUGV CDR in 3Q FY10 to include completing the E-TESS sensor design and completion of all Interface Control Documents (ICDs). Contracts for the Laser Target Designator (LTD) and Chemical, Radiological, Nuclear (CRN) were put in place to begin payload development. Design Verification Testing planning was initiated. Completed Design Producibility analysis and incorporation into trade studies.							13.574	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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>Developed engineering changes to support lessons learned from field testing with SUGV INC 1 units. Continued internal testing of SUGV INC 2 components leading up to the Critical Design Review (CDR) in 3Q FY10. These components included drive motors, circuit cards, head and neck assembly, Manipulator Arm and the Fiber Optic Tether payloads.</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>SUGV FY09 (continued) - Also tested the new functionality and design upgrades associated with Preliminary Design Review (PDR) closeout, Continued development of the Build 2 software for SUGV. Conducted LCA review for Build 2 Software. Build 2 Test Readiness Review (TRR) was conducted in 4Q FY09. Build 2 simulation software was delivered in 4th qtr FY09. Began integration of Build 2 Final (B2F) software with SUGV prototypes. Build 2 Final (B2F) capabilities include: power up and initialization, configure SUGV Network Elements, establish SUGV Control, control Integrated SUGV Maneuver, Flippers, Head Neck and pose change, Mode Transition/basic maintenance, Basic manual Electric Optical/Infrared (EO/IR), Imagery collection. Began requirement definition for Software Build 3. Began requirement definition for Software Build 3.</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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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>SUGV FY10 IBCT Increment 1 - Supported successful MS C for the IBCT INC 1 in 1QFY10. Refurbish, after completion of FY09 Limited User Test (LUT), the 15 Spinout Prototype units to support the FY10 LUT. Refurbishment includes upgrades to software, replacement of components in response to design changes and test/checkout to ensure the units are functional. The 15 Spinout units will be used to support soldier training, and platform integration in FY10. Characterization testing will be conducted on Three (3) IBCT INC 1 units at Aberdeen Proving Ground scheduled for 1QFY10. The program will build six additional Increment 1 units to support LUT testing in FY10 at Ft. Bliss. IBCT INC 1 will utilize Build 1 software and Ruggedized Personal Data Assistants (PDAs); the SUGV controller will provide images to an external port that can then be captured by the PDA and sent to the external network. SUGV units will support testing of alternative radio solutions in 2QFY10.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	3.614	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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>		<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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  SUGV FY10 IBCT Increment 2 -Develop and mature SUGV INC 2 design of manipulator arm and tether spooler payloads, militarized head and integration of the EO/IR sensor and Handheld Manpack and Small form fit (HMS ) radio. Conduct Critical Design Review 3Q FY10. Begin procurement of material for six prototype builds in 4Q 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				0.000	8.690	0.000	0.000	0.000
Program #5				0.000	0.000	14.131	0.000	14.131

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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>SUGV FY 11 IBCT Increment 2 - Complete the engineering tasks and analysis from the SUGV CDR design review to enable the contractor to proceed to the build of the SUGV platforms for IBCT INC 2 IQT. Complete integration, build and checkout of the EO/IR sensor, Handheld Manpack &amp; Small form fit (HMS) radio, and payloads. Begin IQT testing using the six IBCT INC 2 prototypes in 4QFY11-2QFY12. Complete Functional Qualification Test (FQT) of Build 3 operational software. Provide closure of software problem reports (SPRs) and software-hardware integration in support of the platform IQT scheduled for completion in 3Q FY12. Begin development of Build 3 modeling and simulation software. Support interface definition activities for Build 3. Deliver six prototypes in FY11.</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 #6</p> <p>Ground Sensors Integrator Hardware FY11 IBCT Increment 2 - Commence procurement of 15 ALASs (14 prototypes and 1 spare) for ARV-A(L) with delivery in FY11. Delivery of 8 MREOs (7 prototypes and 1 spare) for ARV-A(L) . Conduct Production Readiness Review (PRR) for MREO/ALAS ARV-A(L). Support Ground Sensor Suite (GSS) integration and test. Support platform integration and test. Prior to FY11 all Ground Sensor Hardware included in Networks PE 0604665A FC6.</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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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						
<b>Program #7</b>  MULE FY09 - Continued preparation for Critical Design Review (CDRs), including 938 drawings, on MULE-Transport, MULE-Countermine, and ARV-A (L). Drawings included 434 drawings for the Common Mobility Platform, 75 for the MULE-T, 280 for ARV-A (L), and 144 for the MULE-C. Completed MULE Subsystem CDRs. Supported Tire/Wheel Combination Tire (TWEEL) (non-pneumatic tire) Testing with Engineering Evaluation Unit (EEU). Completed Manufacturing Plan and Prototyping Facilities upgrade. Completed Producibility Assessments for the chassis, equipment bay, Mission Equipment Packages (MEPs), Power Distribution management System (PDMS), Vehicle Management System (VMS), cabling, connectors, and harnesses. Engineering and Manufacturing Readiness Level (EMRL) 2 assessment of production planning maturation activities to support CDR, and development of Production Plans for vehicle integrator and major subtier suppliers to include schedules and capacity planning. Initiated design of special inspection and test equipment. Completed Thermal Management System PDR. Completed final structural, thermal, and dynamic analyses. Released hardware detailed drawing package with 938 drawings. Progressed detailed design toward 2QFY10 CDR. Performed Design Verification Testing. Completed Design Producibility analysis and incorporation into trade studies. Began Long Lead Items procurement of subsystems (engine and suspension) to support FY10 build and delivery of 16 prototypes including 5 MULE-T, 5 MULE-CM, and 6 ARV-A(L).		42.404	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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 functionality planning for both Phase 1 and Phase 2. Completed software requirements definition for Phase 1 including Vehicle Control and On-Board Sensor Control Requirements.</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>ARV-L FY10 IBCT Increment 2 - Complete subsystems Critical Design Review (CDRs) for PPS, ITMS, and Mobility. Conduct system level CDR for ARV-A (L). Design, Develop and Test a surrogate ARV-A(L) prototype. Build ARV-A(L) platform mock-up. Complete vehicle final assembly design, top level drawings and any remaining detail part drawings. Complete Engineering and Manufacturing Readiness Level (EMRL) 2 assessments and update Industrial Capabilities Assessment (ICA) to support CDR. Develop Prototype Pilot line development to include work instruction development, and acceptance test procedure development Begin assembly and fabrication of prototype hardware to support delivery of ARV-A (L) prototypes in FY11. Receive initial subsystem deliverables. Complete design and integration of BAE Power and Propulsion System, Advanced Integrated Systems M240 Remote Operating Kit, and MillenWorks suspension. Conduct final integration and checkout of common mobility platform (chassis) and begin integration and assembly of first Integrated Qualification Test (IQT) vehicle. Prepare subsystem Acceptance Test Plans (ATPs). Conduct development testing of detail parts and Line Replaceable Units (LRUs). Complete subsystem qualification testing. Begin</p>		0.000	64.370	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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>integration of C4ISR, ANS &amp; CC software in Hardware in the Loop (HWIL). Completed Increment 2 Phase 1 Software Build Definition Checkpoint November 18, 2009. Conduct IBCT INC 2 Phase 1 ARV-A (L) Software Life Cycle Architecture (LCA) and Build Readiness Checkpoint (BRC). Phase 1 software functionality includes vehicle control functionality such as power up, states and modes, manual and tether vehicle control, waypoint plan and teleops. Conduct IBCT INC 2 Phase 2 Life Cycle Objectives (LCO), Build Definition Checkpoint (BDC), LCO and Build Planning Checkpoint (BPC), which includes Weapons control, Platform IA and Countermeasure functionality and requirements. Begin IBCT INC 2 Phase 1 software integration and 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 #10</p> <p>ARV-A(L) FY10 IBCT Increment 2 (continued) - IBCT INC 2 Phase 2 addresses: control Mine Search Operations, Arm/Safe Weapon/Check Fire and End Engagement; Management of CRN Data and Javelin Video; Weapon Aim/Firing/Selection; Sensor Alignment; Meteorological Data; Deconflict Fires; Situation Awareness; Low Latency EO/IR Laser Range Finder; Laser Designation/Target Tracking; Anti Tamper and Counter-Measures Deployment. MULE-CM and MULE-T platforms were terminated in Jan 2010. This cost element includes "other" termination costs associated with MULE-CM and MULE-T.</p>		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 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>ARV-A(L) FY11 IBCT Increment 2 - Complete the engineering effort for integration of all sensors, payloads, battle command software, network communications and Common Controller for ARV-A-L. Deliver 9 ARV-A(L) prototypes. Verify integration of all allocated subsystems: (EO/IR, Radio/Waveform, ICS, M240 ROK, Javelin Vehicle Launcher (JVL), for IQT testing. Test and validate software build functionality with prototypes. Support preparation for IBCT INC 2 level testing of prototypes (Technical Field Test (TFT), Force Development Testing &amp; Experimentation (FDTE) &amp; Limited User Test (LUT)) scheduled for FY12. Assess durability of prototypes during test evaluations in support of RAM-T. Continue development of IBCT INC 2 Phase 1 operational software, including the Vehicle Control Services (VCS), Mobility Control Services (MCS) and Power &amp; Propulsion Services (PPS). Begin integration with the ICS Type VII, SoSCOE Standard Edition, and BCS Build 2 Final software following the Network System Qualification Test (NSQT) scheduled in 4Q FY10. FQT and release IBCT INC 2 Phase 1 operation software in 3Q FY11 prior to ARV-A (L) IQT. Provide closure of SPRs and software-hardware integration in support of the platform IQT scheduled for completion in FY13. FQT and release IBCT INC 2 Phase 1 platform simulations in 1Q FY11 to support software-software, hardware-software and system integration activities conducted in the NSIT and SoSIL labs. Begin IBCT INC 2 Phase 1 operation and simulation software development. Support interface definition activities for IBCT INC 2 Phase 2. Begin</p>		0.000	0.000	135.379	0.000	135.379

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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>preparing for the FQT and release of IBCT INC 2 Phase 2 operational software and platform simulations. Conduct integration and validation of IBCT INC 2 Phase 2 software in support of Mission Equipment Packages for the ARV-A (L) to demonstrate functionality of payloads for IQT and SoS Testing: M240, JAVELIN, Medium Range EO/IR sensor. Conduct ARV-A (L) IBCT INC 2 Phase 2 LCA and Build Readiness Checkpoint (BRC.)</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 #12</p> <p>ARV-A(L) FY11 IBCT Increment 2 (continued) - Continue IBCT INC 2 Phase 1 software integration and testing and begin IBCT INC 2 Phase 2 software integration and testing.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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 #13  MULE-CM & MULE-T Special Termination - Special termination costs include severance pays, settlement expenses, and return of field service representatives.  <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	2.500	0.000	0.000	0.000
Program #14  ANS FY09 - Continued to conduct weight reduction initiative to address size, weight and power allocation challenges. Finalized coordination of ICD efforts with MULE platforms. Implemented design changes from early Engineering Development Unit (EDU) testing. Facilitized final integration and test site for prototype Pilot line development. Completed thermal and armor analyses. Released first portion of hardware detailed drawing package containing 300 drawings. Began prototype long-lead item procurement to support build of 15		48.593	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>Engineering Development Units to be completed by May 2010. A total of fourteen emulators were produced and delivered to the MGVS Systems Integration Labs (SIL) and the MULE SIL, and three ANS emulators with (18) cameras to the MGVS SIL. Thirty-nine Global Positioning System/Inertial Navigation System (GPS/INS) Phase II units procured as long lead items per GPS/INS Configuration Item Development Specifications (CIDS) requirements necessary for MULE IQT's. Due to termination of MGVS effort, emulators originally planned for MGVS efforts may be used in other areas of the program for risk reduction. Conducted ANS Robotic Convoy Experiment IIB at WSMR to incorporate algorithm updates, leader-follower activities with up to three vehicles, continuous operations, night time human detection exercises, negative obstacle detection experiments, and negotiations of slopes and hills. Began ANS Integration and Test on Emulators. Completed plan to change Build 2 focus from Simulation to Operational. Completed Build 2 Operational requirements analysis and design and conducted an architecture review in 2Q FY09. Started Build 2 Operational design and completed Build 2 SIM design, and conducted Build 2 Simulation Life Cycle Architecture (LCA) in 3rd Qtr. Started Build 2 Simulation construction in 3rd Qtr.</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 #15		0.000	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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>ANS FY09 (continued) - The ANS Build 2 addresses: Basic power up and self test; Simple/basis PS-MRS report status; GPS/INS encryption key entry; Initial render useless emulation; Navigation state reporting; Remote operations; Blind waypoint following; Obstacles avoidance; Obstacles negotiation and Follow Vehicle leader.</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 #16</p> <p>ANS FY10 - IBCT Increment 2 - ANS CDR planned for 2nd qtr FY10. Complete final assembly and detail part drawing release and revision of the remaining 250 drawings. Complete Physical Configuration Audit (PCA) for all prototype hardware components. Finalize coordination of ICD efforts including Part II ICDs and complete review of 94 artifacts and 41 data items in preparation for CDR. Begin tooling design, fabrication and proofing. Continue long lead-time procurement of hardware and begin fabrication/assembly to support prototype builds for delivery of 20 units to MULE in FY11. Based on termination of MULE-CM and MULE-T, the Army will reduce number of prototypes to about 10 units to support ARV-A(L). Implement Manufacturing Plan for ANS Computer System (ACS), Imaging Perception Module (IPM), and Laser Radar (LADAR) Imaging Perception Module (LIPM) enclosures; internal cabling; and integration of long lead items. Conduct assembly, integration and developmental testing of detail parts. ANS Prototype environmental testing begins 1Q FY10. Begin contractor testing of prototype components. Initiate planning and support for the IQT scheduled in FY11. Complete</p>		0.000	42.289	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>construction of IBCT INC 2 Phase 1 software, followed by FQTs of simulation and operational code scheduled for 4Q FY10. Conduct INC 2 Phase 2 operational/simulation software architecture reviews in 1Q FY10. Begin IBCT INC 2 Phase 2 coding in 1QFY11 and preparation for a Test Readiness Review. Perform IBCT INC 2 Phase 2 Operational requirements analysis; conduct objectives and architecture reviews in 3Q and 4Q FY10, respectively; and begin software construction in 4QFY10.</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 #17</p> <p>ANS FY11 IBCT Increment 2 - Closeout final CDR action items. Support integration in accordance with ICDs and execution of ARV-A (L) . Implement design changes that result from lessons learned from IQT to ensure the ANS system is prepared for Milestone C and LRIP. Complete procurement and fabrication of prototype hardware to support delivery of 10 prototype sets (IPMs, LIPMs, GPS/INS, and ACS) for integration and IQT. Assess performance and durability of prototype components during test evaluations in support of RAM-T development. Test and validate software performance at the system level. Support preparation for SoS testing (TFT, FDTE &amp; LUT). Continue to provide closure of software problem reports (SPRs) and software-hardware integration with the ANS prototype (P1) and ARV-A(L) platform integration. Continue ANS IBCT INC 2 Phase 2 software construction, and begin preparing for the IBCT INC 2 Phase 2 TRR and FQT scheduled in 1QFY12. Support</p>		0.000	0.000	54.283	0.000	54.283

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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>
software testing/integration and build checkpoints. Conduct IBCT INC 2 Phase 2 Test Readiness Review in 1QFY11.  <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 #18  CONTRACTOR FEE FY11 - Moved from System of Systems Engineering consists of prime contractor fee for remaining work in FY11.  <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	20.379	0.000	20.379

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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 #19 GOVERNMENT FY11- Special independent studies to determine improvements reliability, availability and maintainability (RAM) improvements to ARV-A(L).  <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	3.430	0.000	3.430
Program #20 IED COUNTERMEASURE DEV FY11 - Initiated planning efforts to support of Chief of Staff of the Army's Counter IED/Route Clearance initiative. Leveraging work done on existing MULE prototypes, ANS and GSTAMIDS; and work from TARDEC and RDECOM. Evaluating both a short term and long term strategy to meet the requirements of the Army. Strategy will evaluate current and future IED detection threats and capabilities.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	22.346	0.000	22.346

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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 #21 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	3.499	0.000	0.000	0.000
<b>Accomplishments/Planned Programs Subtotals</b>		104.571	124.962	249.948	0.000	249.948

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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>0604646A Non Line of Sight - Launch System</i>	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	512.290
• Ord. #2: <i>0604647A Non Line of Sight - Cannon</i>	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
• Ord. #3: <i>0604660A FCS Manned Grd Vehicles &amp; Common Grd Vehicle Components</i>	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860
• Ord. #4: <i>0604661A FCS System of Systems Engr &amp; Program Management</i>	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
• Ord. #5: <i>0604662A FCS Reconnaissance (UAV) Platforms</i>	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	0	197.572
• Ord. #6: <i>0604664A FCS Unattended Ground Sensors</i>	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	56.570
• Ord. #7: <i>0604665A FCS Sustainment &amp; Training R&amp;D</i>	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
• Ord. #8: <i>0604666A Spin Out Technology/Capability Insertion</i>	122.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	122.788
• Ord. #9: <i>0605625A - Manned Ground Vehicles</i>	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	Continuing	Continuing
• Ord. #10: <i>WTCV G86100 FCS Core Program</i>	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127
• Ord. #11: <i>WTCV G86200 FCS Spin Out Program</i>	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177
• Ord. #12: <i>WTCV G86000 Ground Combat Vehicle (GCV)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: <i>ACFTA00015 BCT Unmanned Aerial Veh (UAVs) Incr 1</i>	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	Continuing	Continuing

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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. #14: <i>ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Incr 2</i>	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	Continuing	Continuing
• Ord. #15: <i>OPA B00001 BCT Unattended Ground Sensor</i>	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing
• Ord. #16: <i>OPA B00004 BCT Unattended Ground Sensor Incr 2</i>	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #17: <i>OPA B00002 BCT Network</i>	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #18: <i>OPA B00003 BCT Network Incr 2</i>	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
• Ord. #19: <i>OPA F00001 BCT Unmanned Ground Vehicle</i>	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing
• Ord. #20: <i>OPA F00002 BCT Unmanned Ground Vehicle Incr 2</i>	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing
• Ord. #21: <i>OPA G80001 BCT Training/Logistics/Management</i>	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: <i>OPA G00002 BCT Training/Logistics/Management Incr 2</i>	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: <i>MSLS C64501 BCT NLOS-LS Incr 1</i>	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
• Ord. #24: <i>MSLS C64601 BCT NLOS-LS Incr 2</i>	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

**D. Acquisition Strategy**

A 23 June 2009 Acquisition Decision Memorandum (ADM) directed the cancellation of the FCS (BCT) acquisition program. It also instructed the Army to transition to an Army modernization plan consisting of a number of integrated acquisition programs. At that time, the SO E-IBCT was designated a pre-MDAP, with a Milestone C decision scheduled for the first quarter FY 2010. A follow-on ADM was issued 9 July 2009. In it, the Army was directed to continue efforts to improve the brigades beyond the Early Infantry Brigade Combat Team acquisition until a standalone program(s) is defined later in 2010. An Army BCT Modernization Defense Acquisition Board (DAB) was then held on October 16, 2009 to review the Army's plans for the post-Future Combat Systems efforts and confirm the Army brigade modernization acquisition plans were consistent with the Secretary of Defense's guidance.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</i>
<p>An ADM issued after this DAB stated: "The approach, for Increment 1 (Early-Infantry Brigade Combat Team (E-IBCT)) and the Ground Combat Vehicle (GCV) effort, is consistent with the Secretary's guidance and each is being positioned for more in-depth review and acquisition decisions later in 2009." The Increment 1 E-IBCT Milestone C took place 22 December 2009 and was approved in an ADM dated 24 December 2009. The Program Executive Officer-Integration (PEO-I) has modified the existing contract to be compliant with the aforementioned ADMs. This budget justification reflects the Milestone C approved Increment 1 (E-IBCT) program and the follow-on IBCT modernization program planned by the Army.</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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**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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			
Small Unmanned Ground Vehicle (SUGV)	C	The Boeing Company St Louis, MO see remark 1	0.000	12.304		135.378		0.000		135.378	Continuing	Continuing	0
Autonomous Navigation System - Software	C	The Boeing Company St Louis, MO see remark 3	0.000	42.289		14.131		0.000		14.131	Continuing	Continuing	0
MULE	C	The Boeing Company St Louis, MO see remark 2	0.000	64.370		54.283		0.000		54.283	Continuing	Continuing	0
IED COUNTERMEASURE DEV	C/TBD	TBD Location could not be determined.	0.000	0.000		22.346		0.000		22.346	Continuing	Continuing	0
CONTRACTOR FEE	C	The Boeing Company St Louis, MO	0.000	0.000		20.380		0.000		20.380	Continuing	Continuing	0
MULE-CM & MULE-T SPECIAL TERMINATION	C	The Boeing Company St Louis, MO	0.000	2.500		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	121.463		246.518		0.000		246.518			0.000

**Remarks**  
 Remark 1: Subcontractor: iRobot Corp. - Burlington, MA  
 Remark 2: Subcontractor: Lockheed Martin Missile and Fire Control - Grand Prairie, TX  
 Remark 3: Subcontractor: General Dynamics Robotic Systems - Westminister, MD

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>				<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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			
SBIR/STTR	C	OSD Location could not be determined.	0.000	3.499		0.000		0.000		0.000	Continuing	Continuing	0
Adjustments to budget Year:	C	ABO Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
GOVERNMENT OTHER SUPPORT	C	PEO Integration St Louis, MO	0.000	0.000		3.430		0.000		3.430	Continuing	Continuing	0
<b>Subtotal</b>			0.000	3.499		3.430		0.000		3.430			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	124.962	249.948	0.000	249.948			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
Increment 1 Total Program Tasks			#	#	#	#	#	#	#	#	#	#																
Incr 1 Limited User Test FY09			#																									
Incr 1 STX / FDT&E / LUT 10					#	#																						
Incr 1 Milestone C				#																								
Incr 1 Production Contract Award					#																							
Incr 1 Production Delivery						#	#	#	#	#																		
Incr 1 Initial Operational Test & Evaluation											#																	
Incr 1 First Unit Equipped											#																	
Incr 1 Initial Operational Capability												#																
Increment 2 Total Program Tasks									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Incr 2 CDR									#																			
Incr 2 FDT&E / STX / LUT 13													#	#														
Incr 2 Milestone C																#												
Incr 2 Initial Operational Capability																											#	
SUGV Block 1 Prototype Deliveries		#																										
SUGV Block 1 TFT/FDTE/LUT		#	#																									
SUGV Threshold CDR					#																							
SUGV Threshold Prototype Build/Delivery								#																				
SUGV Threshold IQT												#																
SUGV Threshold TFT/FDTE/ LUT												#	#															

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</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
ARV A(L)/MULE-CM CDR					#																							
ARV A(L)/MULE-CM Prototype BUILD/ Deliveries											#	#																
ARV A(L)/MULE-CM IQT									#	#	#	#	#	#	#													
ARV A(L)/MULE-CM TFT/FDTE/LUT													#	#														
ANS Critical Reviews - CDR					#																							
ANS Prototype Build/Delivery									#	#	#																	

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604663A: <i>FCS Unmanned Ground Vehicles</i>	<b>PROJECT</b> FC4: <i>FCS UNMANNED GROUND VEHICLES</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Increment 1 Total Program Tasks	3	2009	3	2011
Incr 1 Limited User Test FY09	3	2009	3	2009
Incr 1 STX / FDT&E / LUT 10	2	2010	3	2010
Incr 1 Milestone C	4	2009	4	2009
Incr 1 Production Contract Award	1	2010	1	2010
Incr 1 Production Delivery	3	2010	2	2011
Incr 1 Initial Operational Test & Evaluation	3	2011	3	2011
Incr 1 First Unit Equipped	3	2011	3	2011
Incr 1 Initial Operational Capability	1	2012	1	2012
Increment 2 Total Program Tasks	2	2011	2	2015
Incr 2 CDR	2	2011	2	2011
Incr 2 FDT&E / STX / LUT 13	3	2012	4	2012
Incr 2 Milestone C	2	2013	2	2013
Incr 2 Initial Operational Capability	2	2015	2	2015
SUGV Block 1 Prototype Deliveries	2	2009	2	2009
SUGV Block 1 TFT/FDTE/LUT	2	2009	3	2009
SUGV Threshold CDR	2	2010	2	2010
SUGV Threshold Prototype Build/Delivery	1	2011	1	2011

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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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Event	Start		End	
	Quarter	Year	Quarter	Year
SUGV Threshold IQT	1	2012	1	2012
SUGV Threshold TFT/FDTE/ LUT	1	2012	2	2012
ARV A(L)/MULE-CM CDR	2	2010	2	2010
ARV A(L)/MULE-CM Prototype BUILD/Deliveries	3	2011	4	2011
ARV A(L)/MULE-CM IQT	2	2011	3	2012
ARV A(L)/MULE-CM TFT/FDTE/LUT	1	2012	2	2012
ANS Critical Reviews - CDR	2	2010	2	2010
ANS Prototype Build/Delivery	4	2010	2	2011

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</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	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	64.085
FC5: <i>FCS UNATTENDED GROUND SENSORS</i>	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	Continuing	Continuing
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>The FCS BCT Unattended Ground Sensors (UGS) program is divided into two major configurations of sensing systems: URBAN-UGS (U-UGS), also known as Urban Military Operations in Urban Terrain (MOUT) Advanced Sensor System (UMASS); and TACTICAL-UGS (T-UGS), which includes Intelligence, Surveillance and Reconnaissance (ISR)-UGS and Chemical, Biological, Radiological and Nuclear (CBRN)-UGS. U-UGS - Will provide a low cost, network-enabled reporting system for Situational Awareness (SA) and force protection in an urban setting, as well as residual protection for cleared areas of urban MOUT environments. The U-UGS system can support BCT operations by monitoring urban choke points such as rooms, halls, attics, basements, sewers, culverts, tunnels, caves, and alleyways. They can be hand-emplaced by Soldiers or robotic vehicles either inside or outside buildings and structures. When a platoon or squad clears a building, U-UGS are left behind to perform surveillance that would otherwise require dedicated soldiers. The U-UGS system provides a self-organizing wireless network that consists of three configuration items; personnel detect sensors, imaging sensors, and gateways: 1. Personnel Detect Sensors provide dual mode, passive infrared and RF microwave motion sensing for "trip-wire" detection of intruders. 2. Imaging Sensors provide electro-optical visual imaging with a near-infrared illuminator for operation in full darkness. 3. Gateways organize and manage the sensor network, and communicate sensor data to FCS C2 Joint Tactical Radio System (JTRS) systems and to the local dismounts. T-UGS - Tactical-UGS (T-UGS) includes Intelligence, Surveillance and Reconnaissance (ISR)-UGS and Chemical, Biological, Radiological and Nuclear (CBRN)-UGS. The UGS (T-UGS) are designed for remote tactical operations in open spaces, at road choke points, avenues of approach, etc, and are designed to be emplaced by hand or by remote deployment methods. T-UGS provides ISR and CBRN awareness to the FCS (BCT) areas not covered by manned/unmanned ground/air vehicles. Packaging the common form factor enables simplified scalability and upgrade paths for future technology insertion, while the distributed sensing capability enhances mission flexibility and system versatility. The T-UGS system consists of five configuration items (nodes), each containing a unique set of sensing capabilities, and sharing a common hardware form factor. 1. The T-UGS ISR sensor node provides for vehicle and personnel detection capabilities via seismic, acoustic and magnetic sensors. Seismic sensors are the primary means of personnel detection. The principal means of vehicle detection and tracking are the acoustic bearing sensors. The ISR-UGS will be modular and composed of tailorable sensor groups using multiple ground-sensing technologies. Multiple sensors support precision location and simultaneous tracking of multiple targets. 2. When confirmed as a valid target of interest, Electro Optical/Infrared (EO/IR) sensor nodes will autonomously capture multiple images of the target. 3. The CBRN node provides for chemical, biological, radiological, and nuclear sensing and reporting capabilities. 4 The final component of the T-UGS system is the Long-Haul gateway node that provides radio communications and integration into the FCS network. T-UGS and U-UGS are both included in Increment 1 and Increment 2. T-UGS and U-UGS meet threshold requirements in increment 1 CPD. Increment 2 requirements are defined as objective requirement in increment 1 CPD.</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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</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	17.011	26.919	16.337	0.000	16.337
Current President's Budget	20.135	26.778	7.515	0.000	7.515
Total Adjustments	3.124	-0.141	-8.822	0.000	-8.822
• Congressional General Reductions		-0.141			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	3.600	0.000			
• SBIR/STTR Transfer	-0.476	0.000			
• Adjustments to Budget Years	0.000	0.000	-8.822	0.000	-8.822

**Change Summary Explanation**

Change Summary Explanation: FY09: Congress approved reprogramming request for additional funds to the program's higher priority needs FY10: Congress reduced the 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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</i>				<b>PROJECT</b> FC5: <i>FCS UNATTENDED GROUND SENSORS</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>
FC5: <i>FCS UNATTENDED GROUND SENSORS</i>	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b> Not applicable for this item.											
<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  T-UGS/U-UGS FY09:- Design of New Form Factor (NFF) T-UGS, consisted of more producible configuration (Less Production Costs). NFF improved hand emplacement, concealment and increased flexibility in deployed assets. Improved algorithms increase sensitivity and target identification. New Long Haul antenna, New Radio, New Seismic Spike. Integrated New Form Factor into Battle Command Network. Delivered two prototype sets of new form factor hardware. Completed Procurement for Base Engineering Build; Base Configuration Item Engineering Tests; Electro Optical Combat Intelligence Engineering Tests; Engineering Radio Configuration; Improved target classification on Item Engineering Test; Seismic Engineering Tests; Engineering Short Haul Radio Performance System Test; Engineering Long Haul Radio Performance System Test; Hardware/Software Lab Integration Test; T-UGS Endurance Test; Engineering Performance Test-Developmental Performance (DP1); Engineering Long Haul/Short Haul Radio Performance Test; Operations Qualifications Test; T-UGS System Environmental Quality Tests, and Reliability Tests.  <i>FY 2009 Accomplishments:</i> FY 2009							20.135	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>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 #2</p> <p>T-UGS/U-UGS Increment 1 FY10: Oversee delivery of 14 prototypes for Test and Analysis of New Form Factor UGS (to include radio, spike, acoustic sensor, etc.) and U-UGS gateway. Complete robust reliability post test events. Support RAM-T data generation for MS-C LRIP decision and support LUT-10 activities. U-UGS SW Quality Test; U-UGS System Environmental Quality Test; U-UGS System Performance Quality Test; T-UGS System Environmental Quality Test; T-UGS System Performance Quality DP3; T-UGS Operations Qualification Tests, Reliability Tests. Delivered an additional 18 sets of UGS communication range extension prototypes to support LUT-10 efforts.</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	25.600	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</i>	<b>PROJECT</b> FC5: <i>FCS UNATTENDED GROUND SENSORS</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 #3 T-UGS/U-UGS Increment 2 FY10: Begin planning efforts to support Increment 2 . Complete systems engineering for the following tasks: Develop and validate product improvements, includes reliability growth, weight reduction activities and alternative power sources. Refurbishment of systems for AETF to continue targeted testing and training. Procure hardware improvements to support technical and operational tests. Post test support to include enhanced software upgrades, sensor node algorithm optimization and improvements to the soldier tactical carrying capability. Includes ruggedization of the range extension relay.  <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	0.428	0.000	0.000	0.000
Program #4 T-UGS/U-UGS Increment 2 FY11: Oversee delivery of improved prototype hardware to support Technical Field Tests, and further operational test. Complete engineering upgrade to HW and software configuration of the Range Extension Relay .Continued reliability growth; improved sensor/software modalities and deliver soldier carrying MOLLE packs.		0.000	0.000	7.515	0.000	7.515

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</i>	<b>PROJECT</b> FC5: <i>FCS UNATTENDED GROUND SENSORS</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 #5 Small Business Innovative Research/Small Business Technology Transfer Programs		0.000	0.750	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		20.135	26.778	7.515	0.000	7.515

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</i>				<b>PROJECT</b> FC5: <i>FCS UNATTENDED GROUND SENSORS</i>			

**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>0604646A Non-Line of Sight - Launch System</i>	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	512.290
• Ord. #2: <i>0604647A Non Line of Sight - Cannon</i>	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
• Ord. #3: <i>0604660A FCS Manned Ground Vehicles &amp; Common Grd Vehicle Components</i>	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860
• Ord. #4: <i>0604661A FCS System of Systems Eng &amp; Program Management</i>	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
• Ord. #5: <i>0604662A FCS Reconnaissance (UAV) Platforms</i>	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	0	197.572
• Ord. #6: <i>0604663A FCS Unmanned Ground Vehicles</i>	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	603.586
• Ord. #7: <i>0604665A FCS Sustainment &amp; Training R&amp;D</i>	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
• Ord. #8: <i>0604666A Spin Out Technology/Capability Insertion</i>	122.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	122.788
• Ord. #9: <i>0605625A - Manned Ground Vehicles</i>	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	Continuing	Continuing
• Ord. #10: <i>WTCV G86100 FCS Core Program</i>	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127
• Ord. #11: <i>WTCV G86200 FCS Spin Out Program</i>	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177
• Ord. #12: <i>WTCV G86000 Ground Combat Vehicle (GCV)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: <i>ACFTA00015 BCT Unmanned Aerial Veh (UAVs) Inc 1</i>	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	Continuing	Continuing
	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</i>	<b>PROJECT</b> FC5: <i>FCS UNATTENDED GROUND SENSORS</i>

**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. #14: <i>ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Inc 2</i>			29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing
• Ord. #15: <i>OPA B00001 BCT Unattended Ground Sensor</i>	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #16: <i>OPA B00004 BCT Unattended Ground Sensor Inc 2</i>	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #17: <i>OPA B00002 BCT Network</i>	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
• Ord. #18: <i>OPA B00003 BCT Network Incr 2</i>	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing
• Ord. #19: <i>OPA F00001 BCT Unmanned Ground Vehicle</i>	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing
• Ord. #20: <i>OPA F00002 BCT Unmanned Ground Vehicle Incr 2</i>	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #21: <i>OPA G80001 BCT Training/Logistics/Management</i>	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #22: <i>OPA G80002 BCT Training/Logistics/Managmeent Incr 2</i>	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
• Ord. #23: <i>MSLS C64501 BCT NLOS-LS Inc 1</i>	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing
• Ord. #24: <i>MSLS C64501 BCT NLOS-LS Inc 2</i>	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

**D. Acquisition Strategy**

A 23 June 2009 Acquisition Decision Memorandum (ADM) directed the cancellation of the FCS (BCT) acquisition program. It also instructed the Army to transition to an Army modernization plan consisting of a number of integrated acquisition programs. At that time, the SO E-IBCT was designated a pre-MDAP, with a Milestone C decision scheduled for the first quarter FY 2010. A follow-on ADM was issued 9 July 2009. In it, the Army was directed to continue efforts to improve the brigades beyond the Early Infantry Brigade Combat Team acquisition until a standalone program(s) is defined later in 2010. An Army BCT Modernization Defense Acquisition Board (DAB) was then held on October 16, 2009 to review the Army's plans for the post-Future Combat Systems efforts and confirm the Army brigade modernization acquisition plans were consistent with the Secretary of Defense's guidance.

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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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<p>An ADM issued after this DAB stated: "The approach, for Increment 1 (Early-Infantry Brigade Combat Team (E-IBCT)) and the Ground Combat Vehicle (GCV) effort, is consistent with the Secretary's guidance and each is being positioned for more in-depth review and acquisition decisions later in 2009." The Increment 1 E-IBCT Milestone C took place 22 December 2009 and was approved in an ADM dated 24 December 2009. The Program Executive Officer-Integration (PEO-I) has modified the existing contract to be compliant with the aforementioned ADMs. This budget justification reflects the Milestone C approved Increment 1 (E-IBCT) program and the follow-on IBCT modernization program planned by the Army.</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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</i>				<b>PROJECT</b> FC5: <i>FCS UNATTENDED GROUND SENSORS</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			
T-UGS/U-UGS	C	The Boeing Company - St Louis MO See Remark 1	0.000	26.028		7.515		0.000		7.515	Continuing	Continuing	0
<b>Subtotal</b>			0.000	26.028		7.515		0.000		7.515			0.000

**Remarks**

1: Subcontractor: Textron Systems, Intelligent Battlefield System Division - Willington, MA

**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			
SBIR/STTR	C	OSD Location could not be determined.	0.000	0.750		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.750		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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</i>			<b>PROJECT</b> FC5: <i>FCS UNATTENDED GROUND SENSORS</i>			

	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	26.778	7.515	0.000	7.515			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
Increment 1 Total Program Tasks			#	#	#	#	#	#	#	#	#	#																
Incr 1 Limited User Test FY09			#																									
Incr 1 STX / FDT&E / LUT 10					#	#																						
Incr 1 Milestone C				#																								
Incr 1 Production Contract Award				#																								
Incr 1 Production Delivery						#	#	#	#	#																		
Incr 1 Initial Operational Test & Evaluation											#																	
Incr 1 First Unit Equipped											#																	
Incr 1 Initial Operational Capability												#																
Increment 2 Total Program Tasks									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Incr 2 CDR									#																			
Incr 2 FDT&E / STX / LUT 13													#	#														
Incr 2 Milestone C																#												
Incr 2 Initial Operational Capability																											#	
Incr 1 Program Tasks			#	#	#	#	#	#	#	#	#	#																
T-UGS New FF PDR (Old date)		#																										
T-UGS New FF CDR (Old date)			#																									
T-UGS New FF Prototypes for FY10 LUT				#																								
U-UGS New FF Prototypes for FY10 LUT2				#																								
Increment 2 T-UGS Deliveries					#																							

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</i>	<b>PROJECT</b> FC5: <i>FCS UNATTENDED GROUND SENSORS</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
Increment 2 U-UGS Gateway Deliveries							#																					

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</i>	<b>PROJECT</b> FC5: <i>FCS UNATTENDED GROUND SENSORS</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Increment 1 Total Program Tasks	3	2009	3	2011
Incr 1 Limited User Test FY09	3	2009	3	2009
Incr 1 STX / FDT&E / LUT 10	2	2010	3	2010
Incr 1 Milestone C	4	2009	4	2009
Incr 1 Production Contract Award	1	2010	1	2010
Incr 1 Production Delivery	3	2010	2	2011
Incr 1 Initial Operational Test & Evaluation	3	2011	3	2011
Incr 1 First Unit Equipped	3	2011	3	2011
Incr 1 Initial Operational Capability	1	2012	1	2012
Increment 2 Total Program Tasks	2	2011	2	2015
Incr 2 CDR	2	2011	2	2011
Incr 2 FDT&E / STX / LUT 13	3	2012	4	2012
Incr 2 Milestone C	2	2013	2	2013
Incr 2 Initial Operational Capability	2	2015	2	2015
Incr 1 Program Tasks	3	2009	3	2011
T-UGS New FF PDR (Old date)	2	2009	2	2009
T-UGS New FF CDR (Old date)	3	2009	3	2009
T-UGS New FF Prototypes for FY10 LUT	4	2009	4	2009

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604664A: <i>FCS Unattended Ground Sensors</i>	<b>PROJECT</b> FC5: <i>FCS UNATTENDED GROUND SENSORS</i>

Event	Start		End	
	Quarter	Year	Quarter	Year
U-UGS New FF Prototypes for FY10 LUT2	1	2010	1	2010
Increment 2 T-UGS Deliveries	2	2010	2	2010
Increment 2 U-UGS Gateway Deliveries	2	2010	2	2010

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</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	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
FC6: <i>FCS Network Hardware &amp; Software</i>	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
<b>A. Mission Description and Budget Item Justification</b>											
<p>Provides the tools and capabilities necessary for a collection of systems composed of computers, sensors, and platforms linked together to achieve a single capability. This is accomplished through distributed functionality that consists of the following applications and interfaces: a distributed information management backbone, Communications; Intelligence, Surveillance and Reconnaissance (ISR); Command and Control (C2); and training and supportability. The information management backbone necessary for the distributed network is composed of the Integrated Computer System (ICS) Operating System (OS) and hardware variants; and the System of Systems Common Operating Environment (SOSCOE). The ICS consists of multiple computer processors, as well as network, graphics and memory cards, and is integrated with software functionality provided by a modified OS. The ICS hosts all software to include SOSCOE, network management, communication management, battle command and mission execution, situational understanding, battle field planning and preparation, sensor fusion, logistics management, and training applications. The applications communicate with the ICS via SOSCOE, which separates the BCS software applications from the ICS hardware and OS. This isolates changes in the ICS from impacting BCS software directly, reducing traditional integration and maintenance costs. SOSCOE also provides services that allow BCS software located on platforms or other exterior nodes to communicate with each other. This includes services that facilitate communication between the BCS software and Current Force software systems. SOSCOE addresses the needs of different system types, supporting real-time environments and platforms with processing and memory constraints. SOSCOE also provides a suite of services/tools commonly required by BCS software developers. The Cross Domain Solution (CDS) is an ICS/BCS hardware-software solution that allows hosting of classified and unclassified data/processing on a single ICS computer. Communication applications include the Network Management System (NMS) which provides the management of voice, data, and video communications between multiple, mobile system platforms. The NMS manages these platforms as nodes that are changing due to availability and bandwidth limitations. Application Software: 1. 1. Integration of air and ground sensors data (images, video) into the common operational picture (COP). 2. Command and Control software provides battle command and mission execution, planning and preparation, and situational understanding, accessed through the Warfighter Machine Interface (WMI). 3. IBCT training will include training support packages, the Interactive Electronic Technical Manual System (IETMs), representation of IBCT elements in current collective trainers, and embedded tactical training for the common controller. 4. Supportability applications composed of the Platform Soldier-Mission Readiness System (PS-MRS), Logistics Decision Support System (LDSS), and Logistics Data Management Services (LDMS) are integrated into the BCS to provide distributed logistical capabilities. Contractor Logistics Products: PS-MRS provides on-board/remote diagnostics of platforms/systems. PS-MRS is designed to use any systems (new or current force) diagnostic capabilities. LDSS manages parts requests and aggregates system health &amp; supply status into a logistics status. LDSS provides Unit Supply &amp; Distribution Readiness information, projection of consumption, Resupply Planning, replenishment site selection, and platform availability. It provides Leaders with an automated Sustainment Running Estimate and logistics readiness. The Logistics Data Management System (LDMS) manages fault data packets and parts usage to gauge component reliability and supplier performance. LDMS enables the Product Support Integrator (PSI), logisticians, supportability analysts, and commanders in echelons above the brigade to access, analyze, and react to supportability data in the effort to optimize</p>											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	
<p>platform availability, log footprint, and affordability. Within the LDMS, the Logistics Data Agent resides on the platform and collects/transfers logistical data to the Logistics Data Manager. The SDD software development effort was executed incrementally in two-year build cycles (Builds 1-2), aligning with program requirements. IBCT Increment 1 will utilize the completion of Build 2 early software. For IBCT Increment 2, the functional content and schedule for the remaining software builds (previously referred to as Build 2 Final through Build 4); are now re-planned as Increment 2 Phases 1, 2 and 2.1. The Phase 1 software will support early platform integration, whereas Phase 2 will support the platform Integrated Qualification Tests (IQT's). The Phase 2.1 software will support IBCT LUT-13. Each software build phase is initiated by a Build Definition Checkpoint (BDC) to ensure that BCS-level software functionality is phased appropriately. Development teams begin the software build with either a Life Cycle Objective (LCO) review or Software Specification Review (SSR) to assess build objectives and requirements. Following the LCO, either a Life Cycle Assessment (LCA) or Preliminary Design Review (PDR) is held. This review ensures that the product built to the architecture will be able to meet all of its functional and performance requirements. Additional checkpoints are executed throughout the software build process to ensure both horizontal and vertical consistency. A Test Readiness Review (TRR) is held prior to Functional Qualification Test (FQT), the final acceptance point for each software build, to ensure that all lower level testing has been completed and the qualification test procedures adequately test the requirements implemented during the build. Common Network Hardware: Includes design, development and prototype procurement of common hardware (sensors, computer and common controller, radios) required for implementation of the data network. The ICS hardware is being developed for each of the FCS platforms with the necessary computing resources, Information Assurance hardware, and Crew workstation processing to support the capabilities required of the BCT. The ICS is being developed as common modules that can be integrated into appropriate solution sets for each platforms unique requirements. This development approach minimizes life cycle costs. With the termination of the MGV portion of the program ICS configurations have been reduced from 7 to 4 configurations to support the remaining IBCT platforms. This budget line includes the procurement of prototype radios and associated radios integration hardware. For FY10 and prior the C4ISR systems include a set of advanced sensors that are integrated onto the ground and air vehicle platforms. Beginning in FY11 these sensors are included in the specific platforms that they support: the SUGV, ARV-L, Class 1 UAV, and UGS systems to provide congress with total system costs. Contractor C4ISR System IAT&amp;C: For FY10 and prior costs for software-to-software integration and hardware-to-software integration along with management of these tasks were collected in the C4ISR IAT&amp;C WBS. Beginning in FY11 costs for software-to-software integration for each increment will be collected in network software integration work packages and hardware-to-software integration is included in system of system engineering.</p>		

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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	556.301	749.182	621.634	0.000	621.634
Current President's Budget	819.721	655.745	610.389	0.000	610.389
Total Adjustments	263.420	-93.437	-11.245	0.000	-11.245
• Congressional General Reductions		-93.437			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	279.000	0.000			
• SBIR/STTR Transfer	-15.580	0.000			
• Adjustments to Budget Years	0.000	0.000	-11.245	0.000	-11.245

**Change Summary Explanation**

Change Summary Explanation: FY09: Congress approved reprogramming request for additional funds to the program's higher priority needsFY10: Congress reduced the program

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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>	
FC6: <i>FCS Network Hardware &amp; Software</i>	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing	
Quantity of RDT&E Articles												
<b><u>A. Mission Description and Budget Item Justification</u></b> Not applicable for this item.												
<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  SOSCOE Development FY09: Continued development of the SOSCOE Build 2.0 through 2.5 to support IBCT Increment 1. To date, Increment 1 SOSCOE includes the following capabilities: chat amongst network users; discovery and communication/data exchange between software applications, designed to operate on bandwidth-constrained, ad-hoc networks; and interoperability with current force systems, to include FFCB2, AFATDS, PASS/BCSS, NCES and a variety of other current tactical C2 systems. Additional enhancements include: the ability to interface with Battle Command simulations; Information Assurance (IA), to include data encryption, identification and authentication of users using Public Key Infrastructure (PKI) without network support and role-based access control of network systems and data (i.e., different access for BN commander v. dismounted soldiers etc.), host-based intrusion detection for unauthorized access to the network, support for the cross domain guard (CDG) by facilitating message passing between different security classifications, and login via FFCB2 and login support for NLOS-LS CLU. Further enhancements include: directory services and database access/management; Task Integrated Network (TIN) services (for automating the execution of software services to complete an operational task); system management services (heartbeat, timers, data logging, etc.); software portability facilitated by hardware and operating system abstractions (OSA); and resource monitoring services (processor, memory, etc.) to ensure computing resources are not over-utilized. Began requirements analysis for							71.743	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>future SOSCOE support of Increment 1 LUT-10 and Increment 2. Purchased and maintained commercial off the shelf (COTS) license agreements for all software supplied.</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>SOSCOE Development FY10 - IBCT Increment 1: Continue development of the SOSCOE through 2.7 to support IBCT LUT-10. This software will provide updates to support the cross domain solution (CDS), including messaging for logistics systems. Provide capability for system shutdown, restart and data sanitization. Ensure SOSCOE compatibility between Increment 1 and Increment 2 versions. Continue the resolution of software integration issues to include Ground Soldier Ensemble (GSE) and Joint Tactical Radio System (JTRS) Handheld Manpack and Small form fit (HMS) and Ground Mobile Radio (GMR) National Security Agency (NSA) certified radio and associated waveforms. Provide resolution of software problem reports (SPRs) identified in LUT-09. FQT and release SOSCOE Build 2.7 in support of LUT-10. Provide technical assistance and training to Battle Command System (BCS) and platform application developers. Provide helpdesk consultation and assistance to integrators using SOSCOE. Purchase and maintain commercial off the shelf (COTS) License Agreements for all software supplied.</p>		0.000	12.000	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 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  SOSCOE Development FY10 - IBCT Increment 2: Continue development of SOSCOE Build 10 (Increment 2 of SOSCOE begins with Build 10) - formerly referred to as SOSCOE Builds 2.5 through 4.0) to support T-IBCT Increment 2. SOSCOE Builds 10.2 through 10.5 will be delivered during FY10 to support early integration with Battle Command System (BCS) Increment 2 Phase 1 software. The integration of these incremental software drops will minimize technical risk, time and resources, prior to the final release of SOSCOE Build 10.6 being available (this is the final Increment 2 Phase 1 software delivery). SOSCOE Builds 10.2 through 10.6 will include the following enhancements: updates to chat, for supporting resource-constrained platforms; interoperability updates to support new FBCB2 JCR messages; shutdown, restart and data sanitization between different security classifications; database and directory support for resource-constrained platforms; Information Assurance (IA) updates, to include certificate validation; and editing of role-based policies.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	59.543	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 #4</p> <p>SOSCOE Development FY11 - IBCT Increment 2: FQT and release SOSCOE Build 10.6 in 1Q FY11 for integration with Battle Command System (BCS) Increment 2 Phase 1 software. Begin requirements analysis and development of SOSCOE Builds 10.7 through 10.9 (integration builds) that are required to support integration with Increment 2 Phase 2 Battle Command System (BCS) Increment 2 Phase 2 and platform testing. Continue development and integration activities for Build 10.10 (final Phase 2 software drop) which will be FQT'ed in 1Q FY12. SOSCOE Builds 10.7 through 10.10 will include the following enhancements: profile administration and distribution (capability to store, manage and edit user preferences across the network); High Level Architecture (HLA) interoperability updates to support multiple simulation federations for networked simulations across geographical locations; interoperability with Army Battle Command System (ABCS) Distributed Data Service (DDS); ICS fault reporting and mitigation, in situations where the hardware and/or OS has failures; support for Common Operating Picture (COP) dissemination; safety critical data storage; and distribution of user/system policies across the network. To support integration with Battle Command System (BCS) Increment 2 Phase 2.1, supporting the IBCT LUT-13, begin requirements analysis for Builds 10.11 and 10.12 (the final Increment 2 software build). SOSCOE Builds 10.11 through 10.12 will include the following enhancements: collaboration amongst users across the network via email and white-boarding; text mining; Tactical Registration Authority (TRA)-for distribution and tracking of user credential renewals expirations; interoperability with the Global Combat Support System-Army (GCSS-A); and increased interoperability with the Net-Centric Enterprise Services (NCES), allowing the Warfighter to access information available outside of the Brigade Combat Team (BCT).</p>		0.000	0.000	66.466	0.000	66.466

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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 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>Communication Systems Software FY09: The software capability developed during FY09 was integrated into the Battle Command System and tested during FY10. The Network Management System (NMS) Build 2 Early software provided initial capability including: key management for user/system identification and authentication; initialization of network hardware; network configuration, monitor and managing for dual security enclaves; Quality of Service (QoS), to include bandwidth planning, configuration, monitoring and management to avoid excess data being passed over the network; Information Assurance (IA) access control and audit logs; password management; and network traffic management and control. Completed objectives and architecture reviews for NMS Build 2 Final (B2F). Provided an engineering release of NMS in 3Q FY09 to support early integration of Battle Command System (BCS) B2F software.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>				44.599	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 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #6  Communication Systems Software FY10 - IBCT Increment 1: Based on software developed in FY09, integrate the Network Management System (NMS) with the Battle Command System (BCS) by resolving Software Problem Reports (SPR's) and other integration issues. Support integration of the NMS and Battle Command System (BCS) with SOSCOE, with the Integrated Computer System (ICS) and with platforms. This includes initial interface with the cross domain guard (CDG), PEO C3T systems (Secure Key Loader (SKL) and Automated Communications Electronic Software (ACES)) and Joint Tactical Radio System (JTRS) Network Management systems (Joint WNW Network Manager (JWNM) and Soldier Radio Waveform Network Manager (SRWNM)). FQT the NMS software in 3Q FY10 to support IBCT Increment 1 LUT-10.  <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	2.899	0.000	0.000	0.000
Program #7		0.000	34.575	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>Communication Systems Software FY10 - IBCT Increment 2: Continue development of Network Management System (NMS) Increment 2 Phase 1 software. NMS Increment 2 Phase 1 capabilities will include enhancements to Network Planning (i.e., how the network will be organized and configured for Increment 2); NMS for the changes and new systems being added to the network; and incremental enhancements to Network Management, to include fault, configuration management, security, policy and platform network management; enhancements to presentation of the network on the Warfighter Machine Interface (WMI) screen; interface to JTRS NMS updated from manual to automated; and enhancements to Network Communications, which provides tools for establishing communications and maintaining the network.</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>Communication Systems Software FY11 - IBCT Increment 2: Complete development of NMS Increment 2 Phase 1 software in 1Q FY11. Complete the development of NMS Increment 2 Phase 2 to support the platform Integrated Qualification Tests (IQT's). NMS Increment 2 Phase 2 capability includes: extending network planning and hardware configuration/management to the new systems being added to the network ( including Increment 1 platforms changes ; Common Controller; and upgraded UAV Class I and SUGV plus the M-NIK, GSE and ARV-A); network security planning; and network topology planning.</p>		0.000	0.000	57.493	0.000	57.493

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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 #9  Battle Command Software FY09: Finished initial development of Warfighter Machine Interface Services (WMIS), Situational Understanding (SU), and Battle Command & Mission Execution (BCME) to support the Increment 1 IBCT LUT-09. WMIS Increment 1 includes Common Operating Picture (COP) visualization; display of images received from UGS, SUGV and UAV Class I; and Warfighter interaction via the FBCB2 screen. BCME Increment 1 includes ability for the Warfighter to command and control (C2) the UGS systems, including remotely commanding the sensor fields; receiving tamper protection alerts from the UGS which are passed to FBCB2 for display. BCME Increment 1 also includes development of the Current Force Platform Integration Manager (CFPIM), which interfaces with FBCB2 to coordinate activities such as startup/shutdown and login between FBCB2 and the Battle Command System (BCS). Situational Understanding (SU) Increment 1 capability includes calculating the area of sensor coverage for the UGS fields; generation of spot reports created by the Warfighter; and updating Battle Space Objects (BSOs) based on priority and Warfighter input. Began requirements analysis for WMI, Mission Planning and Preparation Services (PPS), Situational Understanding (SU) and BCME software to support early Battle Command System (BCS) Increment 2. Includes Systems Engineering, Program Management and subcontractor fee associated with Warfighter Machine Interface Services		152.194	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>(WMIS), Situational Understanding (SU), Battle Command &amp; Mission Execution (BCME), and Planning and Preparation Services (PPS).</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 #10</p> <p>Battle Command Software - Systems Engineering / Program Management (SE/PM) FY10 IBCT Increment 1: Provide technical oversight of the software development effort. Provide quality assurance, configuration management and purchase software development licenses. Conduct requirements verification and validation (V&amp;V) of software. Provide data deliverables, participate in technical/management reviews and provide on-site participation as required. Includes subcontractor fee associated with Warfighter Machine Interface Services (WMIS), Situational Understanding (SU), and Battle Command &amp; Mission Execution (BCME). Capabilities include: explicit handoff of Unattended Ground Sensors (UGS) control from one Network Integration Kit (NIK) to another; accelerated image transfer to from the sensors to FBCB2; and allowing multiple images to be attached to a single Battle Space Object (BSO).</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	2.091	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 #11  Battle Command Software - Warfighter Machine Interface Services (WMIS) FY10 Increment 1: Continue resolution of approximately 75 Software Problem Reports (SPRs) discovered during Increment 1 IBCT LUT-09. Perform integration with the cross domain guard (CDG) for message passing between different security classifications. Provide integration support to the Network System Integration and Test (NSIT) lab. FQT and release Increment 1 WMIS software in 3Q FY10 to support the Network Integration Kit (NIK) Network System Qualification Test (NSQT) prior to Increment 1 IBCT LUT-10. Additional Increment 1 capabilities include modifications to the layout of the WMIS screen, increasing access and visibility; auto-adjusting the WMIS window to occupy the entire FBCB2 screen.  <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	1.140	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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 #12  Battle Command Software - Situational Understanding (SU) FY10 IBCT Increment 1: Continue resolution of approximately 20 Software Problem Reports (SPRs) discovered during Increment 1 IBCT LUT-09. Perform integration with the cross domain guard (CDG) for message passing between different security classifications. Provide integration support to the Network System Integration and Test (NSIT) lab. FQT and release Increment 1 SU software in 3Q FY10 to support the Network Integration Kit (NIK) Network System Qualification Test (NSQT) prior to Increment 1 IBCT LUT-10.  <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	1.504	0.000	0.000	0.000	
Program #13  Battle Command Software - Battle Command & Mission Execution (BCME) FY10 IBCT Increment 1: Continue resolution of approximately 30 Software Problem Reports (SPRs) discovered during Increment 1 IBCT LUT-09 . Perform integration with the cross domain guard (CDG) for message passing between different security classifications. Provide integration support to the Network System Integration and Test (NSIT) lab. FQT and	0.000	3.970	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>release Increment 1 BCME software in 3Q FY10 to support the Network Integration Kit (NIK) Network System Qualification Test (NSQT) prior to Increment 1 IBCT LUT-10.</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 #14</p> <p>Battle Command Software - Systems Engineering / Program Management (SE/PM) FY10 IBCT Increment 2: Provide technical oversight of the software development effort. Conduct requirements decomposition and architecture/design. Provide quality assurance, configuration management and purchase software development licenses. Conduct requirements verification and validation (V&amp;V) of software delivered. Provide data deliverables, participate in technical/management reviews and provide on-site participation as required. Includes subcontractor fee associated with Warfighter Machine Interface Services (WMIS), Situational Understanding (SU), Battle Command &amp; Mission Execution (BCME), and Planning and Preparation Services (PPS).</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	24.939	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 #15  Battle Command Software - Warfighter Machine Interface Services (WMIS) FY10 IBCT Increment 2: Beginning software development/coding of WMIS to support Battle Command System (BCS) Increment 2 Phase 1. Provide integration releases to support early BCS system-level integration. Integrate with SOSCOE Builds 10.2 through 10.5. Provide integration support to the Network System Integration and Test (NSIT). WMIS Increment 2 Phase 1 capability includes: enhanced user display, thereby providing ease of access and more information to the Warfighter. For example, this includes logon, startup, shutdown, and role management; enhancements to primitives (i.e., buttons, menus, windows, etc., on the Warrior Machine Interface (WMI) screen); enhancements to the presentation builder; and enhancements to support collaboration and report generation.  <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	13.594	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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 #16  Battle Command Software - Situational Understanding (SU) FY10 IBCT Increment 2: Beginning software development/coding of SU to support Battle Command System (BCS) Increment 2 Phase 1. Provide integration releases to support early BCS system-level integration. Integrate with SOSCOE Builds 10.2 through 10.5. Provide integration support to the Network System Integration and Test (NSIT). Situational Understanding (SU) Increment 2 Phase 1 includes: enhancements to object refinement and situation refinement, to include blue force aggregation, red force aggregation and identification of terrain obstacles; threat refinement, to include identification of platform-to-platform, indirect fires, and unit-to-unit threats; fusion process refinement, to include recommendations on how information is fused, sensor tasking recommendations based on sensor coverage gaps and Areas of Interest (AOI); and identification and classification of Battle Space Entity (BSE) as friendly/enemy, etc.  <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	17.940	0.000	0.000	0.000
Program #17		0.000	38.662	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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>Battle Command Software - Battle Command &amp; Mission Execution (BCME) FY10 IBCT Increment 2: Beginning software development/coding of BCME to support Battle Command System (BCS) Increment 2 Phase 1. Provide integration releases to support early BCS system-level integration. Integrate with SOSCOE Builds 10.2 through 10.5. Provide integration support to the Network System Integration and Test (NSIT). BCME Increment 2 Phase 1 includes: enhancements to alerts and notifications; plans, orders generation and dissemination, and report automation; task organization; airspace control; sensor control; platform control; and fires and effects control.</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>Battle Command Software - Planning and Preparation Services (PPS) FY10 IBCT Increment 2: Beginning software development/coding of PPS to support Battle Command System (BCS) Increment 2 Phase 1. Provide integration releases to support early BCS system-level integration. Integrate with SOSCOE Builds 10.2 through 10.5. Provide integration support to the Network System Integration and Test (NSIT). PPS Increment 2 Phase 1 includes development of the maneuver planner, ground space planner; and capability to analyze the terrain using map data to plan the route for an Unmanned Ground Vehicle (UGV).</p>		0.000	8.677	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 #19  Battle Command Software - Systems Engineering / Program Management (SE/PM) FY11 IBCT Increment 2: Provide technical oversight of the software development effort. Conduct requirements decomposition and architecture/design. Provide quality assurance, configuration management and purchase software development licenses. Conduct requirements verification and validation (V&V) of software delivered. Provide data deliverables, participate in technical/management reviews and provide on-site participation as required. Includes subcontractor fee associated with Warfighter Machine Interface Services (WMIS), Situational Understanding (SU), Battle Command & Mission Execution (BCME), and Planning and Preparation Services (PPS).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	0.000	33.971	0.000	33.971

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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 #20  Battle Command Software - Warfighter Machine Interface Services (WMIS) FY11 IBCT Increment 2: Complete development of WMIS to support Battle Command System (BCS) Increment 2 Phase 2. Provide multiple software releases of incremental capability to support early Battle Command System (BCS) system-level integration. Provide integration support to the Network System Integration and Test (NSIT). Provide a final release of WMIS to support Network System Qualification Tests (NSQT's) prior to platform IQT's. WMIS Increment 2 Phase 2 software includes, improved layout of the screens; enhancements to support map-based collaboration; enhancements to the Intelligent Services, which help automate certain tasks such what information/options the Warfighter is presented with and what tasks are to be accomplished by the system on behalf of the Warfighter, thereby increasing the Warfighter's access to capability and decreases the Warfighter's workload; and enhancements to the Presentation Services, which manage how the information is being presented to the Warfighter and allows the Warfighter to tailor their preferences of how the default interface is configured.  <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	27.154	0.000	27.154

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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 #21  Battle Command Software - Situational Understanding (SU) FY11 IBCT Increment 2: Complete development of SU to support Battle Command System (BCS) Increment 2 Phase 2. Provide multiple software releases of incremental capability to support early BCS system-level integration. Provide integration support to the Network System Integration and Test (NSIT). Provide a final release of SU to support Network System Qualification Tests (NSQT's) prior to platform Integrated Qualification Tests (IQT's).  <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	18.872	0.000	18.872
Program #22  Battle Command Software - Battle Command & Mission Execution (BCME) FY11 IBCT Increment 2: Complete development of BCME to support Battle Command System (BCS) Increment 2 Phase 2. Provide multiple software releases of incremental capability to support early BCS system-level integration. Provide integration support to the Network System Integration and Test (NSIT). Provide a final release of BCME to support Network System Qualification Tests (NSQT's) prior to platform Integrated Qualification Tests (IQT's). BCME Increment		0.000	0.000	26.398	0.000	26.398

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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>2 Phase 2 software includes enhancements to: alerts and notifications; tools to assist the Warfighter in generating and disseminating plans and orders; task organization; sensor control; and fires and effects control for engagement of Non Line of Sight (NLOS) and Line of Sight (LOS) targets, deconfliction of the battlespace (e.g., deconfliction of airspace, UAV's, missiles and manned aerial platforms to avoid fratricide and loss of platforms; ground-space for UGV and manned vehicle conflicts, such as route planning and direct fires engagements).</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 #23</p> <p>Battle Command Software - Planning and Preparation Services (PPS) FY11 IBCT Increment 2: Complete development of PPS to support Battle Command System (BCS) Increment 2 Phase 2. Provide multiple software releases of incremental capability to support early BCS system-level integration. Provide integration support to the Network System Integration and Test. Provide a final release of PPS to support Network System Qualification Tests prior to platform Integrated Qualification Tests. PPS Increment 2 Phase 2 includes: airspace and ground-space planning, with the capability to combine planning information to provide the user with automated recommendations for ground route planning for a UGV or flight planning for a UAV; sensor planning to assist the commander in placement of sensor assets on the battlefield; enhanced maneuver planning to assist the commander on how to maneuver platforms on the battlefield prior to executing a mission; and the terrain analyzer, to identify</p>		0.000	0.000	8.323	0.000	8.323

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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>obstacles and hazards; early development of plan assessment, to measure the commander's mission plan versus what is actually conducted. Begin requirements analysis of PPS Increment 2 Phase 2.1 to support integration of remaining PPS capability for the Incr 2 IBCT LUT-13. PPS Incr 2 Phase 2.1 enhancements will include: Course of Action (CoA) planning, for generating and assessing viable CoA's which are presented to the Warfighter in how best to maneuver forces (i.e., formation of platforms, how to advance those formations, waypoint navigation of unmanned platforms, etc.), considering such items as the combat capability and mission of all forces, enemy threats; survivability planning; fires and effects planning; and communications network planning. PPS Increment 2 Phase 2.1 will also include objective planning, which assist the Commander in defining the tactical objectives, of which the other planners will consider when providing recommendations back to the Commander on how best to execute the mission.</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 #24</p> <p>Fusion Software FY09: Provided multiple releases of Build 2 Early Sensor Data Management (SDM) and Level One Fusion (L1F) software, to simplify integration and reduce technical risk to minimize cost of Increment 1 integration. SDM Increment 1 capability includes translating the individual sensor data into that which is usable by the Battle Command System (BCS). More specifically, the SDM receives sensor data from the UGS, which</p>		26.254	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>is refined and processed by Level 1 Fusion (L1F) software and later displayed on the FBCB2 screen. Level 1 Fusion (L1F) Increment 1 capability includes receiving FBCB2 COP data and sensor data from UGS, and fusing (or combining) that information into Battle Space Objects (BSO's). This allows increased confidence in what the object is and the object's location over time. Began Increment 2 Phase 1 Life Cycle Assessment (LCA) architecture reviews for SDM and L1F.</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 #25</p> <p>Fusion Software FY10 - IBCT Increment 1: Continue resolution of Software Problem Reports (SPR's) identified during Increment 1 LUT-09 for Sensor Data Management (SDM) and Level 1 Fusion (L1F) software. FQT and release SDM and L1F Increment 1 software to the Network System Integration and Test (NSIT) in 3Q FY10 for the Network Integration Kit (NIK) Network System Qualification Test (NSQT), proceeding IBCT LUT-10.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	1.426	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 #26</p> <p>Fusion Software FY10 - IBCT Increment 2: Integrate with SOSCOE Builds 10.1 through 10.5. Provide multiple releases of Sensor Data Management (SDM) and Level 1 Fusion (L1F) Increment 2 Phase 1 software, to simplify integration, reduce schedule and technical risk, with the result of minimizing cost of integrating the Battle Command System (BCS). Provide integration support to the Network System Integration and Test (NSIT). SDM Increment 2 Phase 1 capability includes interfacing with upgraded sensor payloads on the Class I and SUGV and new sensor payloads from ARV-A (L). SDM incorporates electro-optical infrared (EO/IR) sensor data from the SUGV so that the Warfighter can receive advanced knowledge of enemy locations and hazards from a safe distance in Urban environments. Planned L1F Increment 2 Phase 1 capability includes creation of the Distributed Fusion Manager (DFM), which will more efficiently fuse/combine/consolidate sensor data and Battle Space Objects (BSO's), reducing network traffic by limiting information to those who require the information; and enhancements to the Blue Force Location Service (BFLS), which provides platform positions for nearby friendly platforms. Level One Fusion (L1F) will receive sensor data from a UAV Class I and determine friend/foe and location.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	17.006	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 #27  Fusion Software FY11 - IBCT Increment 2: Continue development of Sensor Data Management (SDM) and Level 1 Fusion (LIF) to support Battle Command System (BCS) Increment 2 Phase 2. Provide multiple releases to simplify integration, reduce schedule and technical risk, with the result of minimizing cost of integrating the Battle Command System (BCS). Integrate with SOSCOE Builds 10.6 through 10.8. Provide integration releases to support the Increment 2 Phase 2 Network Software Quality Tests (NSQTs). Provide integration support to the Network System Integration and Test (NSIT). SDM Increment 2 Phase 2 capability includes updated interfaces with the Aided Target Recognition (AiTR) sensor; updated sensor suite control for the ARV-A(L); and interfacing with various current force systems to obtain sensor data, to include Tactical Airspace Integration System (TAIS), Distributed Common Ground System-Army (DCGS-A), Net Centric Enterprise Services (NCES), and Information Dissemination Management (IDM). SDM receives enemy location updates from Distributed Common Ground Station-Army (DCGS-A) and integrates it into the BCT-M database. Sharing of enemy locations with other systems increases the survivability and combat effectiveness of the BCT. LIF Increment 2 Phase 2 includes the enhancements to the Blue Force Location Service (BFLS), fusion engines, and the Distributed Fusion Manager (DFM). The DFM will manage the transfer of Intel data to enable the User to receive relevant data faster. Begin requirements analysis of LIF Increment 2 Phase 2.1 software, leading to FQTs scheduled in 1Q FY12. LIF Increment 2 Phase 2.1 will include completion of the fusion engines and the DFM.		0.000	0.000	12.161	0.000	12.161

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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 #28  Embedded Training Software - Overview: A common set of training software/tools, referred to as Training Common Components (TCC), are being developed to support the following types of training for the IBCT: Computer Based Training (CBT), Live Training, Individual Operator Training (IOT), and Leader/Battle Staff (LBS). Computer Based Training (CBT) provides the Warfighter a basic understanding of how to interface with the WMI to complete a set of operation tasks (i.e., how to generate and disseminate a report, chat or whiteboard with other Warfighters, access current force systems for data, etc.) and maintain the IBCT systems. CBT can also be used by the Warfighter to access AKO to complete technical and annually required coursework. CBT will be available on workstations, NIK and CC. The IOT trains the operator on how to operate unmanned platforms, such as how to connect, manually drive, follow a user-defined route, and laze a target. IOT will be available on workstations and CC. Live training allows for IBCT systems (NIK, CC and Unmanned Platforms) to collectively participate in live training exercises while at the home station, local training area, or Combat Training Center (CTC). This includes the ability for IBCT systems, integrated with the TCCs and SOSCOE, to interface with Multiple Integrated Laser Engagement System (MILES), Combat Training Center - Instrumentation Systems (CTC-IS) and One Tactical Engagement Simulation system (OneTESS). The TCC's also provide the capability to log the training exercise and evaluate the performance of individuals and the unit. The Leader/Battle Staff		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>(LBS) training capability (available on the CC) instructs commanders on how to tactically operate and employ (i.e., "fight") the IBCCT using the capabilities provided by the Increment 2 Battle Command System (BCS). This includes teaching commanders on how to use the sensing capabilities provided by unmanned systems, including how to provide optimal UGS sensor coverage.</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 #29</p> <p>Embedded Training Software FY09: The Training Common Components (TCC) provided foundational capability to support Computer Based Training (CBT), live training and Leader/Battle Staff (LBS) training for the Increment 2 platforms and Battle Command System (BCS). Completed Life Cycle Architecture (LCA) review of TCCs to support Increment 2 Phase 1 development. Provided engineering releases (ER's) to support early Increment 2 Phase 1 integration. Delivered TCC Build 2 ER 1 in 3Q FY09 and ER 3 in 4Q FY09. TCC Build 2 ER3 included the following functionality: successful reuse of approximately 2.5 million lines of software (OneSAF, OneTESS, and SE Core); and successful integration with SOSCOE, and Warfighter Machine Interface (WMI) (surrogate) user interfaces.</p>		15.420	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 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 #30  Embedded Training Software FY10 - Increment 2: Provide multiple releases of TCC's for Increment 2 Phase 1 to simplify integration, reduce schedule and technical risk, with the result of minimizing cost of integrating the Battle Command System (BCS). Integrate with SOSCOE Builds 10.2 through 10.5. Capability includes Computer Based Training (CBT) for Soldiers with reach-back to Army training repositories; initial Leader Battle Staff (LBS) training; initial Individual Operator Training (IOT) for unmanned platforms; and interoperability the Multiple Integrated Laser Engagement System (MILES) and training ranges to provide initial live training for the SUGV, UAV Class I, ARV-A(L) and CC IBCT systems; and Individual Operator Training (IOT) of unmanned platforms on the CC.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	15.940	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 #31  Embedded Training Software FY11 - Increment 2: Complete development of TCC's for Increment 2 Phase 1 for integration with the Battle Command System (BCS) in 1QFY11 and platform embedded training. Provide multiple releases of the TCC's during Increment 2 Phase 2 for integration into the BCS. The TCC's provide the tools for the following training capability: enhanced Computer Based Training (CBT), to include interfacing with Army Knowledge Online (AKO) to download training materials and upload training reports; enhanced Leader Battle Staff (LBS) training for instructing commanders and staffs in warfighting Tactics, Techniques and Procedures (TTPs) that use the actual Increment 2 Battle Command System (BCS) software applications and communications systems; providing Individual Operator Training (IOT) for instructing the operator on the CC on how to control the SUGV, and CL 1 UAV, and ARV-A(L), by being provided a simulation of those platforms from another CC or NIK. This training will operate the actual controllers used by Soldiers to command the IBCT platforms. Live training will also be enhanced for the IBCT platforms, to include interoperability with Combat Training Center - Instrumentation Systems (CTC-IS) One Tactical Engagement Simulation system (OneTESS).  <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	14.455	0.000	14.455

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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 #32  Contractor Logistics Products Application Integration FY09 - Provided engineering releases (ERs) of Logistics Decision Support System (LDSS) and Platform Soldier-Mission Readiness System (PS-MRS) Increment 1 software to support Battle Command System (BCS) integration. Logistics Products Increment 1 software includes the following initial capability implemented on Increment 1 systems: monitoring of the battery level for the T-UGS and providing an on/off status of the Integrated Computer System (ICS). PS-MRS software developed during FY09 and integrated in FY10 includes the following initial capability: viewing IETMs; remote platform diagnostics; report availability of platforms; and logistics data collection. Logistics Decision Support System (LDSS) software developed during FY09 and integrated in FY10 includes the following initial capability: maintenance planning and management; supply/distribution planning and management; platform readiness; and unit readiness. For Logistics Data Management System (LDMS), completed development of Logistics Data Manager (LDM) Build 1.0 and conducted User Workshop to gather user feedback and initial user training. Also, initiated requirements and interface design with Logistics Support Activity (LOGSA) Logistics Information Warehouse (LIW). Begin requirements analysis and design of the LDSS, the Logistics Data Manager (LDM) portion of the Logistics Data Management System (LDMS), and PS-MRS for Increment 2 Phase 1.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		29.096	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 #33  Contractor Logistics Products Application Integration FY10 - IBCT Increment 1: Provide incremental releases of Logistics Decision Support System (LDSS) and Platform Soldier-Mission Readiness System (PS-MRS) Increment 1 software to the Network System Integration and Test (NSIT) lab in support of early integration of the Battle Command System (BCS) for IBCT LUT-10. Resolve Software Problem Reports (SPR's) discovered during IBCT LUT-09. FQT and release LDSS and PS-MRS Increment 1 software to NSIT in support of Network System Qualification Test (NSQT), leading to the IBCT LUT-10.  <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	8.000	0.000	0.000	0.000
Program #34  Contractor Logistics Products Application Integration FY10 - IBCT Increment 2: Provide multiple software releases of incremental logistical capability to support early Inc 2 Phase 1 Battle Command System integration. Integrate with SOSCOE Builds 10.2 through 10.5. Provide integration support to the Network System Integration and Test. Logistics Decision Support System Inc 2 Phase 1 includes: calculation of platform supply requirements		0.000	29.518	0.000	0.000	0.000

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>					
<p>via the supply planner, thereby decreasing the logistical footprint and increasing the OPTEMPO of the platforms; requests for maintenance; determine platform consumable status; adherence to information assurance requirements; and integration with the Cross Domain Guard (CDG). The Logistics Data Management System Inc 2 Phase 1 includes development of the Logical Data Model to provide the following: manage the configuration of platforms; interface to access the Army Property Book Unit Supply Enhanced, Standard Army Retail Supply System, and Global Transportation Network enterprise-level logistics systems through the Logistics Information Warehouse; interface to commercial transportation systems; interface with systems for inventory and other asset visibility data; additional reporting for equipment availability analysis; reporting for Product Support Integrators; and inventory performance, transportation performance &amp; asset visibility analysis as part of the supply chain. Platform Soldier-Mission Readiness System (PS-MRS) Inc 2 Phase 1 includes: diagnostics capabilities, to include fault detection/isolation &amp; platform availability; scheduled maintenance and resupply; remote diagnostics on unmanned systems; interface with the CDG; and integration of Interactive Electronic Technical Manuals (IETM) capabilities, to include directed navigation and viewing through the WMI screen.</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 #35					
		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>Contractor Logistics Products Application Integration FY10 - IBCT Increment 2: (Continued) The enhanced IETM capabilities decrease the time to repair by coordinating with PS-MRS diagnostics to identify the single-point-of-failure, and provides specific automated task technical references to repair the identified component/unit.</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 #36</p> <p>Contractor Logistics Products Application Integration FY11 - IBCT Increment 2: Continue development of Logistics Products to support Battle Command System (BCS) Inc 2 Phase 2. Provide multiple software releases of incremental logistics capability to support early BCS system-level integration. Provide integration support to the Network System Integration and Test. Logistics Decision Support System (LDSS) Inc 2 Phase 2 includes: obtaining planning inputs, project available supplies, and generate supply plans for re-supply opportunities; distribute maintenance requests via the maintenance manager; disseminate platform readiness and aggregate platform readiness by platform type; adherence to information assurance requirements; and integration of new messages with the Cross Domain Guard. Logistic Data Management System (LDMS) Inc 2 Phase 2 Logical Data Model (LDM) and Logistics Data Agent (LDA) capability includes: collect maintenance, supply, health and status data from the Platforms for analysis. Additional LDM capability includes: reporting for Product Support Providers; collection of performance based agreements data from Original Equipment Manufacturers /Program</p>		0.000	0.000	30.444	0.000	30.444

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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>Support Plan ; and additional reporting for equipment availability analysis. Begin implementation of LDSS Inc 2 Phase 2.1 to support the T-IBCT LUT. The LDMS LDM and LDA Inc 2 Phase 2.1 enhancements include: management and distribution of Interactive Electronic Technical Manual (IETM) and Failure Propagation &amp; Subsystem Interaction Model updates to the platforms. LDM Inc 2 Phase 2.1 enhancements include: additional reports for Product Support Integrators and Program Support Plan; and inventory performance and asset visibility analysis as part of the supply chain.</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 #37</p> <p>Contractor Logistics Products Application Integration FY11 - IBCT Increment 2: (Continued) PS-MRS Increment 2 Phase 2 includes enhancements to; diagnostics capabilities, to include fault detection/isolation and platform availability; scheduled maintenance and resupply; remote diagnostics on unmanned systems; and enhanced IETM capability, including undirected IETM browsing and support for ad-hoc maintenance events.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		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 #39  Range Extension Relay FY10 Increment 1: Complete 18 engineering upgrade to HW and software configuration of the Range Extension Relay. Continued reliability growth; improved sensor/software modalities and deliver soldier carrying MOLLE packs.  <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	2.360	0.000	0.000	0.000
Program #40		0.000	70.440	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>Ground Sensors Hardware FY10 - IBCT Increment 2: Conduct Production Readiness Review (PRR) for SUGV in 2Q FY10. Complete delivery of 10 SUGV EO/IR/LRF. Design/development efforts to support incorporation of 3rd Gen FLIR within MREO (light) sensor package. Completion of design work on MREO ARV-A(L). Conduct CDR for MREO ARV-A(L). Begin long-lead prototype procurement of 8 MREOs (7 prototypes and 1 spare) for ARV-A(L) with delivery in FY11. Complete the Acoustic Locating Array Sensor (ALAS) design and support PDR and preparation for CDR. Complete Sensor Suite Control software code and unit test.</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 #41</p> <p>Air Sensor Hardware FY09: CL IV UAV - Completed SAR/GMTI Engineering and DT flight tests. Delivered 2 emulators to SIL for integration. Conducted ASTAMIDS (EOIR/LD/LRF) engineering flight tests and delivered 1 sensor for SIL integration. Continued Software development of the Air Aided Target Recognition (AiTR). Continued Software qualification tests. Prepare Air AiTR for ASTAMIDS and SAR/GMTI SIL integration.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		20.857	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						
<b>Program #42</b>  Air Sensor Hardware FY10 - IBCT Increment 2: Began ASTAMIDS initial flight tests and terminated remaining ASTAMIDS sensor effort in January 2010. Deliver 4 SAR/GMTI Sensors. Terminate remaining ASTAMIDS and SAR/GMTI interfaces and integration effort on the UAV Class IV. Conduct CL I EOIR/LD/LRF sensor CDR, and continue development of sensor package through the Production Readiness Review (PRR). Begin long-lead procurement of 14 prototype Electro Optical Infrared (EOIR/LD) Class 1 Sensors.  <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	13.300	0.000	0.000	0.000
<b>Program #43</b>		48.260	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>Communication Hardware (Air and Ground) - FY09: Delivered Network Integration Kits (NIK) to C4ISR System Integration Laboratory (SIL). Upgraded JTRS HMS Radios with SRW 1.0c. Changed Surrogate Radios (MSRT in T-UGS gateway) to HMS SFF-A in preparation for Increment 1 LUT-09. Supported contractor and government field testing of IBCT Increment 1 systems. Delivered preliminary Interface Control Documentation in preparation for communications Preliminary Design Review (PDR) and System of Systems (SoS) PDR. Designed and fabricated and delivered 12 quantity prototype Range Extension Relay (RER) systems for IBCT Increment 1 LUT-09.</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 #44</p> <p>Communication Hardware (Air and Ground) - FY10 - IBCT Increment 1: Deliver remainder of System Development and Demonstration (SDD) Network Interface Kits (NIKs) for government field testing (10 quantity). Upgrade NIKs with JTRS Ground Mobile Radio (GMR) Engineering Development Models (EDM) NSA certifiable radios to support Increment 1 LUT-10 testing . Prepare and deliver Payload Training Support Packages. Continue update soldier training for test events. Complete Engineering upgrade to HW and software configuration of the Range Extension Relay currently used in Increment 1. Procure 18 Range Extension Relay (RER) systems for fielding, prepare engineering drawings and Qualify systems. Upgrade JTRS Radios GMR</p>		0.000	8.700	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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>with SRW 1.0c. Build and deliver JTRS Network Management suite to support FY10 testing and validation of information exchange between the other CP equipment (ACES, SKL, etc) and the OTP NMS Communications Systems Software. The JTRS Network Management suite will consist of several laptops and ancillary equipment (cables, switches and One Way Guard) to support the JTRS WNW Network Manager (JWNM) (GMR and WNW) and SRW Network Manager (SRWNM) 1.0+ (HMS and SRW) for planning and monitoring of the various radio/waveform security enclaves (secret, TUI , Black).</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 #45</p> <p>Communication Hardware (Air and Ground) - FY10 - IBCT Increment 2: Deliver and integrate 6 JTRS Small Form Fit (SFF) based Communications/Navigation Units (CNU) for Small Unmanned Ground Vehicle (SUGV). Deliver 1 NIK payload for the NLOS-LS. Prepare and deliver Payload Training Support Packages. Continue update of Graphic Training Package for soldier training for test events. Complete System engineering of the network architecture and waveform loadset. Complete Engineering upgrade to HW and software configuration of the Range Extension Relay currently used in Increment 1. Complete System Engineering, and prepare for and conduct a follow-on NIK Preliminary Design Review (PDR) for ARV-A (L), and Army wheeled ground vehicles</p>		0.000	39.280	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>(e.g., HMMWV and MRAP). Complete System Engineering, prepare and conduct CDR for communications package for NIK.</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 #46</p> <p>Communication Hardware - FY11 - IBCT Increment 2: Preparation, presentation and acceptance of Increment 2 Critical Design Review (CDR) for Network Interface Kit (NIK). Prepare test stations and conduct final integration and test acceptance of NIK payloads. Deliver NIKs to platform integrator System Integration Labs to platform IQT's. Complete design update, integrate into Network System Integration and Test (NSIT) SIL architecture, update ICDs and schematics.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	0.000	57.397	0.000	57.397

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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 #47  Common Controller (CC), Hardware and Software - FY10 IBCT Increment 2: CC Spiral 2 is part of an incremental development program to field a consolidated controller that can also provide basic situational awareness and networking. The Spiral 2 will initially replace existing controllers and networking solutions and utilize lessons learned to evolve into a Spiral 3 that meets all threshold CC PIDS requirements. Spiral 2 CC consists of a customized 6.4" viewable control & display unit (CCD), COTS computer, batteries that are Land Warrior/Ground Soldier System compatible, both surrogate and JTRS C2/tele-operational control and networking soldier-borne radios, cabling, surrogate platform software and Warfighter Machine interface (WMI)/Graphical User Interface (GUI) software with System Of Systems Common Operating Environment (SOSCOE) to provide Situational Awareness (SA) information. Work will be done through comparative tele-operational Radio analyses and testing to improve platform security and control and, in general, streamline the communications architecture. CC Spiral 2 functionality includes network management, configuration, and control of the Small Unmanned Ground Vehicle, Class-I Unmanned Air Vehicle (CL-I), and Unattended Ground Sensors. Conduct In-process Review in 1QFY10 and CC Spiral 2 Design Review 3 in 3QFY10. Qty. 2 Early brass boards will be delivered to the Network System Integration and Test for early BCT Mod Battle Command and SOSCOE integration in 2Q FY10. Long-lead procurement of Spiral 2 CC prototypes will begin in FY10 for delivery in 1Q FY11. In parallel with these efforts, the CC will conduct Interoperability and Network Evaluation experiments, field tests and excursions to further enhance networking capabilities. In accordance with the approved Spiral Acquisition Strategy, the CC Spiral 3 will build upon the Spiral 2 product baseline. CC Spiral 3 design and development will begin in FY10. Conduct CC Spiral 3 Critical Design Review in 4QFY10.		0.000	34.210	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 #48  Common Controller (CC), Hardware and Software - FY11 - IBCT Increment 2: Conduct Spiral 2 Test Readiness Review (TRR) 1Q FY11. Qualified Spiral 2 CC prototypes will be delivered in FY11 for integration and test purposes: In accordance with the approved Spiral Acquisition Strategy, the CC Spiral 3 will build upon the Spiral 2 product baseline. The CC Spiral 3 design will utilize lessons learned from IBCT events to improve functionality, and to include; reducing overall system weight, enhancing Battle Command functionality, streamlining the radio/communication design with an objective of moving toward the Small Form Factor-B (SFF-B) radios, and refining human factors engineering and soldier kitting. Capability improvements will allow a more robust exchange of information and a direct interface to network integration kits (NIK) and the Ground Soldier System. In addition to improving the control capabilities of the platforms in Increment 1, the Spiral 3 in Increment 2 will also interface with the Tactical Unattended Ground Sensors (T-UGS) and the Armed Robotic Vehicle (Assault) Light (ARV-A (L)).  <i>FY 2009 Accomplishments:</i> FY 2009				0.000	0.000	50.138	0.000	50.138

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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 #49  ICS - Computer Processing, Hardware and Software FY09: Delivered 75 Software Development Units (SDU). The SDUs represent a cost-effective emulation of the ICS. The SDUs contain a subset of CPU cores found in the final ICS configuration. The SDU's allow for the platform integrators to begin software development and early integration activities prior to the Emulators being available. Emulators are needed for higher order software development in advance of ICS brassboards or prototypes hardware availability. Emulators are defined as 19" rack mountable 1U 'pizza box' computers that approximates a complete ICS ship set, i.e. it will have roughly the same number of CPU cores found in the final deliverables. It will not have Info Assurance or Built-in-Test. The emulator is essentially a Software Development Unit that's sized equivalent to full ICS ship set. Emulators are non-form/fit, affordable commercial approximations of an ICS ship set primarily for use as a preliminary software integration test bed. Said differently, the Emulators provide similar functionality as the target hardware, but do not meet size, weight and power (SWAP) requirements. However, like the SDU's, the Emulators facilitate early integration with the platform developers. Delivered 24 Emulators: ICS Type IV Emulators, qty. 5; ICS Type VII Emulators, qty. 5. ICS Type I/II, qty 5; Type VIII, qty. 9. Delivered 1 Brass Board Type VIII computer in support of the SUGV program, and 26 Dual Domain Prototype Type VI computers in support of the IBCT testing conducted at Ft. Bliss.  <i>FY 2009 Accomplishments:</i> FY 2009		160.487	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 #50  ICS - Computer Processing, Hardware and Software FY09 (Continued): ICS Software: Provided engineering releases (ER) of ICS Build 2.5 L4OS. Performed Functional Qualification Test (FQT) of ICS Cross Domain Guard (CDG) to support Current Force CVT and IBCT. Conducted objectives (LCO) and architecture (LCA) reviews for ICS Build 3.0 L5OS and RTOS. Provide engineering release (ER) of ICS Build 3.0 RTOS for integration with Battle Command System (BCS) Increment 2 Phase 2 software.  <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
Program #51		0.000	15.740	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>ICS - Computer Processing, Hardware and Software FY10 - IBCT Increment 1: ICS Hardware: Upgrade the ICS Type VI to avoid hazardous materials (HAZMAT) from the Gigabit Ethernet Switch Module (GESM). Additionally, obtaining NSA certification of Cross Domain Guard (CDG) processor board, operating system (RedHat 5.0) and software application as part of the ICS. The ICS will be updated to house a certified Cross Domain Guard/Solution, replacing a surrogate that was used in FY09. Begin planning for classified testing of the CDG for IOT&amp;E FY11. ICS Software: For Increment 1, resolve any open Software Problem Reports (SPR's) and provide integration support to the Network System Integration &amp; Test (NSIT) lab prior to the Network System Qualification Test (NSQT) scheduled for 4Q FY10.</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 #52</p> <p>ICS - Computer Processing, Hardware and Software FY10 - IBCT Increment 2: Deliver 6 ICS Type VII Emulators to support early integration, prior to the ARV-A(L) Integrated Qualification Test (IQT). Thereafter, deliver 3 ICS Type VII brassboards for integration with the ARV-A(L). Deliveries of these items are scheduled to be made to various Network SILs, platform developers, platform integrators, and test facilities. ICS Software: FQT and Release ICS Build 3.0 Real Time Operating System (OS) and Linux Version 5 Operating System (OS) in 1Q FY10 to support the Network System Qualification Tests (NSQTs) beginning in 3Q FY11. ICS Build 3.0</p>		0.000	69.240	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>includes enhancements to Application Programmer Interface (API) Definition. Conduct ICS Build 3.5 objectives (LCO) and architecture (LCA) reviews in 3Q-4Q FY10. ICS Build 3.5 includes enhancements to Volume Management (for the ICS Type III variant); State Management; Power Management; Platform Management and Linux OS Extensions.</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 #53</p> <p>ICS - Computer Processing, Hardware and Software FY11 - IBCT Increment 2: Conduct Preliminary and Critical design reviews (PDR, CDR) for Large Network Processor Version 2 (LNP V2) and Small Network Processor (SNP). Both the LNPv2 and SNP expect to leverage off of FCS ICS LRU developments bringing high level routing, extended processing, memory, encrypted storage and VITA standard LRM's to the type VI chassis. The LNP V2 will be less expensive than the Type VI and will provide greater capability (including some hardware encryption and router/firewall capabilities). The SNP is the down sized version of the LNPv2 designed to bring the minimal network connectivity to BCT platforms like Trucks. Build, qualify test and deliver 26 Large Network Processor Version 2, 6 type VII BrassBoards, and 7 type VII Prototypes for the ARV-A(L). ICS Software: For Increment 2, begin coding, unit test and integration of ICS Build 3.5 software, to include the Real-Time (RTOS) and L5OS (RedHat Enterprise Linux 5.4 derivative) operating systems (OS).</p>		0.000	0.000	84.085	0.000	84.085

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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 #54  Contractor C4ISR System IAT&C FY09: Begin C4ISR integration of Battle Command System (BCS) Increment 1 software deliveries (engineering drops and final build) to support IBCT LUT-09. Continue C4ISR integration of BCS Increment 1 software deliveries (engineering drops and final build) to support the Network Integration Kit (NIK) Network System Qualification Test (NSQT) planned for 3Q FY10. Begin Hardware/Software integration, to include integration and lab testing of the Ground Mobile Radio (GMR) with the ICS Type VI computer. Perform T/U UGS integration and lab testing with the NIK prior to the NIK Network Software Quality Tests (NSQT). This included T-UGS Gateways, ISR and Electro Optical/Infrared (EO/IR) nodes and U-UGS gateways and intrusion/imaging nodes. Complete SW integration of BCS Increment 2 software in 3Q FY09 developed during SDD Build 2 Early.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		29.351	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 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #55  Contractor C4ISR System IAT&C FY10 - IBCT Increment 1: Continue integration of Battle Command System (BCS) Increment 1 software deliveries (engineering drops and final build) prior to Increment 1 LUT-10. Conduct Hardware/Software integration of the BCS with the Integrated Computer System (ICS) Type VI variant and the Ground Mobile Radio (GMR) as part of the Network Integration Kit (NIK), these activities include integration, test and verification activities to make sure successful integration is achieved. In addition to lab testing, conduct additional field testing for each BCS ER integrated with the NIK. Resolve any remaining NIK and BCS integration issues, resolve software problem reports (SPR's), and complete a Network Systems Qualification Test (NSQT) on the NIK in 3Q FY10 to support Increment 1 LUT-10. BCS Increment 1 will include integration of SOSCOE Build 2.7 with the Integrated Computer System (ICS) Build 2.0 Operating System (OS), incorporating the Cross Domain Guard (CDG).  <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	17.460	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						
<b>Program #56</b> Contractor C4ISR System IAT&C FY10 - IBCT Increment 2: Perform integration and test among each of the Increment 2 Phase 1 software subsystems as part of Battle Command System (BCS) Integration/Test effort. Integrate and lab test the IBCT Increment 2 Phase 1 BCS with each of the ICS configurations and the Centralized Controller (CC) systems to ensure proper integration and functionality. Complete Network System Qualification Tests (NSQT's) for the BCS Increment 2 Phase 1 software with each of the ICS variants and CC to support early integration prior to the platform Integrated Qualification Tests (IQT's). Complete a Network Integration Qualification Test (NIQT) which encompasses results from FQTs, Network Software Quality Tests (NSQT), Software Integration Qualification Test (SIQT), as well as the field.  <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	35.799	0.000	0.000	0.000
<b>Program #57</b> Software Integration FY11 - IBCT Increment 2: Perform integration and lab testing of Battle Command System (BCS) Increment 2 Phase 2 software and provide BCS Increment 2 Phase 2 Integration Releases (IRs) to support		0.000	0.000	43.492	0.000	43.492

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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>integration with each applicable Integrated Computer System (ICS) variant and common controller (CC). BCS Increment 2 Phase 2 will include integration of SOSCOE Builds 10.6 through 10.8 with the latest versions of the ICS Operating System (OS).</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 #58</p> <p>GFX FY09: NAIL provided the government an analytical capability, to assess FCS network performance capability. This includes identifying network and performance gaps and evaluating technical solutions to optimize end-to-end (E2E) performance of the network. Simulates all aspects of the network to include scenarios, waveforms, Performed and delivered Virtual and Constructive (V&amp;C) Baseline (including scenarios, waveforms, etc., for modeling and simulation of the E2E network) of Network Capabilities for FCS Combined Test Organization (CTO) IBCT Testing and Experimentation (CES, SOSCOE, BC, Integration, and Net Monitoring). Baseline the FCS Core E2E Network Performance, which includes: Risk reduction (i.e., executing risk mitigation plans) and Network Performance Gap Analysis (e.g., connectivity). Baseline IBCT Increment 1 E2E performance. As a result, provided technical guidance on the evolution of the Increment 2 network design and performance requirements of the Network A Specification and system integration of the Waveform Load Set (WLS) in the positioning of waveforms on platforms, Subnetting, Spectrum, and BC System Engineering.</p>		29.424	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>Designed/performed Data Distribution Architecture and Traffic Engineering for BC/SOSCOE targeting IBCT Increment 1. This Government NAIL analysis resulted in the identification of SOSCOE network scalability issues to the Contractor which was resolved with Government-Contractor collaboration in the Government NAIL lab. Performed Tactical E2E Voice analysis, ISR / Teleoperations Video E2E Operational Performance Assessment, Network requirements, Test and Performance Measures, in support of assessing Architectural Gaps for FCS Program Network. Performed ISR Effectiveness and Distribution analysis for IBCT Increment 1.</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 #59</p> <p>GFX FY09 (Continued): Performed IBCT Network Performance-related Risk reduction across the Army Forces and performed inherent Government analysis, "What-if" analysis (Varying Communications options, Varying ISR Capabilities) and drove requirements into complementary programs and performed FCS / Cross-agency Service Integration (DCGS-A, Medical, DOD PKI, and DISA NCES). Performed EPLRS/WNW Backbone performance design and analysis and determined best backbone configuration and capabilities for the Army. Also performed Common Controller (CC) alternative radio experimentation which resulted in the identification of acceptable list of potential radios for Teleoperations and provided basis for ERAS. In summary, the Government NAIL provided</p>		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>technical expertise and delivered data products to the Prime Contractor and the Army, thereby providing risk mitigation of the network for the Army.</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 #60</p> <p>GFX FY10 IBCT Increment 1: The NAIL shall produce and update the Inc 1 Waveform Load Set (Subnet Plan, Frequency Channel Assignment), Routing Architecture (Multicast/Unicast for Brigade per Operational Mission Nets), Internet Protocol (IP) Address Book and Assignment Schema, Common Controller (CC) Tele-operations of SUGV Evaluation and Report of Enhanced/Alternative Radios including modified Enhanced Position Locating Radio System (EPLRS) with Teleops Enhancements and Soldier Radio Waveform (SRW) 1.0c, Large Robotic Vehicle Teleoperation Operational Effectiveness Evaluation and Report, Integration of Voice System Software on Inc 1 Computer, Voice Signal Analysis, Evaluation, and Evaluation Report, Voice System Software Field Evaluation and Report, Traffic Engineering Design for Inc 1 Battle Command (BC), Software Load Allocation definition for Battle Command for Quality of Service (QoS) within Network Management System, Reliability Enhancements/Reconfigurations for Transport Design for NIK/FBCB2/GMR prior to the introduction of WIN-T, Traffic Engineering Requirements for SOSCOE, Offered Load (OL) Database Development of Inc 1 Traffic on</p>		0.000	13.131	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>the Network in support of FY10 LUT. The NAIL shall maintain the virtual (model and simulation with human in-the-loop) and constructive (simulated) environment to perform the tasks and produce the products listed above.</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 #61</p> <p>GFX FY10 IBCT Increment 2: The NAIL shall produce and integrate with the Prime Contractor on the design and maturation of the end to end (E2E), operationally-driven Increment 2 IBCT Network. NAIL will Evaluate Current Force Sensor for Integration into the INC 2 Network. The NAIL shall initiate the Inc 2 Waveform Load Set (Subnet Plan, Frequency Channel Assignment), Initiate Inc 2 Routing Architecture (Multicast/Unicast for Brigade per Operational Mission Nets) to include the addition of Ground Soldier System (GSS), Inc 2 Internet Protocol (IP) Address Book and Assignment Schema, Produce Voice Dismount Software, Integration of Voice System Software with GSS, WIN-T, and NIKs, Traffic Engineering Design for Inc 2 Battle Command (BC), Software Load Allocation definition for all Inc 2 Battle Command Software on NIK Configurations, Reliable for Transport Design for NIK/FBCB2 Battle Command Environment Utilizing GMR and WIN-T for Communications Transport, Traffic Engineering Requirements for Inc 2 SOSCOE, Offered Load (OL) Database Development of Inc 2 Traffic on the Network. In collaboration with JPEO JTRS undertake an aggressive risk reduction plan to grow and demonstrate the network maturity and reliability to support continued Inc 2 EIBCT production and</p>		0.000	24.300	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>
fielding. GFX Hardware for example includes surrogate radio platforms, sensors, voice computing nodes, radios, software tools and licenses.  <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 #62  GFX FY11 IBCT Increment 2: The NAIL shall produce/update/finalize the Inc 2 Waveform Load Set (Subnet Plan, Frequency Channel Assignment), Update Inc 2 Routing Architecture (Multicast/Unicast for Brigade per Operational Mission Nets), Update Internet Protocol (IP) Address Book and Assignment Schema, Integration of Video System Software on INC 2 Computer, Perform Video Field Evaluation and Report , Finalize Traffic Engineering Design for Inc 2 Battle Command (BC), Requirements for SOSCOE, Offered Load (OL) Database Development of Inc 2 Traffic on the Network, Perform Integration of Current Force intelligence systems for dismounted sensor reports and targeting integration with unmanned sensors in the Company and Platoon Common Operating Picture (COP). The NAIL shall maintain the virtual (model and simulation with human in-the-loop) and constructive (simulated) environment to perform the tasks and produce the products listed above.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	26.455	0.000	26.455

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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 #63 Contractor Fee  <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	53.085	0.000	53.085
Program #64 Small Business Innovative Research/Small Business Technology Transfer Programs		0.000	18.361	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											
Accomplishments/Planned Programs Subtotals						819.721	655.745	610.389	0.000	610.389	
<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 Non-Line of Sight - Launch System</i>	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	512.290
• Ord. #2: <i>0604647A Non-Line of Sight - Cannon</i>	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
• Ord. #3: <i>0604660A FCS Manned Ground Vehicles &amp; Common Grd Vehicle Components</i>	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860
• Ord. #4: <i>0604661A FCS System of Systems Engr &amp; Program Management</i>	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
• Ord. #5: <i>0604662A FCS Reconnaissance (UAV) Platforms</i>	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	0	197.572

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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. #6: <i>0604663A FCS Unmanned Ground Vehicles</i>	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	603.586
• Ord. #7: <i>0604664A FCS Unattended Ground Sensors</i>	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	56.570
• Ord. #8: <i>0604666A Spin Out Technology/Capability Insertion</i>	122.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	122.788
• Ord. #9: <i>0605625A Manned Ground Vehicle</i>	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	Continuing	Continuing
• Ord. #10: <i>WTCV G86100 FCS Core Program</i>	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127
• Ord. #11: <i>WTCV G86200 FCS Spin Out Program</i>	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177
• Ord. #12: <i>WTCV G86000 Ground Combat Vehicle (GCV)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: <i>ACFT A00015 BCT Unmanned Aerial Veh (UAVs) Incr 1</i>	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	Continuing	Continuing
• Ord. #14: <i>ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Incr 2</i>	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	Continuing	Continuing
• Ord. #15: <i>OPA B00001 BCT Unattended Ground Sensor</i>	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing
• Ord. #16: <i>OPA B00004 BCT Unattended Ground Sensor Incr 2</i>	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #17: <i>OPA B00002 BCT Network</i>	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #18: <i>OPA B00003 BCT Network Incr 2</i>	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
• Ord. #19: <i>OPA F00001 BCT Unmanned Ground Vehicle</i>	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing
	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing

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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 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. #20: <i>OPA F00002 BCT Unmanned Ground Vehicle Incr 2</i>											
• Ord. #21: <i>OPA G80001 BCT Training/Logistics/Management</i>	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: <i>OPA G00002 BCT Training/Logistics/Management Incr 2</i>	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: <i>MSLS C64501 BCT NLOS-LS Incr 1</i>	0.000	0.000	350.574	0.000	350.574	758.657	112.115	0.000	0.000	0	1,221.346
• Ord. #24: <i>MSLS C64601 BCT NLOS-LS Incr 2</i>	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

**D. Acquisition Strategy**

A 23 June 2009 Acquisition Decision Memorandum (ADM) directed the cancellation of the FCS (BCT) acquisition program. It also instructed the Army to transition to an Army modernization plan consisting of a number of integrated acquisition programs. At that time, the SO E-IBCT was designated a pre-MDAP, with a Milestone C decision scheduled for the first quarter FY 2010. A follow-on ADM was issued 9 July 2009. In it, the Army was directed to continue efforts to improve the brigades beyond the Early Infantry Brigade Combat Team acquisition until a standalone program(s) is defined later in 2010. An Army BCT Modernization Defense Acquisition Board (DAB) was then held on October 16, 2009 to review the Army's plans for the post-Future Combat Systems efforts and confirm the Army brigade modernization acquisition plans were consistent with the Secretary of Defense's guidance. An ADM issued after this DAB stated: "The approach, for Increment 1 (Early-Infantry Brigade Combat Team (E-IBCT)) and the Ground Combat Vehicle (GCV) effort, is consistent with the Secretary's guidance and each is being positioned for more in-depth review and acquisition decisions later in 2009." The Increment 1 E-IBCT Milestone C took place 22 December 2009 and was approved in an ADM dated 24 December 2009. The Program Executive Officer-Integration (PEO-I) has modified the existing contract to be compliant with the aforementioned ADMs. This budget justification reflects the Milestone C approved Increment 1 (E-IBCT) program and the follow-on IBCT modernization program planned by the Army.

**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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			
SoSCOE / INFO MGT SYSTEM SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO	0.000	71.543		66.466		0.000		66.466	Continuing	Continuing	0
COMMUNICATIONS SYSTEMS SOFTWARE & NETWORK MGT SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remark 2	0.000	37.474		57.493		0.000		57.493	Continuing	Continuing	0
BATTLE COMMAND SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remarks 3,5,6,7	0.000	112.517		114.718		0.000		114.718	Continuing	Continuing	0
FUSION SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remarks 1, 7	0.000	18.432		12.161		0.000		12.161	Continuing	Continuing	0
EMBEDDED TRAINING SOFTWARE FY08	C	THE BOEING COMPANY ST LOUIS, MO, all tier one subcontractors	0.000	15.940		14.455		0.000		14.455	Continuing	Continuing	0
CONTRACTOR LOG PRODUCTS SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remarks 4,12,13	0.000	37.518		30.444		0.000		30.444	Continuing	Continuing	0
RANGE EXTENSION RELAY	C	THE BOEING COMPANY ST	0.000	2.360		0.000		0.000		0.000	Continuing	Continuing	0

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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			
GROUND SENSOR INTEGRATOR HARDWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remark 8	0.000	70.440		0.000		0.000		0.000	Continuing	Continuing	0
AIR SENSOR HARDWARE	C	THE BOEING COMPANY ST. LOUIS, MO, see remark 9	0.000	13.300		0.000		0.000		0.000	Continuing	Continuing	0
COMMUNICATION HARDWARE - AIR & GROUND	C	THE BOEING COMPANY ST LOUIS, MO, see remark 10	0.000	47.980		57.397		0.000		57.397	Continuing	Continuing	0
COMMON CONTROLLER, HARDWARE AND SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO	0.000	34.210		50.138		0.000		50.138	Continuing	Continuing	0
ICS COMPUTER PROCESSING HARDWARE AND SOFTWARE	C	THE BOEING COMPANY ST LOUIS, MO, see remark 11	0.000	84.980		84.085		0.000		84.085	Continuing	Continuing	0
CONTRACTOR C4ISR SYSTEM IAT&C & MANAGEMENT	C	THE BOEING COMPANY ST LOUIS, MO	0.000	53.259		43.492		0.000		43.492	Continuing	Continuing	0
Government GFX	C	PM FCS (BCT) St. Louis MO	0.000	37.431		26.455		0.000		26.455	Continuing	Continuing	0
Contractor Fee	C		0.000	0.000		53.085		0.000		53.085	Continuing	Continuing	0

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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			
		Nothing entered for Activity and Location. Location could not be determined.											
<b>Subtotal</b>			0.000	637.384		610.389		0.000		610.389			0.000

**Remarks**

1: Subcontractor: Lockheed Martin Integrated Systems and Solutions, San Diego, CA; (ISR Level 1 Fusion) 2: Subcontractor: Northrop Grumman Network Management Systems, Carson, CA; (Network Mgt Sys)3: Subcontractor: Boeing Mesa, Mesa, AZ; (Warfighter Machine Interface)4: Subcontractor: Northrop Grumman Mission Systems, Carson, CA; (Logistics Decision Support Software) 5: Subcontractor: Raytheon Network Centric, Fort Wayne, IN; (Battle Command & Mission Execution)6: Subcontractor: Network Centric Systems/Austin Info Systems, Austin, TX; (Situational Understanding)7: Subcontractor: General Dynamics C4 Systems, Scottsdale, AZ; (Sensor Data Mgt)(Planning & Preparation Services)8: Subcontractor: Raytheon Network Centric Systems, Plano, TX; (Ground Sensor Integrator)9: Subcontractor: Northrop Grumman Electronic Sys CMS, Belcamp, MD; (Air Sensor Integrator)10: Subcontractor: BAE Systems, Wayne, NJ; (Air & Ground Communication Integration)11: Subcontractor: General Dynamics Adv Info Sys, Bloomington, MN; (Integrated Computer Systems)12: Subcontractor: Honeywell Defense & Electronics System, Albuquerque, NM; (Platform Soldier Mission Readiness System)13: Subcontractor: IBM, Bethesda, MD; (Logistics Data Management Systems)

**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			
SBIR/STTR	C	OSD Location could not be determined.	0.000	18.361		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	18.361		0.000		0.000		0.000			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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			
<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>			0.000	655.745	610.389		0.000		610.389			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>
<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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
Increment 1 Total Program Tasks			#	#	#	#	#	#	#	#	#	#																
Incr 1 Limited User Test FY 09			#																									
Incr 1 Milestone C				#																								
Incr 1 STX / FDT&E / LUT 10						#	#																					
Incr 1 Production Contract Award					#																							
Incr 1 Production Delivery							#	#	#	#																		
Incr 1 Initial Operational Test & Evaluation											#																	
Incr 1 First Unit Equipped											#																	
Incr 1 Initial Operational Capability												#																
Increment 2 Total Program Tasks									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Incr 2 CDR									#																			
Incr 2 FDT&E / STX / LUT 13													#	#														
Incr 2 Milestone C															#													
Incr 2 Initial Operational Capability																											#	
Increment 1 Network Tasks			#	#	#	#	#	#	#	#	#	#																
SOSCOE Build 2.5					#																							
SOSCOE Build 2.7					#																							
Incr 1 Battle Command Software Applications FQT				#	#	#																						
Incr 1 Fusion Software FQT					#	#																						
					#	#																						

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>
<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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
Incr 1 Logistics Products Application Software FQT																												
Incr 1 Network Management System FQT					#	#																						
Increment 2 Network Tasks										#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
SOSCOE Build 10.6 FQT								#																				
SOSCOE Build 10.8 FQT									#																			
SOSCOE Build 10.12 FQT													#															
Incr 2 Phase 1 Platform / System Software Integration Releases			#	#	#	#	#	#	#																			
Incr 2 Phase 1 Battle Command Integration Release			#	#	#	#	#																					
Incr 2 Phase 1 Fusion Integration Release			#	#	#	#																						
Incr 2 Phase 1 Network Comms Integration Release			#	#	#	#																						
Incr 2 Phase 1 Logistics Products Integration Release			#	#	#	#																						
Incr 2 Phase 1 Training Products Integration Release			#	#	#	#	#																					
Platform / System Network System Qualification Tests *									#	#	#	#	#	#	#													
Incr 2 Phase 1 NSQTs Completed										#	#	#	#															
Incr 2 Phase 2 NSQTs Completed													#	#														
Incr 2 Phase 2.1 NSQTs Completed															#													

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</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
ICS Prototype Deliveries					#	#	#	#	#																			
Common Controller Milestones (PDR)					#																							
(CDR) *							#																					
CC Prototype Deliveries *									#	#	#																	
Air Sensors					#																							
Class I EO-IR/LD Milestones (CDR)				#																								
Class I EO-IR/LD Prototype Deliveries											#	#																
Ground Sensors					#																							
MREO-Lite Milestones (CDR)					#																							
MREO-Lite Prototype Deliveries					#	#	#	#	#																			
SUGV EO-IR Milestones (CDR)						#																						
SUGV EO-IR Prototype Deliveries											#																	
JTRS GMR Prototype Deliveries			#	#	#	#	#	#																				
JTRS HMS Prototype Deliveries			#	#	#	#	#	#																				

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Increment 1 Total Program Tasks	3	2009	3	2011
Incr 1 Limited User Test FY 09	3	2009	3	2009
Incr 1 Milestone C	4	2009	4	2009
Incr 1 STX / FDT&E / LUT 10	2	2010	3	2010
Incr 1 Production Contract Award	1	2010	1	2010
Incr 1 Production Delivery	3	2010	2	2011
Incr 1 Initial Operational Test & Evaluation	3	2011	3	2011
Incr 1 First Unit Equipped	3	2011	3	2011
Incr 1 Initial Operational Capability	1	2012	1	2012
Increment 2 Total Program Tasks	2	2011	2	2015
Incr 2 CDR	2	2011	2	2011
Incr 2 FDT&E / STX / LUT 13	3	2012	4	2012
Incr 2 Milestone C	2	2013	2	2013
Incr 2 Initial Operational Capability	2	2015	2	2015
Increment 1 Network Tasks	3	2009	3	2011
SOSCOE Build 2.5	1	2010	1	2010
SOSCOE Build 2.7	1	2010	1	2010
Incr 1 Battle Command Software Applications FQT	4	2009	2	2010

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</i>

Event	Start		End	
	Quarter	Year	Quarter	Year
Incr 1 Fusion Software FQT	1	2010	2	2010
Incr 1 Logistics Products Application Software FQT	1	2010	2	2010
Incr 1 Network Management System FQT	1	2010	2	2010
Increment 2 Network Tasks	2	2011	2	2015
SOSCOE Build 10.6 FQT	4	2010	4	2010
SOSCOE Build 10.8 FQT	2	2011	2	2011
SOSCOE Build 10.12 FQT	2	2012	2	2012
Incr 2 Phase 1 Platform / System Software Integration Releases	3	2009	2	2011
Incr 2 Phase 1 Battle Command Integration Release	4	2009	4	2010
Incr 2 Phase 1 Fusion Integration Release	4	2009	3	2010
Incr 2 Phase 1 Network Comms Integration Release	4	2009	3	2010
Incr 2 Phase 1 Logistics Products Integration Release	4	2009	3	2010
Incr 2 Phase 1 Training Products Integration Release	4	2009	4	2010
Platform / System Network System Qualification Tests *	1	2011	3	2012
Incr 2 Phase 1 NSQTs Completed	2	2011	1	2012
Incr 2 Phase 2 NSQTs Completed	1	2012	2	2012
Incr 2 Phase 2.1 NSQTs Completed	3	2012	3	2012
ICS Prototype Deliveries	1	2010	1	2011
Common Controller Milestones (PDR)	1	2010	1	2010
(CDR) *	3	2010	3	2010

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604665A: <i>FCS Sustainment &amp; Training R&amp;D</i>	<b>PROJECT</b> FC6: <i>FCS Network Hardware &amp; Software</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
CC Prototype Deliveries *	1	2011	3	2011
Air Sensors	1	2010	1	2010
Class I EO-IR/LD Milestones (CDR)	4	2009	4	2009
Class I EO-IR/LD Prototype Deliveries	3	2011	4	2011
Ground Sensors	1	2010	1	2010
MREO-Lite Milestones (CDR)	1	2010	1	2010
MREO-Lite Prototype Deliveries	1	2010	1	2011
SUGV EO-IR Milestones (CDR)	2	2010	2	2010
SUGV EO-IR Prototype Deliveries	3	2011	3	2011
JTRS GMR Prototype Deliveries	3	2009	4	2010
JTRS HMS Prototype Deliveries	4	2009	3	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</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	122.788	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	122.788
FC7: <i>FCS - Spin Out Technology/Capability Integration</i>	122.788	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**

Through FY 2009, this program element funded all non-core Future Combat System (FCS) unique efforts required to develop and test the integration of FCS technologies and capabilities into the current force "Spin Out" Programs. This included A-Kit development, software and network hardware integration, Spin Out Network architecture and development, unique Spin Out training, logistics, testing, training support and upgrades of Training Aids, Devices, Simulators and Simulations (TADSS), etc. All FCS Core development required for B Kits was included in their appropriate program element as part of core program development. The Spin Out Program provided early capability in Force Protection, Networked Fires, Expanded Battle Space, and limited Battle Command to the current force. Beginning in FY 2010, the FCS program was cancelled and transitioned to an incremental development program. Each increment is a spin out program, thus there is no longer a unique spin out cost and this program element is no longer required. The Spin Out Program begins the process of providing interoperability of current force systems technologies (Force XXI Battle Command, Brigade and Below (FBCB2) and the Advanced Field Artillery Tactical Data System (AFATDS)) with new FCS capabilities (Unattended Ground Sensors (UGS), the Non Line of Sight Launch System (NLOS-LS), Small Unmanned Ground Vehicle Block 1 (SUGV and Class I Unmanned Aerial Vehicle Block 0 (UAV). This will be accomplished by integrating a common Network Integration Kit (NIK) consisting of the Joint Tactical Radio System (JTRS), the Integrated Computer System (ICS), and limited Battle Command System (BCS) software, to include System of System Common Operating Environment (SOSCOE), into the High Mobility Multipurpose Wheeled Vehicle (HMMWV). As a result of the elimination of FCS Brigade Combat Team (FBCT), there is no longer a need for a unique FCS Spin Out Program Element. The funding requirements are now spread amongst the appropriate FCS program elements. For example, the testing requirements for E-IBCT are now reflected in PE 0604661A FCS System of System Engineering and Program Management commencing with the FY2010 program year.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</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	111.032	0.000	85.792	0.000	85.792
Current President's Budget	122.788	0.000	0.000	0.000	0.000
Total Adjustments	11.756	0.000	-85.792	0.000	-85.792
• 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	14.641	0.000			
• SBIR/STTR Transfer	-2.885	0.000			
• Adjustments to Budget Years	0.000	0.000	-85.792	0.000	-85.792

**Change Summary Explanation**

Change Summary Explanation: FY09: Congress approved reprogramming request for additional funds to the program's higher priority needs FY11: Funds realigned to the newly created BCT modernization

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</i>				<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability 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>
FC7: <i>FCS - Spin Out Technology/Capability Integration</i>	122.788	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> Not applicable for this item.											
<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  Contractor SoS Engineering/PM FY09 Increment 1 IBCT - Completed the development of the Spin Out Early Network architecture, design, and specifications. Conducted Critical Design Review update for the Spin Out Configurations. Integrated Battle Command Software, SINCGARs, Soldier Radio Waveform and Wideband Networking Waveforms, and HMMWV A/B-Kits into a integrated Network. Coordinated Testing and analysis to verify the FCS capabilities to enhance the current IBCT. Inserted engineering changes to correct faults detected from FY 08 Preliminary-LUT. Integratee, verified and tested software changes. Supported FY09 LUT/FDTE/TFT testing.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							8.494	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</i>	<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability 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						
<p>Program #2</p> <p>Government and Contracting Training FY09 - Spin Out training supported both the maintenance and enhancement of Current Force CCTTs, and modeling and simulations, and soldier training necessary to provide continuity of training in support of the Army's Tactical Field Test (TFT), Force Development Test and Evaluation (FDTE), and Limited Users Test (LUT) for Increment 1 IBCT.</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>		8.481	0.000	0.000	0.000	0.000
<p>Program #3</p> <p>Contractor Logistics - FY09- Began the supportability planning and development of training procedures for the Increment 1 IBCTs, as well as the development of supportability planning and training procedures in support of government testing in FY09 efforts. This included coordination of spare parts, FSRs and labor to keep prototypes functioning during testing. It also included the fielding planning along with support planning for the FCS technologies in the IBCT. Coordinated and analyzed the logistics demonstrations and test activities in support of the Increment 1 IBCT Early Configuration.</p>		3.597	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</i>	<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability 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 #4  Contractor SUGV - FY09 - In support of Increment 1 IBCT refurbished and improved the 22 prototypes, in order to conduct follow-on testing (LUT/FDTE/TFT)to include mobility, range, endurance, RAM-T, logistics, and environmental tests.		2.704	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						

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</i>	<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability 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>
Program #5  Contractor T-UGS/U-UGS - FY09 - Refurbished the 10 T-UGS to enhance and upgrade them to the new form factor. Fabricated, assembled and delivered 6 sets of T-UGS with new form factor configuration to support the Increment 1 IBCT user test. Also, provided refurbishment and new gateway enhancements to the 16 U-UGS.  <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		2.421	0.000	0.000	0.000	0.000
Program #6  Contractor UAV - FY09 - Upgraded 11 Class I Block 0 Systems with electric engine controllers, and Microhard 320 Command and Control (C2) and L3 VNTX (video) analog radios.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		9.547	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</i>	<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability 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 #7  Contractor B-Kits - B-Kits include: Ground Platform Communication System (GPCS), Integrated Computer System, Ground Mobile Radio (GMR)-Joint Tactical Radio System (JTRS), GPCS consists of two antenna, 4 GMR radios, 4 power amplifiers, Network INFO/SEC Unit (NIU), and Local Control Display Device (LCDD). Fabricated, assembled and delivered 14 additional B-Kits for the HMMWVs integration in support of the user 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		16.187	0.000	0.000	0.000	0.000
Program #8		21.661	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</i>	<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability 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>
<p>Contractor Software - FY09 - Continued to integrate software drops for the Increment 1 IBCT LUT configuration to support the Technical Tests (TTs). Provided the framework for NLOS-LS's communications link into the network.</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>Contractor Test - FY09 - Provided personnel for IQT testing for the Increment 1 IBCT configuration on the current force platforms and the operational field events to include the TFTs and the Increment 1 IBCT LUT conducted by Operational Test Command. This included similar M&amp;S and instrumentation support for the Spin Out 1 test.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		6.530	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</i>	<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability 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 #10  Government Test - FY09 - Provided range support for SUGV and Class 1 Block 0 UAV characterization testing. Provided range support for SO Technical Field Test (TFT) and funds Increment 1 IBCT Limited User Test (LUT). Funded the development and deployment of a M&S wrap around simulation and common instrumentation package for TFT and LUT.  <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		28.746	0.000	0.000	0.000	0.000
Program #11  A Kit Development/Installation - FY09 - Funded material and labor required to make the Increment 1 IBCT LUT configuration prototype A-Kits, procured material needed for the production configuration A-Kit, as well		5.710	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</i>	<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability 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>
<p>as the labor required to build the prototype A-Kits and modified the digital current force platforms to accept the production configuration NIKs. Purchased 1151 and 1165 HMMWV variants for test purposes.</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 #12</p> <p>Government Integration of FBCB2 and Network - FY09 - Provided Systems Engineering, SW code changes and technical support to ensure a successful 2009 Increment 1 IBCT Spin Out LUT, including: Adapt 2008 FBCB2 6.5 capability to a BFT (SATCOM) configuration. Enhanced Imagery capability (adds MPEG, provides more robust capability). Added ability to interface simultaneously to multiple networks (FCS provided WNW and BFT) for information dissemination. Provided on site technical support during developmental and field testing. Provided continuous support to Software Problem Report (SPR) resolution. Provided dedicated BFT Network Operations Center (NOC) to support Spin Out 1 LUT (need Unclass and 6.5 based NOC). Provided same capability with FBCB2 JCR 2.x with FCS Spin Out capability but adds ability to "intelligently" route FCS images over the BFT2 network and adds limited logistics threads.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		5.601	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</i>	<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability 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 #13 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		3.109	0.000	0.000	0.000	0.000
<b>Accomplishments/Planned Programs Subtotals</b>		122.788	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	
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				PROJECT				
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)			PE 0604666A: Spin Out Technology/Capability Insertion				FC7: FCS - Spin Out Technology/Capability Integration				
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
Line Item	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: 0604646A Non-Line of Sight - Launch Sytem	253.684	91.223	81.247	0.000	81.247	58.718	27.418	0.000	0.000	0	512.290
• Ord. #2: 0604647A Non-Line of Sight - Cannon	87.038	47.964	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	135.002
• Ord. #3: 0604660A FCS Manned Ground Vehicles & Common Grd Vehicle Components	760.744	275.116	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	1,035.860
• Ord. #4: 0604661A FCS System of Systems Engr & Program Management	1,022.165	912.399	568.711	0.000	568.711	566.378	582.775	618.755	727.415	Continuing	Continuing
• Ord. #5: 0604662A FCS Reconnaissance (UAV) Platforms	55.923	75.107	50.304	0.000	50.304	12.058	4.180	0.000	0.000	0	197.572
• Ord. #6: 0604663A FCS Unmanned Ground Vehicles	104.571	124.962	249.948	0.000	249.948	98.737	25.368	0.000	0.000	0	603.586
• Ord. #7: 0604664A FCS Unattended Ground Sensors	20.135	26.778	7.515	0.000	7.515	1.071	1.071	0.000	0.000	0	56.570
• Ord. #8: 0604665A FCS Sustainment & Training R&D	819.721	655.745	610.389	0.000	610.389	523.580	366.647	253.810	258.367	Continuing	Continuing
• Ord. #9: 0605625A Manned Ground Vehicle	0.000	79.583	934.366	0.000	934.366	1,882.839	2,242.756	1,375.128	744.771	Continuing	Continuing
• Ord. #10: WTCV G86100 FCS Core Program	154.127	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	154.127
• Ord. #11: WTCV G86200 FCS Spin Out Program	67.268	326.909	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	394.177
• Ord. #12: WTCV G86000 Ground Combat Vehicle (GCV)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	98.030	778.220	Continuing	Continuing
• Ord. #13: ACFTA00015 BCT Unmanned Aerial Veh (UAVs) Incr 1	0.000	0.000	44.206	0.000	44.206	40.216	12.770	3.718	1.850	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability Insertion</i>	<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability Integration</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. #14: <i>ACFT A00016 BCT Unmanned Aerial Veh (UAVs) Incr 2</i>	0.000	0.000	0.000	0.000	0.000	2.141	85.345	90.245	92.686	Continuing	Continuing
• Ord. #15: <i>OPA B00001 BCT Unattended Ground Sensor</i>	0.000	0.000	29.718	0.000	29.718	60.578	9.582	1.544	1.328	Continuing	Continuing
• Ord. #16: <i>OPA B00004 BCT Unattended Ground Sensor Incr 2</i>	0.000	0.000	0.000	0.000	0.000	19.093	87.478	96.172	86.259	Continuing	Continuing
• Ord. #17: <i>OPA B00002 BCT Network</i>	0.000	0.000	176.543	0.000	176.543	192.632	20.619	0.317	0.187	Continuing	Continuing
• Ord. #18: <i>OPA B00003 BCT Network Incr 2</i>	0.000	0.000	0.000	0.000	0.000	81.277	301.864	454.480	431.835	Continuing	Continuing
• Ord. #19: <i>OPA F00001 BCT Unmanned Ground Vehicle</i>	0.000	0.000	20.046	0.000	20.046	42.703	6.002	2.288	1.870	Continuing	Continuing
• Ord. #20: <i>OPA F00002 BCT Unmanned Ground Vehicle Incr 2</i>	0.000	0.000	0.000	0.000	0.000	373.193	710.680	676.230	711.940	Continuing	Continuing
• Ord. #21: <i>OPA G80001 BCT Training/Logistics/Management</i>	0.000	0.000	61.581	0.000	61.581	12.178	94.491	68.033	50.468	Continuing	Continuing
• Ord. #22: <i>OPA G00002 BCT Training/Logistics/Management Incr 2</i>	0.000	0.000	0.000	0.000	0.000	75.069	387.173	396.593	446.806	Continuing	Continuing
• Ord. #23: <i>MSLS C64501 BCT NLOS-LS Incr 1</i>	0.000	0.000	350.574	0.000	350.574	758.657	1,112.115	0.000	0.000	0	2,221.346
• Ord. #24: <i>MSLS C64601 BCT NLOS-LS Incr 2</i>	0.000	0.000	0.000	0.000	0.000	0.000	605.192	679.078	579.210	Continuing	Continuing

**D. Acquisition Strategy**

As a result of the elimination of FCS Brigade Combat Team (FBCT), there is no longer a need for a unique FCS Spin Out Program Element. The funding requirements are now spread amongst the appropriate FCS program elements. For example, the testing requirements for E-IBCT are now reflected in PE 0604661A FCS System of System Engineering and Program Management commencing with the FY2010 program year.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604666A: <i>Spin Out Technology/Capability</i> <i>Insertion</i>	<b>PROJECT</b> FC7: <i>FCS - Spin Out Technology/Capability</i> <i>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-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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng 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	96.678	57.111	52.549	0.000	52.549	32.012	24.494	19.140	19.101	Continuing	Continuing
L67: <i>SOLDIER NIGHT VISION DEVICES</i>	30.846	24.509	23.891	0.000	23.891	24.066	19.036	19.140	19.101	Continuing	Continuing
L70: <i>NIGHT VISION DEV ED</i>	57.877	9.686	5.183	0.000	5.183	5.342	5.458	0.000	0.000	Continuing	Continuing
L75: <i>Profiler</i>	0.000	5.403	6.014	0.000	6.014	2.604	0.000	0.000	0.000	Continuing	Continuing
L76: <i>Dismounted Fire Support Laser Targeting Systems</i>	7.955	17.513	17.461	0.000	17.461	0.000	0.000	0.000	0.000	Continuing	Continuing

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

This program element provides night vision/reconnaissance, surveillance and target acquisition technologies required for U. S. defense forces to engage enemy forces twenty-four hours a day under conditions of degraded visibility due to darkness, adverse weather, battlefield obscurants, foliage and man-made structures. These developments and improvements to high performance night vision electro-optics, radar, laser, and thermal systems and integration of related multi-sensor suites will enable near to long range target acquisition, identification and engagement to include significant fratricide reduction, which will improve battlefield command and control in "around-the-clock" combat operations. Project L67 focuses on night vision electro-optical, laser, and other target identification and location equipment for a variety of Future Combat System of Systems (FCS) Units of Action/Employment and Future Force soldiers. This project includes the enhanced night vision goggle, modular HTI multi-function laser activities, and thermal upgrades to include an uncooled medium thermal weapon sight. Project L70 focuses on night vision, reconnaissance, surveillance and target acquisition (RSTA) sensor and suites of sensors to provide well-defined surveillance and targeting capabilities for a variety of Current, Modular, Future Combat System of Systems (FCS) and Future Force platforms. This project includes: System Development and Demonstration of the Thermal Imaging Engine (transitioned from an Advanced Technology Objective); night vision sensor acquisition support of FCS Unattended Ground Sensors and ASTAMIDS; development of a Standard Ground Station for Persistent Surveillance Sensors (RAID and PTDS). Project L75 focuses on development of Profiler Block enhanced capabilities for meteorological measurement sensors and data. Improvements have reduced the footprint (less soldiers/vehicles) and complexity of the system, improved performance (accuracy), improved survivability, connectivity, no balloon sensor, multiple initialization data, and terrain visualization. The improved MET message data will increase lethality by enabling artillery a greater probability of first round hit with indirect fire systems. Profiler Block III will provide a networked laptop configuration while further reducing the system's logistics footprint with the elimination of the High Mobility Multi-purpose Wheeled Vehicle (HMMWV) mounted shelter and trailer. The Block III configuration consist of one computer with a common operating system co-located within the Tactical Operation Center (TOC) with a direct interface to the TOC Local Area Network (LAN). The system will be able to provide Gridded MET along with autonomously generate MET messages upon request from AFATDS eliminating the need for a dedicated MET section crew. The Army will realize a significant cost avoidance with the improved configuration. Project L76 focuses on the engineering development of technologies for insertion into Laser Target Locators and Laser Designators to improve overall performance of those systems and reduce weight. Technologies developed under this project will benefit the Lightweight Laser Designator

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>
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Rangefinder (LLDR, AN/PED-1), the Mark VII-E Laser Target Locator, and future programs based on emerging Army requirements. Advanced, cooled, infrared imaging focal plane arrays are now available which, when applied to LLDR, will provide much greater range performance in a package of similar size. With an associated optical redesign, greater LLDR imaging performance can be achieved with an overall reduction in weight. This project will also integrate the next generation uncooled, 17 micron pixel-pitch FLIRs being developed for the Thermal Weapon Sight program into the Mark VII-E/LTLM, improving its imaging performance with no impact on its weight. New laser designator technology has been developed which will reduce laser designator weight by close to 50% and cut battery usage by a factor of 10. Further reductions can be gained by reducing laser designator output energy levels below currently accepted standards, which initial modeling and testing indicate will not compromise performance of laser guided munitions. A primary focus of this project will be to perform sufficient live-fire and captive-carry range tests over a wide variety of environmental conditions with all current and future laser guided munitions to build the necessary confidence that reduced designator energy levels will not adversely impact the mission. In addition, this line will support improved accuracy (reduced target location error) in support of coordinate seeking weapons, such as JDAM and Excalibur.

**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	51.537	55.410	52.819	0.000	52.819
Current President's Budget	96.678	57.111	52.549	0.000	52.549
Total Adjustments	45.141	1.701	-0.270	0.000	-0.270
• Congressional General Reductions		-0.299			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		2.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-4.759	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.270	0.000	-0.270
• Overseas Contingency Operations (OCO)	49.900	0.000	0.000	0.000	0.000

**Change Summary Explanation**

Change Summary Explanation: FY 2009: Increase of \$49.900 million reflects the Overseas Contingency Operations (OCO) funding for the Heterogeneous Airborne Reconnaissance team system development (\$17.000 million), Beyond Line of Sight RDA Seismic UGS development (\$6.000 million) and Airborne Wireless Mesh development (\$22.500 million), and Kabul Persistent Threat Detection System (\$4.400 million). Beyond Line of Sight RDA Seismic UGS development (\$6 million).FY2010 - Congressional Increase-\$2.000 million to project L70 for Standard Ground Station-Enhancement 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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L67: <i>SOLDIER NIGHT VISION DEVICES</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>
L67: <i>SOLDIER NIGHT VISION DEVICES</i>	30.846	24.509	23.891	0.000	23.891	24.066	19.036	19.140	19.101	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>This project develops, improves and miniaturizes high performance night vision electro-optics, thermal and laser systems. It also provides for systems integration of related multi-sensor suites to enable near to long-range target acquisition and engagement as well as improved battlefield command and control in around-the-clock combat operations. It focuses on adapting demonstrated technologies that can bring improvements to the dismounted Soldiers' equipment. This project develops or enhances equipment that provides the individual Soldier's day/night situational awareness and individual targeting capability, sniper fire detection and location capability, and integrates improved target location and self-location capability to eliminate friendly fire incidents. The Enhanced Night Vision Goggle (Digital) ENVG(D) is a head/helmet mounted night vision system for the individual Soldier. Other efforts include a Soldier-borne gunfire detection system to determine location of sniper gunfire and the development of Sense Through The Wall (STTW) technology giving Soldiers the ability to detect threats through walls during Military Operations in Urban Terrain (MOUT). This project also develop a Family Weapon Sight (FWS) with fused electro-optical performance, and developing focal plane and high resolution micro-display technology increasing product resolution, range, and imaging performance.</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 the integration, testing and evaluation of demonstrated digital enhanced night vision technologies to support Engineering and Manufacturing Development (EMD) in FY12.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010							12.364	5.946	1.921	0.000	1.921

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L67: <i>SOLDIER NIGHT VISION DEVICES</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 #2</b> Complete DT/OT for multiple additional sources of PSQ-20 ( Enhanced Night Vision Goggle Optical)  <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	2.000	0.000	2.000
<b>Program #3</b> Continue the development of lightweight multi-purpose lasers with a nonlethal method of warning a vehicle operator or gaining their attention beyond 75 meters and identify friend or foe (IFF).  <i>FY 2009 Accomplishments:</i> FY 2009		1.701	4.181	3.423	0.000	3.423

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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						
<b>Program #4</b>  Continue the development of Sense Through The Wall (STTW), which provides dismounted Soldiers with the capability to detect and locate threats through walls during Military Operations on Urban Terrain (MOUT).  <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		0.180	1.557	1.222	0.000	1.222
<b>Program #5</b>  Initiate the development of the Family Weapon Sight (FWS), which is a passive fused electro-optical sight.		0.000	2.716	4.282	0.000	4.282

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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 #6  Completed system development to reduce the size and weight of the Auto Aim Point. Auto Aim provides improved situational awareness and Soldier safety by enabling weapon sight viewing through the head mounted display.  <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		2.000	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>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  Continue the development, testing and evaluation of improved Focal Plane Arrays (FPA), with larger array sizes, improved sensitivity, clarity and range. Also develop next generation FPA with smaller, 12 micron, pitch.  <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		7.978	5.348	4.869	0.000	4.869
Program #8  Continue the development of sniper fire detection and location systems, using portable sensors on Soldiers to locate gunfire.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base		2.813	2.292	2.445	0.000	2.445

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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 #9  Continue the development of laser defense capabilities for sniper detection/laser warning system with the ability to "see" threat optics in order to locate enemy snipers.  <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		2.428	1.032	3.729	0.000	3.729
Program #10  Completed development to improve range acceleration, reduced operating temperature and extended laser life cycle for laser devices.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		1.382	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 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO								
Program #11 Complete Clip on SNS Operational 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	0.750	0.000	0.000	0.000
Program #12 Small Business Inovative Research/Small Business Technology Transfer  <i>FY 2009 Accomplishments:</i> FY 2009				0.000	0.687	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						30.846	24.509	23.891	0.000	23.891	
<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>Helmet Mounted Enhanced Vision Devices (K36400) OPA2</i>	399.242	154.289	8.098	0.000	8.098	87.640	130.585	200.003	227.474	Continuing	Continuing
• Ord. #2: <i>Thermal Weapon Sight (TWS) (K22900) OPA2</i>	435.213	328.898	248.899	0.000	248.899	287.924	81.669	92.315	96.745	Continuing	Continuing
• Ord. #3: <i>Sniper Night Sight (K41500) OPA2</i>	17.069	14.175	12.880	0.000	12.880	15.145	7.157	14.778	14.381	Continuing	Continuing
• Ord. #4: <i>Multi-Function Aiming Light (MFAL) (K35000) OPA2</i>	30.964	26.040	21.434	0.000	21.434	22.311	12.001	10.689	11.762	Continuing	Continuing
• Ord. #5: <i>Sense Through The Wall (STTW) (KA2300) OPA2</i>	0.000	0.000	24.939	0.000	24.939	65.522	41.368	0.000	0.000	0	131.829
• Ord. #6: <i>Small Tactical Optical Rifle Mounted (STORM) (K35110)</i>	0.000	24.150	8.520	0.000	8.520	10.245	3.450	3.844	3.835	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
The various developmental programs in this project will continue to exercise competitively awarded contracts using best value source selection procedures.											

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**E. Performance Metrics**

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

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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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**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			
Enhanced Night Vision Goggles (Digital) ENVG(D)	C	CACI Technologies Chantilly VA	16.676	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Enhanced Night Vision Goggles (Digital) ENVG	C	BAE Systems Lexington MA	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Enhanced Night Vision Goggles (Digital) ENVG - 2	C	DRS Dallas TX	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Enhanced Night Vision Goggles (Digital) ENVG - 3	C	E-OIR Virginia	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Enhanced Night Vision Goggles (Digital) ENVG (D)	C/Various	TBD Location could not be determined.	0.000	4.196		1.421		0.000		1.421	Continuing	Continuing	0
Enhanced Night Vision Goggles (Digital) ENVG - 4	C	Fibertek Herndon, VA	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Enhanced Night Vision Goggles (Digital) ENVG - 5	C	SENTEL Virginia	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Multi-purpose Laser	C	TBD Location could not be determined.	0.000	4.181		3.304		0.000		3.304	Continuing	Continuing	0
Sense Through The Wall (STTW)	C	CERDEC - Fort Monmouth NJ	2.444	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L67: <i>SOLDIER NIGHT VISION DEVICES</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			
Sense Through The Wall (STTW) - 2	C	TBD Location could not be determined.	0.000	1.557		1.222		0.000		1.222	Continuing	Continuing	0
Family Weapon Sight (FWS)	C/FP	CACI Technologies, Chantilly VA	0.200	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Family Weapon Sight (FWS)	C	TBD Location could not be determined.	0.000	2.716		4.401		0.000		4.401	Continuing	Continuing	0
Laser Detection/Laser Warning Device	C	Fibertek Herndon, VA	0.000	1.032		3.729		0.000		3.729	Continuing	Continuing	0
Enhanced Aim Display	C	Equinox Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Focal Plane Arrays (FPA)	C	DOI - Ft Huachuca AZ	17.543	5.348		4.869		0.000		4.869	Continuing	Continuing	0
Focal Plane Arrays (FPA) - 2	C	DRS Dallas, TX	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Focal Plane Arrays (FPA) - 3	C	BAE Lexington, MA	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Focal Plane Arrays (FPA) - 4	C	Raytheon Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Focal Plane Arrays (FPA) - 5	C	CACI Technologies, Chantilly 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			
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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			
Sniper Fire Detection and Location Technology Development	C	ARDEC Picatinny Arsenal, NJ	7.576	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Sniper Fire Detection and Location Technology	C/Various	Fibertek Herndon, VA	0.000	2.292		2.445		0.000		2.445	Continuing	Continuing	0
STORM Diode Development	C	Fibertek Herndon, VA	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			44.439	21.322		21.391		0.000		21.391			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			
Matrix Support	C	NVESD Fort Belvoir, VA	0.604	0.000		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	0.687		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.604	0.687		0.000		0.000		0.000			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		
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<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>
Government Test Support Activity	C	Various Activities Location could not be determined.	10.491	2.500		2.500		0.000		2.500	Continuing	Continuing	0
<b>Subtotal</b>			10.491	2.500		2.500		0.000		2.500			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>			55.534	24.509		23.891		0.000		23.891			0.000
<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
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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
ENVG (D) EMD												#	#	#	#	#	#	#	#	#	#							
ENVG (D) - MS C																					#							
ENVG (D) - P3I																			#	#	#	#	#	#	#	#	#	#
STTW - EMD				#	#	#	#	#																				
STTW - MS C									#																			
STTW - P3I									#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Family Weapon Sight (FWS) - Increment I-MS C																					#							
GFDS - MS C									#																			
GFDS- P3I									#	#	#	#	#															
Enhance aim Development			#	#	#	#	#	#	#	#	#																	
Small Tactical Optical Rifle Mounted (STORM) (P3I)		#	#	#	#	#																						

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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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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
ENVG (D) EMD	4	2011	1	2014
ENVG (D) - MS C	1	2014	1	2014
ENVG (D) - P3I	3	2013	3	2015
STTW - EMD	4	2009	4	2010
STTW - MS C	1	2011	1	2011
STTW - P3I	2	2011	3	2015
Family Weapon Sight (FWS) - Increment I-MS C	3	2014	3	2014
GFDS - MS C	2	2011	2	2011
GFDS- P3I	2	2011	2	2012
Enhance aim Development	3	2009	3	2011
Small Tactical Optical Rifle Mounted (STORM) (P3I)	2	2009	2	2010

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L70: <i>NIGHT VISION DEV ED</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>L70: NIGHT VISION DEV ED</i>	57.877	9.686	5.183	0.000	5.183	5.342	5.458	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											

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

This project performs System Development and Demonstration (SDD) on high performance night vision, Reconnaissance, Surveillance, and Target Acquisition (RSTA) systems and other related systems that allow forces to locate and track enemy units in day, night, and all battlefield conditions, and through natural and man-made structures and obscurants. It also develops and integrates suites of these sensors to provide well-defined surveillance and targeting capabilities, as well as architectures for these sensors to communicate automatically. The focus is on meeting the requisite night vision and RSTA capabilities required for evolving Current Force, Modular Force, and Future Force systems. The project transitions Advanced Thermal Imaging Technology from an Advanced Technology Objective to the development of a thermal engine intended to be common among all US Army FLIR sensor systems. This program will initiate and continue the development and qualification of the thermal Engine to meet schedule requirements of Next Gen FLIR (AN/ZSQ-2/Q-3) aviation system and Army Combat and reconnaissance systems. The thermal imaging engine provides Mid Wave Infrared and Long Wave Infrared digital video. This technology enhances the war-fighters' survivability and lethality through increased identification range performance when used in current sensor packages, while enabling detection of difficult or obscured target as well as faster threat detection through automated processes. The thermal imaging engine can also be used to enhance mobility by maintaining current range performance in significantly smaller and lighter sensor packages. This project provided Program Office technical support of the FCS Unattended Ground Sensors (UGS) hardware and software development, demonstration and test for a family of UGS systems for Intelligence, Surveillance and Reconnaissance (ISR). This will provide FCS and the Army a networked Unattended Ground Sensor capability for ISR and physical security. This project develops the Standard Ground Station (SGS) for PM NV/RSTA sensor systems. Leveraging the success in theater of the Persistent Surveillance and Dissemination System of Systems (PSDS2) Quick Response Capability (QRC), this effort takes the 3D visualization capability from PSDS2 and applies it to the Operator's station for RAID tower systems, aerostats and other RSTA Sensor systems. This effort was prioritized and performed on an accelerated schedule to support fielding in October 2008 as part of the RAID tower systems in response to the Base Expeditionary Target and Surveillance Systems - Combined (BETSS-C) JUONS. This SGS improves the effectiveness of RSTA systems by combining sensor videos, sensor cues and Battle Command information into a geo-registered 3D visualization of the terrain. FY 2010 Congressional add is for development of SGS enhancements. Common Remote Stabilized Sensor System (CRS3) is a remote operator's station and a stabilized pan and tilt for the LRAS3 and FS3 systems, allowing the effective employment of these sights while protected and with the vehicle moving, significantly increasing survivability and effectiveness. This is a Congressional plus up which is a follow on to efforts funded in FY03 with DL76 funds. This effort completed in FY09 and transitioned to PM KNIGHT for final integration of fire support platforms. FY 2009 Overseas Contingency Operations (OCO) Request - At the direction of the OSD Intelligence, Surveillance and Reconnaissance (ISR) Task Force (TF), the Army is sponsoring:

1. The development of Heterogeneous Airborne Reconnaissance Technology (HART). This HART effort will develop a platform neutral system capable of tasking, coordinating and managing semi-autonomously underutilized sensor capability on multiple platforms and provide a logically organized storage system for utilization by the current and future ISR network. The effort will also develop a system for evaluation and use by deployed forces at the Brigade level. The developed system will provide FMV geo-registration capability, FMV and intelligence exploitation and storage tools, and semi-autonomous sensor management.
2. The development of an ISR Net capability. It will

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<p>provide a high capacity (up to three megabit per second), two-way, secure Information Processing (IP) based network between ground forces and aerial assets for rapid integration of ISR sensors and servers, enabling real time access to ISR information across the battlefield. 3. The development of Beyond Line of Sight for the Remote Detection of Activity (RDA) Seismic Unattended Ground Sensors (UGS). RDA UGS will be employed by Soldiers and Marines for force protection and situational awareness. RDA UGS will provide a low cost and long endurance (two to four month battery life) capability to provide seismic detection of vehicles and human footsteps for monitoring of critical operational areas and extended perimeters at forward operating bases.FY 2011 funding supports continuation of efforts for Advanced Thermal Imaging Engine 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		0.510	0.000	0.000	0.000	0.000
<p>FY 09 Base: Unattended Ground Sensors (UGS) - Developed ISR, Chemical, Biological, Radiological, Nuclear (CBRN) and Urban UGS for FCS and other Army customers. Demonstrated viability and technical feasibility of employing a networked Unattended Ground Sensors (UGS) system from various delivery platforms. FY09 continued providing support for the FCS UGS SDD effort and FCS IBCT Spin-Out 1 activities including addressing improvements.</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		6.862	7.471	5.183	0.000	5.183
<p>FY 09-11 Base: Thermal Imaging: System Development and Demonstration (SDD) of Thermal Imaging Engine. Upon MS B approval in FY08, initiated SDD efforts. Development of the Thermal Imaging Engine for the Next</p>						

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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>Gen FLIR (AN/ZSQ-2/Q-3) aviation systems and Army Combat and reconnaissance systems, and fabricates 16 prototypes. Contractor qualification Testing and support for system integration activities are conducted with FY10 funding. FY11 will complete Qualification Testing; support system-level test activities, complete production preparation activities, and prepare for MS C, scheduled for 2QFY12. Funding in FY09-11 supports promoting competition to establish additional sources and reduce risk.</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>FY 09 Base: Development of an advanced payload technology for manned and unmanned systems in accordance with TRADOC priorities for aerial systems in the Current and Future Force. This effort provided enhanced EO/IR/LD technology for ER/MP, ARH, Kiowa Warrior and FCS. This effort is a joint program with PM Close Combat Support (CCS), expanding the capability of the Airborne Surveillance Target Acquisition and Minefield Detection System (ASTAMIDS) by adding the designator. FY09 supported the management and conduct of Government Developmental Testing.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.481	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						
<b>Program #4</b>  FY 09 Base: Common Remote Stabilized Sensor System (CRS3). CRS3 FY09 completed hardware environmental qualification testing and transition to production. The Armored Knight Program will integrate the CRS3 capability into their vehicles.  <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		2.800	0.000	0.000	0.000	0.000
<b>Program #5</b>		17.000	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>FY 09 OCO: Heterogenous Airbone Reconnaissance Team (HART). Funds will continue to be executed by DARPA for the ISR Task Force. FY09 formulated Concept of Operations (CONOPS) and Tactics Techniques and Procedures (TTP) with integration of technologies with Shadow, Warrior, C-12, using the TAIS and Distributed Common Ground Station (DCGS) exploitation systems. Initial Operational Capability (IOC) will be achieved by 4th QTR FY10 and Full Operational Capability (FOC) by 1st QTR FY11. \$19000 was issued as OPA in B00303.</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 #6</p> <p>FY 09 OCO: Beyond Line of Sight Development and Design of Seismic Expendable RDA UGS. RDA UGS will have Cueing/Interoperability with CF UGS and hand held display device. It will develop Beyond Line of Site Communications.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		3.324	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 #7  FY 09 OCO: ISR Net Development. Funds will continue to be executed by DARPA for the ISR Task Force. FY09 formulated Concept of Operations (CONOPS) and Tactics Techniques and Procedures (TTP) to coordinate with HART development and fielding. Integration and manpower will be accomplished 2nd QTR FY10. Initial Operational Capability (IOC) will be achieved by 4th QTR FY10 and Full Operational Capability (FOC) by 1st QTR FY11 in order to provide the wireless communications for HART IOC and FOC.  <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		22.500	0.000	0.000	0.000	0.000
Program #8		0.000	0.215	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>
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						
Program #9		4.400	0.000	0.000	0.000	0.000
FY09 OCO: Development and Design of PTDS Enhancements. Funds will be used to improve PTDS survivability, sustainability and dissemination 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						

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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 #10  FY10 Base: Standard Ground Station enhancement work (Congressional Add) focuses on Sensor networking, interoperability, plug-and-play and other enhancements.  <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	
Accomplishments/Planned Programs Subtotals						57.877	9.686	5.183	0.000	5.183	
<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>Night Vision Advanced Development PE 0603774A</i>	2.508	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #2: <i>K38300 Long Range Advanced Scout Surveillance System (LRAS3) OPA2</i>	210.766	133.413	255.641	0.000	255.641	62.395	0.000	0.000	0.000	0	662.215
• Ord. #3: <i>Next Gen FLIR for Army Special Operations Aviation Fleet - (AN/ZSQ-2/3): RDTE</i>	0.000	9.138	3.818	0.000	3.818	0.000	0.000	0.000	0.000	0	12.956

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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. #4: <i>Next Gen FLIR for Army Special Operations Aviation Fleet - (AN/ZSQ-2/3): PROC</i>	0.000	0.000	0.000	0.000	0.000	7.015	9.544	13.000	11.149	Continuing	Continuing

**D. Acquisition Strategy**

The development programs in this project are currently based on competitive awards and under cost reimbursement type contracts. The FY09 Congressional increase was a CRS3 sole source award.

**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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**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			
DVE Development	C/CPIF	Various Location could not be determined.	21.831	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Modular HTI Multifunction Laser Activities	C	Insight Technologies Londonderry, NH & DRS Technologies, Torrence, CA	3.868	0.000		0.000		0.000		0.000	Continuing	Continuing	0
LLDR RAPT	C	Various Location could not be determined.	4.253	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Light Forward Observer Optics	C	Various Location could not be determined.	1.258	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Thermal Upgrades for DVE (Dual wavelength) and competition	C	Kaiser Electric San Diego CA, Various	3.608	0.000		0.000		0.000		0.000	Continuing	Continuing	0
LLDR Advanced Demonstration System	C	Litton Laser Apopka, FL	2.556	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Sensor Architecture/Digital RSTA/SLP	C	Various Location could not be determined.	11.962	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Various Prototypes and Studies	C/CPIF	Various Location could not be determined.	2.947	0.000		0.000		0.000		0.000	Continuing	Continuing	0
	C	Raytheon	5.811	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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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			
Thermal Upgrades for TWS (target location)		El Segundo, CA, Various											
HTI Laser Trade Studies	C	Various Location could not be determined.	1.020	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Enhanced NVG Analysis & Design (TX to DL67)	C	Various Location could not be determined.	4.782	0.000		0.000		0.000		0.000	Continuing	Continuing	0
HTI Laser MFS3 design and prototype activities	C/CPIF	Raytheon Dallas, TX	0.565	0.000		0.000		0.000		0.000	Continuing	Continuing	0
MANTECH Focal Plane Array and optics	C	Raytheon Dallas, TX	1.500	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Digital MELIOS Design & Fabrication	C/FP	Litton Lasers Inc.	1.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
AN/TMQ-41 Trade Studies and related activities	C	Various Location could not be determined.	1.232	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Image Fusion for DVE	C	Raytheon Dallas, TX	1.274	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Digital RSTA SDD	C	Booz-Allen Hamilton Tysons Corner, VA	2.190	0.000		0.000		0.000		0.000	Continuing	Continuing	0
CIRISS Efforts	C	Various Location could not be determined.	1.500	0.000		0.000		0.000		0.000	Continuing	Continuing	0
LLDR Vehicle applications	C	Litton Laser	3.487	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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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			
		Apopka, FL Various											
FLIR develop/integrate	C/Various	Various Location could not be determined.	1.731	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Uncooled B-Kit	C/Various	Various Location could not be determined.	10.354	0.000		0.000		0.000		0.000	Continuing	Continuing	0
EO/IR/LD UAV Payloads	C	Northrop Grumman Melborne, FL	5.087	0.000		0.000		0.000		0.000	Continuing	Continuing	0
LLDR EMD	C	Litton Lasers Apopka, FL	19.873	0.000		0.000		0.000		0.000	Continuing	Continuing	0
GMTI Radar	C	General Atomics Location could not be determined.	2.792	0.000		0.000		0.000		0.000	Continuing	Continuing	0
UGS	C/FFP	Various Location could not be determined.	0.708	0.000		0.000		0.000		0.000	Continuing	Continuing	0
FCS UGS / UGS	C	FCS Boeing/ Textron/Various/ TBD Location could not be determined.	5.099	0.000		0.000		0.000		0.000	Continuing	Continuing	0
PSDS2 Efforts	C/CPFF	Various Location could not be determined.	11.751	0.000		0.000		0.000		0.000	Continuing	Continuing	0

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L70: <i>NIGHT VISION DEV ED</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			
LRAS3 Netted Sensor	SS	Raytheon McKinney Texas	9.065	0.000		0.000		0.000		0.000	Continuing	Continuing	0
DVD (DVE Light)	C	CACI Location could not be determined.	0.572	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Thermal Imaging	C/CPIF	Various Location could not be determined.	1.532	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SGS/RAID	C	Sarnoff Princeton, NJ	4.913	0.000		0.000		0.000		0.000	Continuing	Continuing	0
FY 09 & 10 & 11 Base: Thermal Imaging	C/CPIF	Raytheon Santa Barbara, CA	4.637	3.061		2.769		0.000		2.769	Continuing	Continuing	0
FY 10 & 11 Base: Thermal Imaging Source Risk Reduction	C/CPIF	VARIOUS Location could not be determined.	0.000	2.100		0.441		0.000		0.441	Continuing	Continuing	0
FY 09 Base: CRS3	SS	DRS St. Louis, MO	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SBIR/STTR	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.215		0.000		0.000		0.000	Continuing	Continuing	0
FY 09 OCO: Heterogeneous Airborne Reconnaissance Team (HART) system development	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>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L70: <i>NIGHT VISION DEV ED</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			
FY 09 OCO: Beyond Line of Sight Development and Design of Seismic Expendable RDA UGS.	C/TBD	TBD Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
FY 09 OCO: ISR Net Development	C	Rockwell Collins Cedar Rapids, IA	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
FY 09 OCO: Development and Design Of PTDS Enhancements.	C	Sarnoff Princeton, NJ	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
FY 09 OCO: Development and Design Of PTDS Enhancements. - 2	C/CPFF	Raytheon Falls Church, VA	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
FY 09 OCO: Development and Design Of PTDS Enhancements. - 3	C	Lockheed Martin Akron, OH	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
FY 10 Base: Standard Ground Station Enhancement (Congressional Add)	C	Sarnoff Princeton, NJ	0.000	2.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			154.758	7.376		3.210		0.000		3.210			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L70: <i>NIGHT VISION DEV ED</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>
Matrix Support	C	Various Location could not be determined.	19.904	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Matrix Support - 2	C	NVESD Location could not be determined.	0.720	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Matrix Support - 3	C	TRADOC Location could not be determined.	0.400	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Matrix Support - 4	C	Various Location could not be determined.	0.231	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Thermal Imaging Support	C	Various Location could not be determined.	16.810	1.819		1.753		0.000		1.753	Continuing	Continuing	0
EO/IR/LD(ASTAMIDS) Support	C	Various Location could not be determined.	0.047	0.000		0.000		0.000		0.000	Continuing	Continuing	0
LRAS3 Netted Sensor Support	C	Various Location could not be determined.	0.500	0.000		0.000		0.000		0.000	Continuing	Continuing	0
UGS Matrix	C	Various Location could not be determined.	0.403	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			39.015	1.819		1.753		0.000		1.753			0.000
<b>Remarks</b>													

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L70: <i>NIGHT VISION DEV ED</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			
DT/IOT&E*	C	ATEC Location could not be determined.	8.769	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Other Test Support*	C	Various Location could not be determined.	6.351	0.000		0.000		0.000		0.000	Continuing	Continuing	0
SGS/RAID C&L	C	ATEC/DTC Location could not be determined.	0.730	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			15.850	0.000		0.000		0.000		0.000			0.000

**Remarks**

\* Includes PSDS2, UGS, STTW, 3GF and other sensor test and evaluation activities. Includes PSDS2 and FCS UGS test and evaluation.

**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	C	PM NV/RSTA, Fort Belvoir, VA & Ft. Monmouth, NJ	6.531	0.491		0.220		0.000		0.220	Continuing	Continuing	0
SGS Management	C	BAH	0.498	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L70: <i>NIGHT VISION DEV ED</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			
		Location could not be determined.											
<b>Subtotal</b>			7.029	0.491		0.220		0.000		0.220			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				
<b>Project Cost Totals</b>	216.652	9.686		5.183		0.000		5.183			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L70: <i>NIGHT VISION DEV ED</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
Thermal Imaging Milestone C													#															
FY 09 Overseas Contingency Operation efforts HART, WiMesh				#	#																							
Sense Through The Wall (STTW) Effort															#	#	#	#										
FY09 OCO RDA Expendable UGS Sensor Design and Development				#	#	#	#																					
FY09 OCO PTDS Enhancements Design and Development				#	#	#	#																					
Sensor Netting / Networking				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#										

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L70: <i>NIGHT VISION DEV ED</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Thermal Imaging Milestone C	1	2012	1	2012
FY 09 Overseas Contingency Operation efforts HART, WiMesh	4	2009	1	2010
Sense Through The Wall (STTW) Effort	4	2012	3	2013
FY09 OCO RDA Expendable UGS Sensor Design and Development	4	2009	3	2010
FY09 OCO PTDS Enhancements Design and Development	4	2009	3	2010
Sensor Netting / Networking	1	2010	3	2013

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L75: <i>Profiler</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
<i>L75: Profiler</i>	0.000	5.403	6.014	0.000	6.014	2.604	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											

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

The AN/TMQ-52 Meteorological Measuring Set-Profiler (MMS-P) is a replacement for the current Meteorological Measuring Set (MMS), AN/TMQ-41. Profiler uses a suite of meteorological (MET) sensors and MET data from communication satellites along with an advanced weather model to provide highly accurate MET data covering an operational area of 500 kilometers with a tested range of 60 kilometers. The current MMS relies upon a balloon-borne radiosonde to measure and transmit MET conditions such as wind speed, wind direction, temperature, pressure and humidity. It is considered accurate to 20 kilometers from the balloon launch site and cannot provide target area MET data. Profiler provides the same MET information MMS does and adds rate of precipitation, visibility, cloud height and cloud ceiling. All of these are required for precise targeting and terminal guidance. Profiler uses this information to build a four-dimensional MET model (height, width, depth and time) that includes terrain effects. By providing more accurate MET messages, Profiler will enable the artillery to have a greater probability of a first round hit with indirect fire systems. The new capabilities will increase the lethality of field artillery systems such as Multiple Launch Rocket Systems (MLRS), Paladin, and self-propelled or towed howitzers. Profiler Block III will provide a networked laptop configuration that will enhance system efficiencies while further reducing the system's operational and logistical footprint with the elimination of the High Mobility Multi-purpose Wheeled Vehicle (HMMWV) mounted shelter and trailer. The Block III configuration consists of one computer with a common operating system co-located within the Tactical Operation Center (TOC) with a direct interface to the TOC Local Area Network (LAN). The system will be able to provide Gridded MET along with autonomously generated MET messages upon request from AFATDS eliminating the need for a dedicated MET section crew. The Army will realize a significant cost avoidance with the improved configuration.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1 Initiate Block III backup sensor effort.  <i>FY 2009 Accomplishments:</i> FY 2009	0.000	1.121	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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>		<b>PROJECT</b> L75: <i>Profiler</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  Continue Block III backup sensor 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				0.000	0.000	0.245	0.000	0.245
Program #3  Award effort for software porting to laptop.				0.000	2.424	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L75: <i>Profiler</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 Continue effort for software porting to laptop.		0.000	0.000	5.201	0.000	5.201
<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	0.775	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L75: <i>Profiler</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>
Reduction of physical configuration, build and test of four 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						
Program #6 Continue Reduction of physical configuration, build and test of four 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		0.000	0.000	0.568	0.000	0.568

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L75: <i>Profiler</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 Conduct migration effort to a common operating system hosted on one computer.  <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	0.932	0.000	0.000	0.000
Program #8 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	0.151	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>			<b>PROJECT</b> L75: <i>Profiler</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							0.000	5.403	6.014	0.000	6.014	
<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>Profiler K27900</i>	8.990	4.766	0.000	0.000	4.434	4.369	12.507	12.355	7.356	0	54.777	
<b>D. Acquisition Strategy</b>												
<p>The Profiler Block III acquisition strategy decision brief to the Milestone Decision Authority (MDA) is scheduled for Jan 2010. The briefing will present the business, technical and acquisition strategy analysis to enable an MDA decision to pursue either a "Make" strategy where the Block III effort is performed by a government organization or a "Buy" strategy where the effort will be competitively awarded to a contractor. The Acquisition Decision Memorandum (ADM) issued from this decision will initiate the Block III program. The award to either a Make or Buy system developer will occur in FY10 for the development, test and documentation effort that will continue into FY12. The Block III program is expected to enter production beginning in FY12.</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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L75: <i>Profiler</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			
SDD Contract	C/CPIF	Smiths Detection Edgewood, MD	14.999	0.000		0.000		0.000		0.000	Continuing	Continuing	14.950
SDD T&M	C	Smiths Detection Edgewood, MD	0.103	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Studies and Simulations	C	Army Research Lab White Sands Missile Range, NM	0.429	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Government Furnished Equipment	C	HQCPSQ/ZJ San Antonio, TX	0.120	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Initiate backup sensor effort	C	Army Research Lab White Sands Missile Range, NM	0.000	0.946		0.245		0.000		0.245	Continuing	Continuing	0
Reduction of Physical Configuration	C/TBD	TBD Location could not be determined.	0.000	0.870		0.000		0.000		0.000	Continuing	Continuing	0
Migration to common operating system	C/TBD	TBD Location could not be determined.	0.000	0.650		0.000		0.000		0.000	Continuing	Continuing	0
Award efforts for s/w porting to laptop	C/TBD	TBD Location could not be determined.	0.000	1.904		3.806		0.000		3.806	Continuing	Continuing	0
<b>Subtotal</b>			15.651	4.370		4.051		0.000		4.051			14.950

**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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L75: <i>Profiler</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			
Matrix Support	C	CECOM Fort Monmouth NJ	2.063	0.072		0.381		0.000		0.381	Continuing	Continuing	0
Sys Engr/Technical Assistance	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.378		0.490		0.000		0.490	Continuing	Continuing	0
OGA	C	Various Location could not be determined.	1.089	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			3.152	0.450		0.871		0.000		0.871			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			
Test Planning and Preparation	C	ATEC Various, CECOM, PRD Dir, Ft. Monmouth	0.942	0.000		0.615		0.000		0.615	Continuing	Continuing	0
Developmental Testing	C	ATEC Various	1.049	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L75: <i>Profiler</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			
Initial Operational Test & Evaluation	C	ATEC Various	1.200	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Conduct Block II Testing	C	ARL ATEC	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			3.191	0.000		0.615		0.000		0.615			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	C	PM Nav Sys/TIMS Fort Monmouth, NJ	0.993	0.432		0.477		0.000		0.477	Continuing	Continuing	0
SBIR/STTR	C/TBD	TBD Location could not be determined.	0.000	0.151		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.993	0.583		0.477		0.000		0.477			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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>			<b>PROJECT</b> L75: <i>Profiler</i>		

	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>	22.987	5.403	6.014	0.000	6.014			14.950

**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L75: <i>Profiler</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
Decision Review					#																							
Block III Met Sensor Effort					#	#	#																					
Award Software Porting to Laptop Effort						#	#	#	#																			
Migration to Common Operating System hosted on one computer						#	#	#	#																			
Reduction of Physical Configuration and Build Four Systems						#	#	#																				
Conduct Block III 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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L75: <i>Profiler</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Decision Review	1	2010	1	2010
Block III Met Sensor Effort	1	2010	3	2010
Award Software Porting to Laptop Effort	2	2010	1	2011
Migration to Common Operating System hosted on one computer	2	2010	1	2011
Reduction of Physical Configuration and Build Four Systems	2	2010	4	2010
Conduct Block III Testing	3	2010	4	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L76: <i>Dismounted Fire Support Laser Targeting Systems</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>L76: Dismounted Fire Support Laser Targeting Systems</i>	7.955	17.513	17.461	0.000	17.461	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											

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

This project will adapt demonstrated technologies for insertion into Laser Target Locators and Laser Designators to improve overall performance of those systems and reduce weight. Technologies selected under this project will benefit the Lightweight Laser Designator Rangefinder (LLDR, AN/PED-1), the Laser Target Locator Systems, and JETS. This project will integrate the next generation uncooled Forward Looking Infrared (FLIRs) into the Laser Target Locator Module (LTLM), improving its imaging performance with no impact on its weight. This project will initiate interface design for a reduced weight common laser designator to the next generation LTLM which will form a bridge to the JETS. In addition, this line will support improved targeting accuracy in support of coordinate seeking weapons, such as Joint Direct Attack Munition (JDAM), Small Diameter Bomb, and Excalibur. Development will primarily focus on affordable, non-magnetic, high accuracy, azimuth and vertical angle measurement (AVAM) devices with reduced size, weight and power characteristics. The Joint Effects Targeting System (JETS) is a Joint (Army, Air Force, Navy and Marine) program to develop a lightweight set of mission equipment for the dismounted forward observer and controllers (including Joint Tactical Air Controllers). The JETS will provide the observer and controller the means to call for fire and control delivery of air, ground and naval surface fire support, using precision, near-precision and non-precision munitions and effects (both lethal and non-lethal). The JETS will consists of two subsystems: the Target Location and Designation System (TLDS) and the Target Effects Coordination System (TECS). The TLDS will provide the observer and controller the ability to conduct surveillance; acquire and accurately locate targets; designate targets for attack by laser seeking munitions; mark targets for aviation and ground based targeting systems; and transmit targeting data to the TECS. The TECS will provide access to the future joint targeting network, formats digital calls for fire and Close Air Support (CAS) 9-line requests to all joint fires platforms; will display information to the observer and controller to enable effective target engagement and integration of fires with Joint maneuver forces; and supports fire support planning functions. In order to achieve portability the total system weight of the JETS will be limited to 20 pounds. JETS weight reduction will be achieved by incorporation of improved lightweight technologies combined with range performance trades. JETS funding will continue under 654710L79, RDTE FY2012 through FY2014.

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

	<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 Completed the analysis of alternatives for laser targeting systems.	0.500	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L76: <i>Dismounted Fire Support Laser Targeting Systems</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 Continue the development of Azimuth and Vertical Angle Measurement (AVAM) devices.  <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		4.000	4.808	4.808	0.000	4.808
Program #3		3.455	12.214	12.653	0.000	12.653

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L76: <i>Dismounted Fire Support Laser Targeting Systems</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>Continue Target Locator Improvements within LLDR/LTLM to support use of Precision Guided Weapons by dismounted Soldiers and reduce soldier load. LLDR/LTLM improvements will also support a goal of transitioning LLDR/LTLS improved technical elements to support future Army JETS system design requirements.</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 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>		0.000	0.491	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>			<b>PROJECT</b> L76: <i>Dismounted Fire Support Laser Targeting Systems</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						7.955	17.513	17.461	0.000	17.461	
<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>Lightweight Laser Designator Rangefinder (LLDR) (K31100) OPA2</i>	79.626	155.913	65.970	22.371	88.341	61.140	74.136	25.644	37.833	Continuing	Continuing
• Ord. #2: <i>Laser Target Locating System (LTLS) (B53800) OPA2</i>	62.789	67.494	29.753	5.019	34.772	33.926	27.427	32.292	11.896	Continuing	Continuing
• Ord. #3: <i>JETS EMD (654710L79) RDTE</i>	0.000	0.000	0.000	0.000	0.000	17.457	14.490	4.822	0.000	0	36.769
<b>D. Acquisition Strategy</b>											
The various development programs in this project will continue to exercise competitively awarded contracts using the best value source selection procedures.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L76: <i>Dismounted Fire Support Laser Targeting Systems</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>
Analysis and Technical Evaluation	C	BAE Systems Nashua NH	1.340	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Analysis and Technical Evaluation - 2	C	Northrop Grumman Apopka FL	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Azimuth and Vertical Angle Measurement (AVAM)	C	Northrop Grumman Systems Linthicum Heights MD	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Azimuth and Vertical Angle Measurement (AVAM) - 2	C	Johns Hopkins Applied Physics Lab Laurel MD	0.000	3.120		3.808		0.000		3.808	Continuing	Continuing	0
LTLM P3I & System Development	C	Johns Hopkins Applied Physics Lab Laurel MD	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
LTLM P3I & System Development - 2	C	TBD Location could not be determined.	0.000	12.214		12.653		0.000		12.653	Continuing	Continuing	0
Lighweight Desinator Size Weight and Power Reductions	C	TBD Location could not be determined.	0.000	0.438		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			1.340	15.772		16.461		0.000		16.461			0.000
<b>Remarks</b>													

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>				<b>PROJECT</b> L76: <i>Dismounted Fire Support Laser Targeting Systems</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			
Azimuth and Vertical Angle Measurement (AVAM)	C/FP	Johns Hopkins Applied Physics Lab Laurel MD	0.000	1.000		1.000		0.000		1.000	Continuing	Continuing	0
Small Business Innovative Research/Small Business Technology Transfer Program	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.491		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.491		1.000		0.000		1.000			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			
Marker/Designator Low energy testing	C	Various Location could not be determined.	0.000	0.250		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.250		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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L76: <i>Dismounted Fire Support Laser Targeting Systems</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>	1.340	17.513	17.461	0.000	17.461			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L76: <i>Dismounted Fire Support Laser Targeting Systems</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
Target Locator Improvements		#	#	#	#																							
JETS MS A						#																						
Technology Insertion/prototype Build						#	#	#	#	#	#	#																
JETS MS B																#												
JETS EMD transitions to 654710L79 in FY2012													#	#	#	#	#	#	#	#	#	#	#	#				

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604710A: <i>Night Vision Systems - Eng Dev</i>	<b>PROJECT</b> L76: <i>Dismounted Fire Support Laser Targeting Systems</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Target Locator Improvements	2	2009	1	2010
JETS MS A	2	2010	2	2010
Technology Insertion/prototype Build	2	2010	3	2011
JETS MS B	4	2011	4	2011
JETS EMD transitions to 654710L79 in FY2012	4	2011	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</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	2.422	2.081	2.118	0.000	2.118	2.082	2.115	2.153	2.185	Continuing	Continuing
548: <i>MIL SUBSISTENCE SYS</i>	2.422	2.081	2.118	0.000	2.118	2.082	2.115	2.153	2.185	Continuing	Continuing

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

This project supports the development and demonstration and Non-Developmental Item (NDI) Commercial Off The Shelf (COTS) evaluation of combat feeding equipment to enhance soldier efficiency and survivability, and to reduce food service logistics requirements for all four services. The project supports multi-fuel, rapidly deployable field food service equipment initiatives and engineering and manufacturing development to improve equipment, enhance safety in food service, and decrease fuel and water requirements. This project develops critical enablers that support the Joint Future Capabilities and Joint Expeditionary mindset, by maintaining readiness through fielding and integrating new equipment; by enhancing the field soldier's well-being; and providing soldier usable equipment. They also reduce sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, the combat zone footprint, and costs for logistical support. This PE/Project supports Field Feeding programs for all the services.

**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	2.491	2.092	2.129	0.000	2.129
Current President's Budget	2.422	2.081	2.118	0.000	2.118
Total Adjustments	-0.069	-0.011	-0.011	0.000	-0.011
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-0.011			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.069	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.011	0.000	-0.011

**Change Summary Explanation**

FY11 funding of \$11 thousand realigned to higher priority requirements.

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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>
548: <i>MIL SUBSISTENCE SYS</i>	2.422	2.081	2.118	0.000	2.118	2.082	2.115	2.153	2.185	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This project supports the development and demonstration and Non-Developmental Item (NDI) Commercial Off The Shelf (COTS) evaluation of combat feeding equipment to enhance soldier efficiency and survivability, and to reduce food service logistics requirements for all four services. The project supports multi-fuel, rapidly deployable field food service equipment initiatives and engineering and manufacturing development to improve equipment, enhance safety in food service, and decrease fuel and water requirements. This project develops critical enablers that support the Joint Future Capabilities and Joint Expeditionary mindset, by maintaining readiness through fielding and integrating new equipment; by enhancing the field soldier's well-being; and providing soldier usable equipment. They also reduce sustainment requirements, related Combat Support/Combat Service Support (CS/CSS) demands on lift, the combat zone footprint, and costs for logistical support. 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  FY09: Analyzed new closed combustion kitchen appliances and ventilation options for an improved Containerized Kitchen (CK) configuration for production and incorporation into RESET. Awarded contract for new appliances and initiated 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							0.133	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 #2  FY 10: Complete fabrication, complete Developmental Testing (DT) and initiate Operational Testing (OT) and evaluation of the CK RESET kit 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		0.000	0.307	0.000	0.000	0.000
Program #3  FY 11: Transition final CK RESET configuration to production and to the Integrated Logistics Supply Center (ILSC) for RESET.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	0.000	0.050	0.000	0.050

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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  FY09: Awarded contract for design, and built MKT Reset Kit prototype and commenced developmental tests.  <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		0.460	0.000	0.000	0.000	0.000
Program #5  FY10: Complete developmental and operational test and evaluation of the MKT Reset Kit prototype.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.280	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						
<b>Program #6</b>  FY09: Completed Production Qualification Testing (PQT), Production Verification Testing (PVT) and initiated User evaluation, drafted Performance Specification, and transitioning Self Powered Tray Ration Heater (STRH) 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		0.325	0.000	0.000	0.000	0.000
<b>Program #7</b>		0.000	0.000	0.452	0.000	0.452

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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: Award contract for the design and fabrication of the prototype Battlefield Ice Supply System (BISS). Complete fabrication and conduct test and evaluation of the BISS prototype.</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>FY11: Complete fabrication and conduct test and evaluation of the Solar Power Refrigeration prototype.</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	0.380	0.000	0.380

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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 #9  FY11: Review and validate the requirements of the preplanned product improvements in the requirements document for the Food Sanitation Center (FSC). Establish design and evaluation criteria to meet refrigeration requirement for trailer mounted FSC capability. Prepare solicitation for 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		0.000	0.000	0.159	0.000	0.159
Program #10  FY09: Completed delivery of MRE (2010 Date of Pack (DOP)), performance based contract requirements to Defense Supply Center Philadelphia (DSCP) for procurement, including ration menus, assembly contract requirements, and component standardization documents. Completed field test/field evaluation of new ration components for Meals, Ready-to-Eat (MRE XXXII). Presented recommendations to Joint Service Operational Ration Forum (JSORF) for continuous improvement of ration components of MRE (2011 DOP). Obtained Office of the Surgeon General (OTSG) approval. Performed cutting for industry/Other Government Agencies (OGA). FY10/11: Based on field test results, present recommendations to JSORF (2Q10/2Q11) for continued product improvement of ration components/packaging/ technologies for MRE (2012/2013 DOP). Finalize MRE procurement documents and initiate transition to DSCP. Obtain OTSG approval. Perform cuttings for industry/ OGA to ensure consistent ration quality, understand PCR requirements, and resolve vendor/supplier issues.		0.146	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>Identify new components based on user feedback, focus groups, emerging products and technologies, and known user requirements. Obtain and assemble selected new items for test. Conduct field testing/field evaluation of new ration components for MRE (2013/2014 DOP) to improve quality, acceptability, nutrition, and expand variety.</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>FY10: Based on field test results, present recommendations to JSORF (2Q10/2Q11) for continued product improvement of ration components/packaging/ technologies for MRE (2012/2013 DOP). Finalize MRE procurement documents and initiate transition to DSCP. Obtain OTSG approval. Perform cuttings for industry/ OGA to ensure consistent ration quality, understand PCR requirements, and resolve vendor/supplier issues. Identify new components based on user feedback, focus groups, emerging products and technologies, and known user requirements. Obtain and assemble selected new items for test. Conduct field testing/field evaluation of new ration components for MRE (2013/2014 DOP) to improve quality, acceptability, nutrition, and expand variety.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	0.190	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 #12  FY11: Based on field test results, present recommendations to JSORF (2Q10/2Q11) for continued product improvement of ration components/packaging/ technologies for MRE (2012/2013 DOP). Finalize MRE procurement documents and initiate transition to DSCP. Obtain OTSG approval. Perform cuttings for industry/ OGA to ensure consistent ration quality, understand PCR requirements, and resolve vendor/supplier issues. Identify new components based on user feedback, focus groups, emerging products and technologies, and known user requirements. Obtain and assemble selected new items for test. Conduct field testing/field evaluation of new ration components for MRE (2013/2014 DOP) to improve quality, acceptability, nutrition, and expand variety.  <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	0.121	0.000	0.121

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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 #13  FY09: Current FSR production and prototype menus were evaluated; field test data was analyzed by Consumer Research/Cognitive Science team. This was combined with data generated from the Nutritionally Optimized First Strike Ration (NOFSR) ATO and the data from both evaluations was used to design from 3 to 6 new FSR menus. Finalized FSR procurement documents and initiated transition to DSCP. Obtained OTSG approval for menus. Performed cuttings for industry/OGA. Identified new components and conduct field testing/evaluation of new ration components for MCW/LRP, and FSR (3). Final component documents and final assembly document were transitioned to DSCP for the next procurement of the MCW/LRP.  <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	0.175	0.000	0.000	0.000	0.000	
Program #14  FY10: Post field test results, present recommendations to JSORF (2Q10/2Q11) for continued product improvement of ration components/packaging/ technologies for MCW/LRP and, Survival Rations and FSR (3/4). Finalize procurement documents and initiate transition to DSCP. Obtain OTSG approval for menus.	0.000	0.190	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>Perform cuttings for industry/OGA to ensure consistent ration quality, understand PCR requirements, and resolve vendor/supplier issues. Identify new components based on user feedback, focus groups, emerging products and technologies, and known user requirements. Obtain and assemble selected new items for test. Conduct field testing/field evaluation of new ration components for MCW/LRP, Survival Rations, and FSR (4/5).</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>FY11: Post field test results, present recommendations to JSORF (2Q10/2Q11) for continued product improvement of ration components/packaging/ technologies for MCW/LRP and, Survival Rations and FSR (3/4). Finalize procurement documents and initiate transition to DSCP. Obtain OTSG approval for menus. Perform cuttings for industry/OGA to ensure consistent ration quality, understand PCR requirements, and resolve vendor/supplier issues. Identify new components based on user feedback, focus groups, emerging products and technologies, and known user requirements. Obtain and assemble selected new items for test. Conduct field testing/field evaluation of new ration components for MCW/LRP, Survival Rations, and FSR (4/5).</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p>		0.000	0.000	0.126	0.000	0.126

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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 #16  FY09: Presented Unitized Group Ration - Heat and Serve (UGR-H&S) (2011 DOP), UGR-A (2010 DOP), made recommendations to JSORF for continuous improvement of ration components. Obtained OTSG approval of updated menus. Performed cuttings/production tests with industry/OGA to ensure consistent quality and producibility. Finalized all procurement documents and transitioned to DSCP. Completed field testing of new ration components for UGR-H&S (2012 DOP), UGR-A (2011 DOP) and UGR - Express (UGR-E) (2012 DOP) to enhance quality and expand variety.  <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		0.175	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>
Program #17  FY10: Present recommendations to JSORF for UGR-H&S (2012-2013 DOP), UGR-A (2011-2012 DOP) and UGR-E (2012-2013 DOP) for continued product improvement. Obtain OTSG approval. Perform cuttings/production tests with industry/OGA to ensure consistent ration quality and producibility. Complete field testing of new ration components for UGR-H&S (2013-2014 DOP), UGR-A (2012-2013 DOP) and UGR-E (2013-2014 DOP) to improve quality and expand variety. Finalize UGR procurement documents and initiate transition 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	0.225	0.000	0.000	0.000
Program #18  FY11: Present recommendations to JSORF for UGR-H&S (2012-2013 DOP), UGR-A (2011-2012 DOP) and UGR-E (2012-2013 DOP) for continued product improvement. Obtain OTSG approval. Perform cuttings/production tests with industry/OGA to ensure consistent ration quality and producibility. Complete field testing of new ration components for UGR-H&S (2013-2014 DOP), UGR-A (2012-2013 DOP) and UGR-E (2013-2014 DOP) to improve quality and expand variety. Finalize UGR procurement documents and initiate transition to DSCP.		0.000	0.000	0.126	0.000	0.126

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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 #19  FY09: Quantified functionality of future galley process control system as an enabler to accommodate shipboard labor reductions to minimize equipment maintenance requirements through automated internal diagnostics. A prototype of a future galley system was constructed utilizing automated food service equipment/refrigeration, process controls, and ergonomic designs. The galley will be prototyped for initial operational testing and evaluation for potential inclusion into future galley designs onboard naval platforms. Galley designs will have the capacity to integrate future technologies that will significantly accommodate the reduction of shipboard manning requirements through automated processes, equipment technological advancements, and equipment diagnostics/prognostics for total system integration.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.479	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 Base Plans:</i> FY 2011 Base  <i>FY 2011 OCO Plans:</i> FY 2011 OCO						
Program #20  FY10: Coordinate with the Navy to determine future manning and feeding requirements; identify, research, and down select automation technologies; evaluate/test food service equipment; and integrate food service equipment into complete galleys that will support optimized crewing encompassing a total systems design and approach.  <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	0.469	0.000	0.000	0.000
Program #21  FY11: Complete all required TDP documents and specification requirements to transition galley food service systems to the Navy for procurement and fielding.		0.000	0.000	0.233	0.000	0.233

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>	<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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 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 #22		0.000	0.000	0.109	0.000	0.109
FY11: Use information from Navy shipboard refrigeration / ice consumption Front Analysis Report (FY09) to conduct a Continues Produce Improvement (CPI) project for Navy shipboard refrigeration and 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						

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>	<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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>
Program #23  FY11: Complete all evaluations on submarine based equipment and make recommendations to NAVSEA for use in the Naval Shipboard Catalog. After approval from NAVSEA, CIDs will be developed for the equipment and then transitioned to Submarine Force Atlantic for procurement and support of required ship change documentation.  <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	0.210	0.000	0.210
Program #24  FY09: Awarded a contract to design and develop a prototype modular all electric Air Force kitchen. Conducted developmental testing of the prototype TriCon kitchen. Will initiate user testing with the Air Force.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.241	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>	<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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						
<b>Program #25</b>  FY10: Upgrade prototypes based on testing results. Transition soft shelter and hard shelter Electronic Single Pallet Expeditionary Kitchen (ESPEK) prototypes to Air Force Services. Develop Technical Data Package to support future Air Force 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		0.000	0.176	0.000	0.000	0.000
<b>Program #26</b>  FY09: The BEAR-550(f) system was developed into a modular system that is capable of supporting feeding requirements from 550 to 3300. The system was designed to help reduce labor, provide modern, efficient equipment, increase the food production yield, and reduce life cycle cost. Initiated field testing and user evaluation with the Air Force.		0.248	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>	<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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 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 #27  FY10: Provide complete BEAR-550 prototype field kitchen system to a Combat Training Sites to support Services Training efforts. Transition Technical Data Package (TDD) that includes design, layout, and recommended equipment items to Air Force Services Command and the BEAR PMO to procure complete kitchen 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		0.000	0.244	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>	<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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>
Program #28  FY09: Transitioned from 6.4. a complete upgrade of Navy Communication Zone (COMMZ) in the form a prototype. Upgraded/corrected deficiencies with the Navy Communication Zone (COMMZ) kitchen identified as a result of the in-house testing. Developed equipment replacement list and an enhancement package that included cost data and transitioned prototype unit to the Navy for potential future procurement. The Navy will use the information developed under this program to determine feasibility of entire COMMZ fleet upgrade.  <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		0.040	0.000	0.000	0.000	0.000
Program #29  FY11: Integrate thermostatic control into the MBU control panel, simplify electronic operation and control analogs, increase means between failure time for Modern Burner Unit  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		0.000	0.000	0.094	0.000	0.094

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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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>		<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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 #30 Product Improvements for Fielded Food Service Equipment and System, all 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				0.000	0.000	0.058	0.000	0.058
Program #31 Small Business Innovative Research/Small Business Technical Transfer Program (SBIR/STTR)  <i>FY 2009 Accomplishments:</i> FY 2009				0.000	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>				<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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											
Accomplishments/Planned Programs Subtotals						2.422	2.081	2.118	0.000	2.118	
<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, 0603747.610, Food Adv Dev</i>	3.767	4.186	4.234	0.000	4.234	4.166	4.240	4.315	4.380	Continuing	Continuing
• Ord. #2: <i>OPA 3, M65803, Kitchen, Containerized, Field</i>	30.532	24.699	16.881	0.000	16.881	0.000	0.000	0.000	0.000	Continuing	Continuing
• Ord. #3: <i>OPA 3, M65802, Sanitation Center, Field Feeding</i>	3.914	3.905	5.552	0.000	5.552	0.000	0.000	0.000	0.000	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
Complete System Development and Demonstration of food items and equipment for transition into competitive procurement contract. Complete advanced research efforts to support Engineer Change Proposals for previously developed equipment.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>				<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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			
Various combat feeding equipment, multi-fuel and water equipment	C	RDECOM NSC	4.040	1.056		1.055		0.000		1.055	Continuing	Continuing	0
DOD Field Feeding Equipment	C	Various Location could not be determined.	1.654	0.291		0.280		0.000		0.280	Continuing	Continuing	0
Army Field Feeding Equipment Development	C	PM Force Sustainment Systems (FSS) Location could not be determined.	0.961	0.216		0.215		0.000		0.215	Continuing	Continuing	0
<b>Subtotal</b>			6.655	1.563		1.550		0.000		1.550			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	C	TECOM/OEC/ATC Location could not be determined.	1.636	0.350		0.345		0.000		0.345	Continuing	Continuing	0
<b>Subtotal</b>			1.636	0.350		0.345		0.000		0.345			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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>				<b>PROJECT</b> 548: <i>MIL SUBSISTENCE SYS</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>
CFP Management	C	RDECOM Location could not be determined.	0.995	0.168		0.223		0.000		0.223	Continuing	Continuing	0
SBIR/STTR	C	Nothing entered for Activity and Location. Location could not be determined.	0.084	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			1.079	0.168		0.223		0.000		0.223			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>			9.370	2.081		2.118		0.000		2.118			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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>			<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>	<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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
Provide BEAR-550 prototype field kitchen for Combat Services Training				#	#																							
Transition Technical Data Package to USAF to procure complete kitchen systems					#	#	#																					
Select automation technology to optimize crewing via system design approach				#	#	#	#																					
Complete required documents to transition galley food service system to USN								#	#	#	#																	
Transition advanced USMC equipment and systems to USMC for procurement.															#	#	#	#	#	#	#	#	#	#	#	#	#	
Transition advanced USN equipment and systems to USN for procurement.																	#	#	#	#	#	#	#	#	#	#	#	
Conduct Developmental Test and user evaluation for Mobile Kitchen Trailer			#	#	#	#																						
Conduct DT and OT on ADR P3I prototype refrigeration units														#	#	#	#											
Update ADR P3I technical data package to transition to USAF production contract																#	#											
Transition soft and hard shelter ESPEK prototypes to AF services. Develop TDP.				#	#	#	#																					
Conduct Milestone C and transition Battlefield Ice System to Procurement														#														
Transition Solar Powered Refrigeration to Procurement													#															

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>	<b>PROJECT</b> 548: <i>MIL SUBSISTENCE 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
Transition CK P3I to RESET											#																	
Transition Temp Controllers for Field Kitchen Appliances to Procurement															#													
Test prototype Water Cooler for Mounted Vehicles							#	#																				
Conduct Milestone C on Battlefield Kitchen																								#				
Conduct Navy Future Galley Modular and Seabasing Effort																			#	#	#	#	#	#	#	#	#	#
Conduct Joint Service Refrigeration Systems Enhancement Effort																			#	#	#	#	#	#	#	#	#	#
Conduct DT/OT on Waste to Energy Converter											#	#	#	#	#													
Conduct Milestone C on Waste to Energy Converter																			#									
Conduct DT/OT on CK Reset kit							#	#																				

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>	<b>PROJECT</b> 548: <i>MIL SUBSISTENCE SYS</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Provide BEAR-550 prototype field kitchen for Combat Services Training	4	2009	1	2010
Transition Technical Data Package to USAF to procure complete kitchen systems	1	2010	3	2010
Select automation technology to optimize crewing via system design approach	4	2009	3	2010
Complete required documents to transition galley food service system to USN	4	2010	3	2011
Transition advanced USMC equipment and systems to USMC for procurement.	4	2012	3	2015
Transition advanced USN equipment and systems to USN for procurement.	4	2013	3	2015
Conduct Developmental Test and user evaluation for Mobile Kitchen Trailer	3	2009	2	2010
Conduct DT and OT on ADR P3I prototype refrigeration units	2	2012	1	2013
Update ADR P3I technical data package to transition to USAF production contract	2	2013	3	2013
Transition soft and hard shelter ESPEK prototypes to AF services. Develop TDP.	4	2009	3	2010
Conduct Milestone C and transition Battlefield Ice System to Procurement	3	2012	3	2012
Transition Solar Powered Refrigeration to Procurement	2	2012	2	2012
Transition CK P3I to RESET	2	2011	2	2011
Transition Temp Controllers for Field Kitchen Appliances to Procurement	3	2012	3	2012
Test prototype Water Cooler for Mounted Vehicles	1	2010	2	2010
Conduct Milestone C on Battlefield Kitchen	4	2014	4	2014
Conduct Navy Future Galley Modular and Seabasing Effort	4	2013	3	2015
Conduct Joint Service Refrigeration Systems Enhancement Effort	4	2013	3	2015

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604713A: <i>Combat Feeding, Clothing, and Equipment</i>	<b>PROJECT</b> 548: <i>MIL SUBSISTENCE SYS</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
Conduct DT/OT on Waste to Energy Converter	4	2011	4	2012
Conduct Milestone C on Waste to Energy Converter	3	2013	3	2013
Conduct DT/OT on CK Reset kit	2	2010	3	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng 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	36.826	30.052	27.756	0.000	27.756	27.748	42.662	30.540	30.859	Continuing	Continuing
241: <i>NSTD COMBINED ARMS</i>	34.406	28.013	25.063	0.000	25.063	25.003	39.843	27.661	27.916	Continuing	Continuing
573: <i>Program Executive Office Simulation, Training SPT</i>	1.938	2.039	2.693	0.000	2.693	2.745	2.819	2.879	2.943	Continuing	Continuing
587: <i>ARMY DEVELOP CTIA/TENA CAPABILITY</i>	0.482	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**

Program Element funds development of Non-System Training Devices to support force-on-force training at the Combat Training Centers (CTC), general military training, and training on more than one item/system, as compared with system devices which are developed in support of a specific item/weapon system. Training devices and training simulations contribute to the modernization of the forces by enabling and strengthening combat effectiveness through realistic training solutions for the Warfighter. Training devices maximize the transfer of knowledge, skills, and experience from the training situation to a combat situation. Force-on-force training at the National Training Center (NTC), Ft. Irwin, CA; Joint Readiness Training Center (JRTC), Ft. Polk, LA, and Joint Multinational Readiness Center (JMRC), formerly the Combat Maneuver Training Center (CMTC), Hohenfels, Germany; and battle staff training in Battle Command Training Program (BCTP) provide increased combat readiness through realistic collective training in low, mid, and high intensity scenarios. Project 241, Non-System Training Devices-Combined Arms, develops simulation training devices for Army-wide use, including the CTCs. Project 573 funds key organizational support to Army/DoD Transformation via innovative simulation and training device efforts. Program Executive Office (PEO) Simulation, Training and Instrumentation (STRI)'s unique geographic colocation with other services facilitates joint training solutions in a common environment. FY11 funds significant development efforts on the Combat Training Center Instrumentation Systems (CTC-IS), One Tactical Engagement Simulation System (OneTESS), and further implementation of Live Training Transformation (LT2) through development of the Common Training Instrumentation Architecture (CTIA); enabling Joint training with the Joint Forces Command. Target Modernization initiates development of target system technologies which provide enhanced realism (look and behavior), threat/friend identification, and training performance feedback mechanisms. FY11 program funding will support system design, development, integration and demonstration of the Live, Virtual, Constructive Integrating Architecture (LVC-IA) Increment 1 capability to support DoD Training Transformation (T2) and Army Training Doctrine by providing the required integrated LVC mission rehearsal and training environment that allows Commanders, leaders, battle staffs & units to "train as they operate" as part of a Joint Task Force. FY11 Project 573 will provide for minimum PEO STRI core operations supporting development of training devices and simulations by PEO STRI Project Managers (PM TRADE, PM ITTS, PM CATT, PM Future Force (S) and PM Constructive Simulation).

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng 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	38.299	30.209	29.582	0.000	29.582
Current President's Budget	36.826	30.052	27.756	0.000	27.756
Total Adjustments	-1.473	-0.157	-1.826	0.000	-1.826
• Congressional General Reductions		-0.157			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.511	0.000			
• SBIR/STTR Transfer	-0.962	0.000			
• Adjustments to Budget Years	0.000	0.000	-1.826	0.000	-1.826

**Change Summary Explanation**

None required.

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>				<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</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>
241: <i>NSTD COMBINED ARMS</i>	34.406	28.013	25.063	0.000	25.063	25.003	39.843	27.661	27.916	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This project supports development of prototype training devices to support Combined Arms (Infantry, Armor, Aviation, Air Defense, Artillery, Engineer, Chemical, and Support troops) training and multi-system training within the Army, to include the Reserve Components. The One Tactical Engagement Simulation System (OneTESS) provides for an advanced, joint, collective, combined arms, live force-on-force training system using tactical weapon systems supported by a family of Training Aids, Devices, Simulations and Simulators (TADSS) that support up to brigade-level exercises, for every weapon and vehicle platform, at Homestation, Maneuver Combat Training Centers (MCTC), and deployed sites. The Common Training Instrumentation Architecture (CTIA) provides the common architecture framework for developing the Live Training Transformation (LT2) Product Line of live training systems supporting Army-wide Force-On-Force (FOF) and Force-On-Target (FOT) training requirements. CTIA is a spiral development, evolutionary acquisition program that continues to provide developmental support for the LT2 Product line in compliance with the DoD Test and Training Enabling Architecture (TENA). The Combat Training Centers (CTCs) provide high-fidelity live, virtual, and constructive brigade training rotations which prepare Brigade Combat Teams, Joint partners, and supporting units to deploy in support of Army Force Generation (ARFORGEN). Combat Training Center Instrumentation System (CTC IS) develops new data communications systems increasing tracking accuracy and coverage at the CTCs to provide greater training fidelity to training units. CTC IS also develops infrastructure to host OneTESS and FCS requirements. The Live, Virtual, Constructive Integrating Architecture (LVC-IA) provides net-centric linkage that collects, retrieves and exchanges data among LVC Training Aids, Devices, Simulations, and Simulators (TADSS) and Joint/Army Battle Command Systems leading to an LVC Integrated Training Environment (ITE). The LVC-IA defines "how" information is exchanged among LVC domains and Battle Command Systems. The LVC Integrating Architecture includes common LVC components such as Enterprise After Action Review (AAR), Command and Control (C2) Adapters, Terrain Databases, Multi-level Security, and Hardware/Software. The integration of Live, Virtual, and Constructive TADSS with Battle Command will enable larger, more robust, and rich training events at reduced cost. The end-state goal is an LVC Integrated Training Environment that approximates the Operating Environment and provides value-added training and mission rehearsal opportunities to Commanders and units. The Target Modernization provides for the initiation of the development of training target related technologies; focused on enhancing threat realism, engagement feedback, support of changes in doctrine/weapons, and alignment to CTIA Product-Line assets. FY11 funds significant development efforts on the Combat Training Center Instrumentation Systems (CTC-IS), One Tactical Engagement Simulation System (OneTESS), and further implementation of Live Training Transformation (LT2) through development of the Common Training Instrumentation Architecture (CTIA); enabling Joint training with the Joint Forces Command. Target Modernization initiates development of target system technologies which provide enhanced realism (look and behavior), threat/friend identification, and training performance feedback mechanisms. FY11 program funding will support system design, development, integration and demonstration of the Live, Virtual, Constructive Integrating Architecture (LVC-IA) Increment 1 capability to support DoD Training Transformation (T2) and Army Training Doctrine by providing the required integrated LVC mission rehearsal and training environment that allows Commanders, leaders, battle staffs &amp; units to "train as they operate" as part of a Joint Task Force.</p>											

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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><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-FY11: Continues development of One Tactical Engagement Simulation System (One TESS). Refine systems architecture, develop Future System/Joint, Live/Virtual and Constructive solutions and integrate operational testing that supports the training and testing communities into current combat systems under 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		22.997	8.320	7.399	0.000	7.399
Program #2  FY09: Center of Excellence for Military Operations in Urban Terrain and Cultural Training Add.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		2.996	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</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  FY09-FY11: Continue development of CTIA to provide the common architecture capabilities that are essential for development and fielding of the CTC, Integrated Military Operations in Urbanized Terrain Training System (IMTS), HITS, and Digital Ranges Training System (DRTS) training instrumentation 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		5.154	1.993	2.122	0.000	2.122
Program #4  FY10-FY11: Combat Training Center Instrumentation System (CTC IS) funds the continued development of the Range Communications Systems at the National Training Center (NTC), Joint Readiness Training Center (JRTC) and Joint Multinational Readiness Center (JMRC) increasing tracking coverage and accuracy in order to increase training fidelity for Brigade Combat Team rotations to better prepare units for deployment. The Observer		0.000	4.895	4.967	0.000	4.967

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</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>Controller (OC) voice communication systems at the NTC and JMRC are unsupportable and present increasing risk to safety and the training mission.</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>FY10: Exportable Training Capability-Instrumentation System (ETC-IS) program funding provided for the development, integration, and testing of tracking capability, coverage and accuracy, and new Battle Command systems architecture to increase training fidelity for Brigade Combat Team rotations to better prepare units for deployment.</p> <p><i>FY 2009 Accomplishments:</i> FY 2009</p> <p><i>FY 2010 Plans:</i> FY 2010</p>		0.000	5.102	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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>		<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</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  FY09: Improvised Explosive Device Explosive Simulator (IEDES) - Developed realistic detection and reaction training against IED threats through simulated, but realistic battlefield cues and effects.  <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				0.211	0.000	0.000	0.000	0.000
Program #7  FY09: The Homestation Instrumentation Training System (HITS) program funding provided for the integration and testing of LT2 products into the HITS design.  <i>FY 2009 Accomplishments:</i> FY 2009				0.840	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</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: Engagement Skills Trainer 2000 (EST) weapon enhancement development including: the M145 machine gun optics, call for and adjust indirect fires, vehicle skate ring and pedestal mounts, and the family of AN/PAS-13 thermal weapon sights.</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 #10</p> <p>FY10-FY11: Develop system, design, development, integration and demonstration of the Live, Virtual, Constructive Integrating Architecture (LVC-IA) Increment 1 capability.</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	6.973	7.999	0.000	7.999

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</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 #11  FY11: Target Modernization initiates development of target system technologies which provide enhanced realism (look and behavior), threat/friend identification, and training performance feedback mechanisms. Target Modernization initiates integration with Live Training Transformation (LT2) and Live, Virtual, and Constructive (LVC) simulation interoperability.  <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	2.576	0.000	2.576
Program #12  FY10: Small Business Innovative Research/Small Business Technology Transfer Programs.  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.730	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	
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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						34.406	28.013	25.063	0.000	25.063		
<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>OPA3, Appropriation NA0100 Training Devices, Non-System</i>	298.298	336.451	297.200	28.624	325.824	289.193	299.825	310.782	320.806	Continuing	Continuing	
• Ord. #2: <i>OPA3, Appropriation MA6601 CTC Support</i>	36.459	83.094	23.400	0.000	23.400	139.479	125.354	148.729	125.329	Continuing	Continuing	
<b>D. Acquisition Strategy</b> Competitive development efforts based on performance specifications.												
<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

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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			
OneTESS	C/CPFF	General Dynamics Fairfax, VA	91.796	6.275		6.658		0.000		6.658	Continuing	Continuing	0
CTIA	C/CPFF	Lockheed Martin Inc. Orlando, FL	52.358	0.000		0.000		0.000		0.000	Continuing	Continuing	0
CTIA - 2	C	TBS Location could not be determined.	0.000	1.591		1.729		0.000		1.729	Continuing	Continuing	0
CTC IS	C	TBS Location could not be determined.	0.000	4.465		4.518		0.000		4.518	Continuing	Continuing	0
ETC IS	C/FFP	Inter-Coastal Electronics Inc. Mesa, AZ	0.000	4.938		0.000		0.000		0.000	Continuing	Continuing	5.104
HITS	C/FFP	Riptide Oviedo, FL	1.379	0.000		0.000		0.000		0.000	Continuing	Continuing	1.379
MSTC	C/Various	Multiple Location could not be determined.	0.436	0.000		0.000		0.000		0.000	Continuing	Continuing	.586
EST 2000 Weapon Enhancement Development	C/FFP	Cubic Simulation Systems Division Orlando, FL	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	1.648
LVC-IA Development	C	TBS Location could not be determined.	0.000	5.572		6.008		0.000		6.008	Continuing	Continuing	0
Target Modernization	C	TBS	0.000	0.000		2.221		0.000		2.221	Continuing	Continuing	2.274

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>				<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</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.											
Congressional Add Center of Excellence for Military Operations in Urban Terrain and Cultural Trn	C/Various	Multiple Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			145.969	22.841		21.134		0.000		21.134			10.991

**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			
OneTESS	C	Various Location could not be determined.	5.275	0.314		0.322		0.000		0.322	Continuing	Continuing	5.939
CTIA	C	Various Location could not be determined.	10.176	0.402		0.393		0.000		0.393	Continuing	Continuing	0
Target Modernization	C	Various Location could not be determined.	0.000	0.000		0.082		0.000		0.082	Continuing	Continuing	0

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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			
<b>Subtotal</b>			15.451	0.716		0.797		0.000		0.797			5.939

**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			
OneTESS Development and Test	C	Multiple Location could not be determined.	2.554	0.370		0.309		0.000		0.309	Continuing	Continuing	0
IEDES	C	Multiple Location could not be determined.	0.308	0.000		0.000		0.000		0.000	Continuing	Continuing	.308
HITS	C/Various	Multiple Location could not be determined.	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	.740
LVC-IA Test Support	C/Various	Multiple Location could not be determined.	0.000	0.362		0.923		0.000		0.923	Continuing	Continuing	0
<b>Subtotal</b>			2.862	0.732		1.232		0.000		1.232			1.048

**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</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			
OneTESS Program Management	C/Variou	PEO STRI Orlando, FL 32826	5.494	1.361		0.110		0.000		0.110	Continuing	Continuing	6.843
CTC IS Program Management	C/Variou	PEO STRI Orlando, FL 32826	0.000	0.430		0.449		0.000		0.449	Continuing	Continuing	0
ETC IS Program Management	C/Variou	PEO STRI Orlando, FL 32826	0.000	0.164		0.000		0.000		0.000	Continuing	Continuing	.164
HITS Program Management	C/Variou	PEO STRI Orlando, FL 32826	0.300	0.000		0.000		0.000		0.000	Continuing	Continuing	.400
EST 2000 Program Management	C/Variou	PEO STRI Orlando, FL 32826	0.000	0.000		0.000		0.000		0.000	Continuing	Continuing	.095
LVC-IA Program Management	C/Variou	PEO STRI Orlando, FL 32826	0.000	1.039		1.068		0.000		1.068	Continuing	Continuing	0
Target Modernization	C/Variou	PEO STRI Orlando, FL	0.000	0.000		0.273		0.000		0.273	Continuing	Continuing	0
MSTC Program Management	C/Variou	PEO STRI Orlando, FL 32826	0.021	0.000		0.000		0.000		0.000	Continuing	Continuing	.343
SBIR/STTR	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.730		0.000		0.000		0.000	Continuing	Continuing	0
<b>Subtotal</b>			5.815	3.724		1.900		0.000		1.900			7.845

**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</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>	170.097	28.013	25.063	0.000	25.063			25.823

**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</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
OneTESS MS C											#																	
CTIA Version 2.1			#																									
CTIA Version 2.2							#																					
CTIA Version 2.3											#																	
CTC IS Development				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
ETC IS (Phase 2) Development & Testing					#	#	#																					
EST 2000 Weapon Enhancement Development	#	#	#																									
LVC-IA - Increment 1 - EMD				#	#	#	#	#	#	#	#	#																
Target Modernization 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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 241: <i>NSTD COMBINED ARMS</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
OneTESS MS C	3	2011	3	2011
CTIA Version 2.1	3	2009	3	2009
CTIA Version 2.2	3	2010	3	2010
CTIA Version 2.3	3	2011	3	2011
CTC IS Development	4	2009	3	2015
ETC IS (Phase 2) Development & Testing	1	2010	3	2010
EST 2000 Weapon Enhancement Development	1	2009	3	2009
LVC-IA - Increment 1 - EMD	4	2009	3	2011
Target Modernization Development	4	2010	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>				<b>PROJECT</b> 573: <i>Program Executive Office Simulation, Training SPT</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>573: Program Executive Office Simulation, Training SPT</i>	1.938	2.039	2.693	0.000	2.693	2.745	2.819	2.879	2.943	Continuing	Continuing	
Quantity of RDT&E Articles												
<b>A. Mission Description and Budget Item Justification</b>												
In support of Non-System Training Devices (NSTD), this project funds the US Army Program Executive Officer Simulation, Training and Instrumentation (PEO STRI) core operations supporting development of training devices and simulations by PEO STRI project managers (PM TRADE, PM ITTS, PM CATT, PM Constructive Simulation and PM Future Force.) FY11 funds labor in support of PEO 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 FY09-FY11: Continues to support PEO STRI labor for project managers in PM TRADE, PM ITTS, PM CATT, PM Constructive Simulation and PM Future Force (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						1.550	1.599	2.693	0.000	2.693		

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 573: <i>Program Executive Office Simulation, Training SPT</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  FY09-FY10: Public Law mandated the Army track FCS related work for accountability purposes. This funding represents salary dollars for three Department of the Army Civilians for the research and development of simulation systems to support the Army Future Combat 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		0.388	0.383	0.000	0.000	0.000
Program #3  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		0.000	0.057	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 573: <i>Program Executive Office Simulation, Training SPT</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		1.938	2.039	2.693	0.000	2.693
<b>C. Other Program Funding Summary (\$ in Millions)</b>						
N/A						
<b>D. Acquisition Strategy</b>						
Not Applicable.						
<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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>				<b>PROJECT</b> 587: <i>ARMY DEVELOP CTIA/TENA CAPABILITY</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>
587: <i>ARMY DEVELOP CTIA/TENA CAPABILITY</i>	0.482	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 Joint NonKinetic Effects Model (JNEM)-Joint Conflict and Tactical Simulation (JCATS) Interoperability to implement a robust and stable interface between the JNEM and JCATS model. Exercise software developed and upgraded is valid for training and includes all items approved by the Exercise Director and Commanders Training Objectives. Implementation of a JNEM-JCATS interface contributes to numerous mitigation issues: capability to provide training feedback in Information Operations (IO), capability to provide improved Host Nation Representation, capability to plan Human Intelligence (HUMINT), capability to incorporate Non-Government Organizations (NGO), Private Voluntary Organizations (PVO), Multi-National Corporations (MNC), and US Forces Civil Affairs Higher Headquarters that Contribute to Stable Operations, and capability to adequately replicate Other Government Agency (OGA) interaction with the Brigade Combat Team Staff.</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							0.482	0.000	0.000	0.000	0.000
FY09: Completed Development of JNEM for training.  <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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604715A: <i>Non-System Training Devices - Eng Dev</i>	<b>PROJECT</b> 587: <i>ARMY DEVELOP CTIA/TENA CAPABILITY</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		0.482	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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**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng 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	21.737	28.785	34.209	65.200	99.409	35.495	22.464	16.598	19.159	Continuing	Continuing
126: <i>FAAD C2 ED</i>	2.902	3.694	8.262	0.000	8.262	9.772	3.642	3.467	3.479	Continuing	Continuing
146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</i>	9.226	15.431	19.227	0.000	19.227	15.586	8.756	13.131	15.680	Continuing	Continuing
149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</i>	9.609	9.660	6.720	65.200	71.920	10.137	10.066	0.000	0.000	Continuing	Continuing

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

The Air and Missile Defense Planning and Control System (AMDPCS) is an Army Objective Force System that provides integration of Air and Missile Defense (AMD) operations at all echelons. AMDPCS systems are deployed with Air Defense Artillery (ADA) brigades, Army Air and Missile Defense Commands (AAMDCs), and Air Defense and Airspace Management (ADAM) Cells at the Brigade Combat Teams (BCT's), Fires Brigades and Divisions. AMDPCS systems also provide air defense capabilities to Homeland Defense systems. AMDPCS has three major components:(1) The Air and Missile Defense Workstation (AMDWS) is an automated defense and staff planning tool that displays the common tactical and operational air picture. AMDWS provides the Battle Command (BC) capabilities embedded within the Warfighter Mission area. AMDWS is also the Net-centric interface to BC for all components of the AMD force. AMDWS provides an interoperability link to multinational air defense forces IAW Annex C to a Joint US/NATO Air Defense Agreement; (2) The Air Defense System Integrator (ADSI) is a communications data link processor and display system that provides near-real time joint airspace situational awareness and fire direction command and control for Air and Missile Defense forces;(3) The Army Air Defense shelter configurations use automated data processing equipment, tactical communications, Common Hardware Systems, standard vehicles and tactical power to provide AMD unit commanders and staffs with the capabilities to plan missions, direct forces, and control the airspace.The Forward Area Air Defense Command, Control, and Intelligence (FAAD C2I) System provides continuously tailored situational awareness and situational understanding of the battlespace (including data on threat aircraft, cruise missiles and unmanned aerial vehicles (UAVs) to support the planning and decision process at various levels of command. The mission is to collect, digitally process and disseminate real time target cueing and tracking information, common tactical air picture, and C2I information to all Short Range Air Defense (SHORAD) weapons (Avenger, Bradley Linebacker, Manportable Air Defense System (MANPADS), joint and combined arms). Unique FAAD C2 software will provide this mission capability by integrating FAAD C2 engagement operations software with the Joint Digital Radio (JDR), Single Channel Ground and Airborne Radio System (SINCGARS), Enhanced Position Location Reporting System (EPLRS), Global Positioning System (GPS), Airborne Warning and Control System (AWACS), Sentinel and the Army Battle Command System (ABCS) architecture. Provides joint C2 interoperability and horizontal integration with PATRIOT, THAAD, MEADS, JLENS and SHORAD weapon systems by fusing sensor data to create a scalable and filterable single integrated air picture (SIAP) and common operating picture (COP) at Army divisions and below. System software will provide target data

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>
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and engagement commands/status to the Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM) air defense system. A small portion of RDTE funding is dedicated to SLAMRAAM C2 threshold requirements. FAAD C2 is the first system to digitize for Army Transformation in the First Digitized Division (FDD), III (Digitized) Corps, the Joint Contingency Force (JCF) and the STRYKER Brigade Combat Teams (SBCTs). The FAAD C2 netted and distributed system architecture has been briefed as the basis for a potential BM/C4I Future Combat System (FCS). Counter-Rockets, Artillery and Mortar (C-RAM) is a spiral Initiative Non-Developmental program initiated by the Army Chief of Staff in response to Iraqi threat and twice validated theater ONS. The primary mission of the C-RAM program is to develop, procure, field and maintain a system of systems that can detect rocket, artillery or mortar launches; warn the defended area with sufficient time for personnel to take cover; intercept rounds in flight, thus preventing damage to ground forces or facilities; and enhance response to and defeat of enemy forces. C-RAM utilizes a system of systems (SoS) approach, and is comprised of a combination of multi-service fielded and non-developmental item (NDI) sensors, command and control (C2) systems and a modified U.S. Navy intercept system, with a low cost commercial off-the-shelf (COTS) warning system and wireless local area network. The system will be fielded to various fixed or sites, providing them correlated air and ground pictures and linking them to the Army Battle Command System (ABCS) and the Joint Defense Network (JDN), via various forms of communications to provide situational awareness and exchange of timely and accurate information to synchronize and optimize automated Shape, Sense, Warn, Intercept, Respond and Protect decisions.

**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	22.340	28.936	38.966	0.000	38.966
Current President's Budget	21.737	28.785	34.209	65.200	99.409
Total Adjustments	-0.603	-0.151	-4.757	65.200	60.443
• Congressional General Reductions		-0.151			
• 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	-0.603	0.000			
• Adjustments to Budget Years	0.000	0.000	-4.757	65.200	60.443

**Change Summary Explanation**

Change Summary Explanations: Funding - FY 2011: Anticipated Congressional increase to support Overseas Contingency Operation efforts for the Counter-Rocket, Artillery and Mortar (C-RAM) system.

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 126: <i>FAAD C2 ED</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
126: <i>FAAD C2 ED</i>	2.902	3.694	8.262	0.000	8.262	9.772	3.642	3.467	3.479	Continuing	Continuing
Quantity of RDT&E Articles											

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

The Forward Area Air Defense Command and Control (FAAD C2) system collects, digitally processes, and disseminates real-time target cuing and tracking information; the common tactical air picture; and command, control, and intelligence information to all Maneuver Air and Missile Defense (MAMD) weapon systems (Avenger and Man-Portable Air Defense System (MANPADS), and joint and combined arms systems. The FAAD C2 system provides alerting data to air defense gunners, airspace battle management, and up-linking of mission operations, thereby enhancing force protection against air and missile attack. Situational awareness and targeting data is provided on threat aircraft, cruise missiles, and unmanned aerial systems (UAS). The FAAD C2 system provides this mission capability by integrating dynamic FAAD C2 engagement operations software with the Multifunctional Information Distribution System (MIDS), Joint Tactical Terminal (JTT), Single Channel Ground and Airborne Radio System (SINCGARS), Enhanced Position Location System (EPLRS), Global Positioning System (GPS), Airborne Warning and Control Systems (AWACS), Sentinel radar, and the Army Battle Command System (ABCS) architecture. In addition, FAAD C2 provides interoperability with Joint C2 systems and horizontal integration with PATRIOT, Theater High-Altitude Area Defense (THAAD), Medium Extended Air Defense System (MEADS), and the Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) by fusing sensor data to create a scalable and filterable Single Integrated Air Picture (SIAP) and common tactical picture. The system software is a key component of the Air Defense and Airspace Management (ADAM) Cell that is being fielded to Stryker Brigade Combat Teams (SBCT), Brigade Combat Teams (BCTs), and Division Headquarters as part of the Army's modularity concept. System software is able to provide target data and engagement commands/status to MAMD Battalions. FAAD C2 is also a principal air defense system within the Homeland Defense Program. Soldiers from activated ARNG MAMD battalions operate the FAAD C2 systems in the National Capital Region and other locations. Program funding enables fielding of equipment to the current force to support the Army's Program Objective to rapidly respond to immediate threats to Soldiers, identifies promising technologies, procures and integrates those capabilities for deployed forces in the same year. As capability gaps are identified by deployed forces, this program provides the ability for the Army to procure high priority/high leverage technology from industry during the same year, with the highest priority going to candidates that cover a multitude of gap areas. Program funding provides a method to rapidly keep pace with leading edge technologies and maintain interoperability and backwards compatibility caused by improvement to other system components (upgrade from common hardware version 2 to 3 and EPLRS enhancements). In support of the Global War on Terrorism, FAAD C2 systems are in MAMD units and ADAM Cells deployed to Iraq and Afghanistan. These FAAD systems are critical in providing the local air picture to supported units and higher headquarters. FAAD C2 systems will also provide target tracks and weapon controls for the initial C-RAM capability deployed to Iraq.

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

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 126: <i>FAAD C2 ED</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 #1  Support FAAD C2 software development for new Air and Missile Defense Composite Battalions, including unique software enhancements in support of Homeland Defense and security accreditation upgrades. Integrate Sentinel radar Enhanced Target, Range and Classification (ETRAC). Continue integration of interfaces for the Joint Tactical Terminal (JTT). Incorporate IFF modes 1,2 and 3 (active decode) 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		0.000	3.140	8.262	0.000	8.262
Program #2  Implement software modifications necessary for Internet Protocol version 6 (IPv6).  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		2.902	0.431	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>			<b>PROJECT</b> 126: <i>FAAD C2 ED</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							0.000	0.123	0.000	0.000	0.000
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											
Accomplishments/Planned Programs Subtotals							2.902	3.694	8.262	0.000	8.262
<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 2, AD5050 - FAAD C2</i>	7.467	8.263	42.511	0.000	42.511	20.364	24.894	4.806	4.794	Continuing	Continuing
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 126: <i>FAAD C2 ED</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. #2: <i>Spares (BS9702) - FAAD C2</i>											

**D. Acquisition Strategy**

The FAAD C2 acquisition strategy relies on evolutionary software development to rapidly meet the demands of air defense battle management/command, control, communications, computers, and intelligence (BM/C4I) requirements, and to keep pace with automated information technologies. The concept of evolutionary software development was followed in Blocks I, II, and III. Left to be completed is the Implementation of IPv6.

**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 126: <i>FAAD C2 ED</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			
Northrop Grumman/TRW, BLK I	C/CPIF	Carson CA	176.461	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Northrop Grumman/TRW, BLK II	SS/CPIF	Carson CA	32.206	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Northrop Grumman/TRW, BLK III	SS/CPIF	Carson CA	106.360	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Northrop Grumman/TRW	SS	Carson CA	13.659	0.329		0.757		0.000		0.757	Continuing	Continuing	0
Northrop Grumman	C	Nothing entered for Activity and Location. Location could not be determined.	5.045	2.173		5.002		0.000		5.002	Continuing	Continuing	0
Program Management Administration	C	Various Location could not be determined.	38.289	0.286		0.658		0.000		0.658	Continuing	Continuing	0
Sentinel GBS	C	Huntsville AL	3.791	0.000		0.000		0.000		0.000	Continuing	Continuing	0
JTIDS	C	Ft. Monmouth NJ	6.000	0.000		0.000		0.000		0.000	Continuing	Continuing	0
ABCS SE&I	C	Ft Monmouth NJ	0.346	0.000		0.000		0.000		0.000	Continuing	Continuing	0
Software Engineering	C/Various	Various Location could not be determined.	20.945	0.249		0.572		0.000		0.572	Continuing	Continuing	0
	C/Various	Varios	83.842	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 126: <i>FAAD C2 ED</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			
C-RAM Sense, Warn & Intercept		Location could not be determined.											
<b>Subtotal</b>			486.944	3.037		6.989		0.000		6.989			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			
ADATD	C	Ft Bliss TX	12.617	0.100		0.229		0.000		0.229	Continuing	Continuing	0
RTTC	C	WSMR NM	2.947	0.000		0.000		0.000		0.000	Continuing	Continuing	0
AATD	C	Ft Eustis VA	0.372	0.023		0.053		0.000		0.053	Continuing	Continuing	0
ATEC	C	Alexandria VA	2.270	0.096		0.221		0.000		0.221	Continuing	Continuing	0
Yuma Proving Ground	C	Yuma AZ	8.229	0.334		0.770		0.000		0.770	Continuing	Continuing	0
<b>Subtotal</b>			26.435	0.553		1.273		0.000		1.273			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 126: <i>FAAD C2 ED</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>	513.379	3.590	8.262	0.000	8.262			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 126: <i>FAAD C2 ED</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
V5.4B Materiel Release							#																					
V5.5B Materiel Release														#														
IFPC / FAAD C2 SW Materiel Release								#																				
V5.5C Materiel Release															#													
Software Upgrades for local Sensor Interfaces (Sentinel)				#	#	#	#	#	#	#	#	#	#	#	#	#												
NCR-IADS Phase II Operational Test/Operational User Evaluation, V5.4B-11.2p1				#																								
IFPC Increment I Operational Assessment							#																					
IFPC Increment I Initial Operation Test & Evaluation											#																	

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 126: <i>FAAD C2 ED</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
V5.4B Materiel Release	3	2010	3	2010
V5.5B Materiel Release	1	2012	1	2012
IFPC / FAAD C2 SW Materiel Release	4	2010	4	2010
V5.5C Materiel Release	1	2013	1	2013
Software Upgrades for local Sensor Interfaces (Sentinel)	4	2009	3	2012
NCR-IADS Phase II Operational Test/Operational User Evaluation, V5.4B-11.2p1	4	2009	4	2009
IFPC Increment I Operational Assessment	3	2010	3	2010
IFPC Increment I Initial Operation Test & Evaluation	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>				<b>PROJECT</b> 146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</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>
146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</i>	9.226	15.431	19.227	0.000	19.227	15.586	8.756	13.131	15.680	Continuing	Continuing
Quantity of RDT&E Articles											
<b><u>A. Mission Description and Budget Item Justification</u></b>											
<p>The Air and Missile Defense Planning and Control System (AMDPCS) is an Army Objective Force System that provides integration of Air and Missile Defense (AMD) operations at all echelons. AMDPCS systems are deployed with Air Defense Artillery (ADA) brigades, Army Air and Missile Defense Commands (AAMDCs), and Air Defense and Airspace Management (ADAM) Cells at the Brigade Combat Teams (BCT's), Fires Brigades and Divisions. AMDPCS systems also provide air defense capabilities to Homeland Defense systems. The development of ADAM Cells is essential in fulfilling the Army's Modularity requirement. ADAM Cells provide the Commander at BCTs, Brigades and Divisions with air defense situational awareness and airspace management capabilities. They also provide the interoperability link with Joint, multinational and coalition forces. AMDPCS components are vital in the transformation of ADA units and the activation of the Maneuver Air &amp; Missile Defense (MAMD) Composite Battalions. AMDPCS has three major components:(1) The Air and Missile Defense Workstation (AMDWS) is an automated defense and staff planning tool that displays the common tactical and operational air picture. AMDWS provides the Battle Command (BC) capabilities embedded within the Warfighter Mission area. AMDWS is also the Net-centric interface to BC for all components of the AMD force. AMDWS provides an interoperability link to multinational air defense forces IAW Annex C to a Joint US/NATO Air Defense Agreement;(2) The Air Defense System Integrator (ADSI) is a communications data link processor and display system that provides near-real time, 3-dimensional, joint airspace situational awareness and fire direction command and control for Air and Missile Defense forces;(3) The Army Air Defense shelter configurations use automated data processing equipment, tactical communications, Common Hardware Systems, standard vehicles and tactical power to provide AMD unit commanders and staffs with the capabilities to plan missions, direct forces, and control the airspace. In support of the Global War on Terrorism (GWOT), AMDWS and ADSIs are vital components of the AMDPCS shelter systems fielded to ADAM Cells that have deployed to Iraq and Afghanistan. In addition, these components have also been integrated into non-ADA higher headquarters such as the Coalition Forces Land Component Command (CFLCC). AMDWS is a critical component in the integration and fielding of a Counter-Rocket, Artillery and Mortar (C-RAM) capability to Operating Bases in Iraq and elsewhere. In support of Homeland Defense missions, the AMDWS has been integrated as the Force Operations component into the Joint Service/Air Force architecture. These AMDPCS systems provide the common tactical air picture, a major component of the Common Operating Picture (COP), and are critical to the development and planning of offensive and defensive operations.FY11 funds the development, software engineering, testing and certification of the AMDWS, ADSI, and sheltered subsystem software as described below.</p>											
<b><u>B. Accomplishments/Planned Program (\$ in Millions)</u></b>											

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</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>Program #1</p> <p>Continue AMDWS development and support of LANDWARNET/Battle Command Framework. Complete AMDWS software engineering and development consistent with Software Block 2, 2+ and 3 requirements, evolving the air and missile defense planning and control requirements to a net-centric environment, and fulfilling the air defense force operations capabilities identified in the AMD TRADOC capabilities requirement list. Continue AMDWS software development and rehost onto emerging light/laptop common hardware systems. Continue integration of the PATRIOT Air Defense system Tactical Planner (PTP) and the Theater Battle Management Core Systems (TBMCS). Initiate development of the SLAMRAAM, JLENS, MEADS and Joint Theater Battle Operations Net-Centric Environment interfaces. Continue supporting the Air Force Joint Tactical Air and Missile Defense (JTAMD), and support the evolving development of the Force Operations portion of the Integrated Air and Missile Defense (IAMD) System of Systems. Continue AMDWS within the Capability Set management Process, while working to implement the Unified Battle Command SoS approach.</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>		5.716	9.842	12.134	0.000	12.134
<p>Program #2</p> <p>Continue ADSI software engineering and development in software versions 14.1.1, 15, and 15.1 including development of capabilities for TAC View Situational Awareness, with air control support, scenario generation</p>		1.050	1.706	2.121	0.000	2.121

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</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 3-dimensional capability, full TADIL-J, Joint Range Extension Application Protocols (JREAP) for link 16 messages, MIDS TADIL-J connectivity, and Windows XP Pro and LINUX Realtime.</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>Continue engineering, development, test and evaluation of the AMDPCS shelter subsystem Objective configurations; continue evaluation and definitization of the AMDPCS tactical communications, data processing and vehicle/shelter/power generation/environmental system block upgrade program for fielded systems.</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>				1.668	2.539	3.370	0.000	3.370

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</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  Continue software system certification testing, accreditation, and approval of Authority-to-Operate for the various software systems; continue Army and Joint integration and interoperability assessments.  <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		0.792	1.163	1.602	0.000	1.602
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		0.000	0.181	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 5: <i>Development &amp; Demonstration (SDD)</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>		<b>PROJECT</b> 146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</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				9.226	15.431	19.227	0.000	19.227			
<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, AD 5070 - AMDPCS</i>	34.848	62.242	57.038	0.000	57.038	23.591	28.848	25.226	24.681	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
The acquisition strategy relies on non-development items (NDI) and evolutionary software development to rapidly meet the demands of air defense battle management command, control, communications, computers, and intelligence (BM/C4I) requirements and to keep pace with automated information technologies. The concept of evolutionary software development will be accomplished in a series of AMDWS and ADSI Block releases and upgrades. AMDPCS is being developed for both the Army's Active and Reserve components.											
<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			
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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			
Northrop Grumman/TRW	SS/CPIF	Huntsville AL	60.571	9.121		12.086		0.000		12.086	Continuing	Continuing	0
ULTRA Electronics, ADSI	SS/CPIF	Austin TX	6.026	0.219		0.281		0.000		0.281	Continuing	Continuing	0
Program Management Administration	C/Various	Various Location could not be determined.	32.783	4.990		4.999		0.000		4.999	Continuing	Continuing	0
ABCS SE&I	C	Ft Monmouth NJ	0.619	0.000		0.000		0.000		0.000	0	.619	0
Software Engineering	C/Various	Various Location could not be determined.	8.624	0.919		1.730		0.000		1.730	Continuing	Continuing	0
<b>Subtotal</b>			108.623	15.249		19.096		0.000		19.096			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			
Certification	C	JITC Ft Huachuca, AZ	0.753	0.053		0.073		0.000		0.073	Continuing	Continuing	0
	C	CTSF	1.192	0.030		0.058		0.000		0.058	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</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			
Interoperability Assessment		Ft. Hood, TX											
<b>Subtotal</b>			1.945	0.083		0.131		0.000		0.131			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			
<b>Project Cost Totals</b>	110.568	15.332		19.227		0.000		19.227			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>
<b>PROJECT</b> 146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</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
AMDWS V6.4.2 FMR							#																					
AMDWS V6.5.2 FMR (CS 13-14)															#													
ATO			#																									
AMDWS V6.5 FMR							#																					
AMDWS V6.5.3 FMR (CS 15-16)																										#		
No label was entered							#	#	#	#	#	#	#	#														
No label was entered - 2														#	#	#	#	#	#	#	#	#	#					
AMDWS AMD Interfaces : Patriot - C2BMC - THAAD- JLENS - SLAMRAAM - MEADS- TBMCS												#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
ADA BDE & ADAM Cell Technology Refresh												#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
ADSI Migration to Joint Common Data Link												#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	
C-RAM / ADAM Demo			#																									
IFPC OA							#																					
IFPC IOTE											#																	
EWf/TATD			#																									
JPOW							#																					
EWf/TATD - 2											#																	
JPOW - 2														#														
EWf/TATD - 3																												
JPOW - 3																											#	

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</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				
EWF/TATD - 4																																#

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
AMDWS V6.4.2 FMR	3	2010	3	2010
AMDWS V6.5.2 FMR (CS 13-14)	4	2012	4	2012
ATO	3	2009	3	2009
AMDWS V6.5 FMR	4	2010	4	2010
AMDWS V6.5.3 FMR (CS 15-16)	4	2014	4	2014
No label was entered	4	2010	3	2012
No label was entered - 2	4	2012	3	2014
AMDWS AMD Interfaces : Patriot - C2BMC - THAAD- JLENS - SLAMRAAM - MEADS-TBMCS	4	2011	4	2015
ADA BDE & ADAM Cell Technology Refresh	4	2011	4	2015
ADSI Migration to Joint Common Data Link	4	2011	4	2015
C-RAM / ADAM Demo	4	2009	4	2009
IFPC OA	3	2010	3	2010
IFPC IOTE	3	2011	3	2011
EWf/TATD	3	2009	3	2009
JPOW	3	2010	3	2010
EWf/TATD - 2	3	2011	3	2011
JPOW - 2	2	2012	2	2012
EWf/TATD - 3	3	2013	3	2013

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 146: <i>AIR &amp; MSL DEFENSE PLANNING CONTROL SYS (AMC PCS)</i>
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Event	Start		End	
	Quarter	Year	Quarter	Year
JPOW - 3	2	2014	2	2014
EWf/TATD - 4	3	2015	3	2015

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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
149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</i>	9.609	9.660	6.720	65.200	71.920	10.137	10.066	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles											

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

Counter-Rockets, Artillery and Mortar (C-RAM) is an evolutionary Non-Developmental program initiated by the Army Chief of Staff in response to Iraqi threat and twice validated theater ONS. The primary mission of the C-RAM program is to develop, procure, field and maintain a system of systems that can detect rocket, artillery or mortar launches; warn the defended area with sufficient time for personnel to take cover; intercept rounds in flight, thus preventing damage to ground forces or facilities; and enhance response to and defeat of enemy forces. The C-RAM current capability utilizes a system of systems (SoS) approach, and is comprised of a combination of multi-service fielded and non-developmental item (NDI) sensors, command and control (C2) systems and a modified U.S. Navy intercept system, with a low cost commercial off-the-shelf (COTS) warning system and wireless local area network. The system is currently fielded to fifteen sites, providing them correlated air and ground pictures and linking them to the Army Battle Command System (ABCS) and the Joint Defense Network (JDN), via various forms of communications to provide situational awareness and exchange of timely and accurate information to synchronize and optimize automated Shape, Sense, Warn, Intercept, Respond and Protect decisions. The fielding of the C-RAM SoS was accomplished through an incremental acquisition process driven by urgent operational needs, theater priorities and emerging capability requirements to provide counter-RAM capability to fielded forces. The C-RAM Program Office has fielded equipment to fifteen (15) Forward Operating Bases (FOBs) (Sense, Warn and Intercept to three (3) FOBs; Sense and Warn to twelve (12) additional FOBs). The C-RAM SoS approach was validated by a Proof of Principle demonstration in December 2004 and Army Test and Evaluation Command (ATEC) tests in Feb 05, Apr 05, Jul 05, Nov-Dec 05, Sep-Oct 06, Sep-Oct 08 and Oct 09. Current development efforts include the implementation of improvements and upgrades/test to fielded C-RAM and the initial development of Indirect Fire Protection Capability (IFPC) capabilities. C-RAM is the current program for the Iraq theater of operations with the capability to be added to the Afghanistan theater of operations in FY10. The follow-on program to address future requirements will be titled Indirect Fire Protection Capability (IFPC). In parallel with a Joint Fires Integration and Interoperability Team (JFIIT) led effort to develop JCIDS documentation for IFPC program initiation, the Army is pursuing designation of IFPC as a Program of Record and establishment of a program office to provide materiel developer input to the JCIDS documentation.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Program #1	1.717	1.738	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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>
Test/demonstration support for new C-RAM 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						
Program #2 Develop Threat Evaluation and Weapons Assignment (TEWA) 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		2.710	2.539	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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 Integrate with Rapid Digital "Clearance of Fires"  <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		1.993	1.912	0.000	0.000	0.000
Program #4 Develop Advanced Defense Design System Exerciser  <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		1.993	1.687	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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 Support Joint, Interagency and Multi-national (JIM) interoperability (Common Link Integration Processing (CLIP) integration, communications improvement)  <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		1.196	1.223	0.000	0.000	0.000
Program #6 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		0.000	0.306	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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 C-RAM C2 CWMI/ Advanced User Interface		0.000	0.255	1.336	1.294	2.630
<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 Field Artillery (FA) Integration and Testing		0.000	0.000	0.000	5.260	5.260
<i>FY 2009 Accomplishments:</i> FY 2009						
<i>FY 2010 Plans:</i> FY 2010						

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R-1 Line Item #98

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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 #9 Air Defense (AD) Integration & 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	0.000	6.036	6.036
Program #10 Mobile Warn Subsystem Improvement (Mesh Network)  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.000	0.000	7.790	7.790

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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 #11 LPWS Block 1B Baseline 2 Enhancements  <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	4.520	4.520
Program #12 Test Increment I Capability		0.000	0.000	5.384	0.000	5.384

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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 #13 C-RAM C2 System Migration via MPU/MCU/3D		0.000	0.000	0.000	17.999	17.999
<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	0.000	0.000	6.986	6.986

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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>
Digital "Clearance of Fires" for Respond  <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 #15 Advanced Sensor Correlation and Architecture  <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	10.730	10.730

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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 #16 Scaleable and Distributed Control Architecture (SSWIR)  <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	3.585	3.585
Program #17 Distributed FC TEWA Capabilities (Tactical FC)  <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	1.000	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>			<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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							9.609	9.660	6.720	65.200	71.920
<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 2 BZ0526- COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM)</i>	507.700	148.400	2.088	205.750	207.838	0.000	0.000	0.000	0.000	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
<p>The C-RAM program is following an evolutionary acquisition strategy for rapid acquisition of mature technology to the user. The approach will deliver capabilities in increments, recognizing up front the need for future improvements. The objective of the strategy is to balance needs and available capability with resources and put a robust capability to engage rockets, artillery, and mortars into the hands of the user quickly. Success will depend on continuous user feedback, consistent definition of capability needs, maturation of technology, and allocation of required resources. To achieve the evolutionary acquisition of C-RAM, the program director will collaborate and coordinate with the user, combat developer, tester, logistician, PEO C3T, and resource provider (e.g., G8). The program will follow the incremental development process (per DoDI 5000.02), where each increment is a military useful and supportable operational capability. The Capability Production Document (CPD) for IFPC Increment I (Warn for BCTs) is currently in 3-Star Staffing with an AROC planned 2QFY10. A Capability Development Document (CDD) will be developed for IFPC Increment II (Interceptor and upgrades to other IFPC functions as required) based on the results of the Analysis of Alternatives (AoA).</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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>				<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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>
OGA	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		0.000		9.597		9.597	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		0.000		9.597		9.597			0.000
<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>
OGA	C	Nothing entered for Activity and Location. Location could not be determined.	0.000	0.000		5.374		4.113		9.487	Continuing	Continuing	0
<b>Subtotal</b>			0.000	0.000		5.374		4.113		9.487			0.000
<b>Remarks</b>													

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>				<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</i>					
<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>
Program management Administration	C	Various Location could not be determined.	0.000	1.437		1.346		0.000		1.346	Continuing	Continuing	0
<b>Subtotal</b>			0.000	1.437		1.346		0.000		1.346			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>			0.000	9.405		6.720		65.200		71.920			110.500
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</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
IFPC Increment I Army Requirements Oversight Council				#																								
C-RAM / IFPC LPWS Spiral 5 Demonstration			#	#																								
IFPC Increment I Operational Assessment							#																					
IFPC Increment I Milestone C								#																				
IFPC Increment I Initial Operational Test & Evaluation											#																	
IFPC Increment I Full Rate Production											#																	
IFPC Increment II 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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604741A: <i>Air Defense Command, Control and Intelligence - Eng Dev</i>	<b>PROJECT</b> 149: <i>COUNTER-ROCKETS, ARTILLERY &amp; MORTAR (C-RAM) DVPMT</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
IFPC Increment I Army Requirements Oversight Council	1	2010	1	2010
C-RAM / IFPC LPWS Spiral 5 Demonstration	3	2009	4	2009
IFPC Increment I Operational Assessment	3	2010	3	2010
IFPC Increment I Milestone C	4	2010	4	2010
IFPC Increment I Initial Operational Test & Evaluation	3	2011	3	2011
IFPC Increment I Full Rate Production	4	2011	4	2011
IFPC Increment II Development	2	2011	3	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS 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>
Total Program Element	25.095	33.039	30.291	0.000	30.291	29.370	29.399	27.662	27.067	Continuing	Continuing
361: <i>INTELLIGENCE SIMULATION SYSTEMS (MIP)</i>	2.804	9.249	8.265	0.000	8.265	8.127	7.934	7.367	6.991	Continuing	Continuing
362: <i>Jnt Land Component Constructive Trng Capability</i>	22.291	23.790	22.026	0.000	22.026	21.243	21.465	20.295	20.076	Continuing	Continuing

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

This program element funds the development of constructive and wargame simulations used to realistically train commanders and their battle staffs on today's complex battlefield conditions. Project D361 funds the development of the Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) that provides Warfighting Commanders at all echelons the ability to train with Intelligence, Surveillance, and Reconnaissance (ISR) products based on realistic ISR assets, people (including the maneuver commander, G-2, G-3, collection manager, analyst/operator) and processes. IEWTPT provides embedded training capability for Future Combat Systems (FCS) ISR systems. IEWTPT will interface/stimulate ISR systems including Tactical Unmanned Aerial Vehicle (TUAV), Joint Surveillance Target Attack Radar System-Common Ground Station (JSTARS-CGS), Tactical Exploitation System/ Distributed Tactical Exploitation System (TES/DTES), Guardrail, Counter Intelligence/Human Intelligence Management Systems (CHIMS), Prophet and Distributed Common Ground Station-Army (DCGS-A). IEWTPT is the only Army Simulation System supporting ISR training from the Warfighter to the Military ISR Analyst/System Operator. Project 362, Joint Land Component Constructive Training Capability (JLCCTC), develops the Army's premier wargame simulation for training leaders and Battle Staffs at Brigade, Division, Corps, and echelons above Corps. JLCCTC will provide functionality not currently available (digital, stability, support and information operations), link to unit organizational Command, Control, Communications, Computers and Integration (C4I) equipment, improve exercise generation and after-action reporting. WARSIM will interoperate with One Semi Automated Forces (OneSAF) and other simulations as an integral part of an Army simulation toolkit, so that a warfighter training exercise can represent in simulation all Army echelons and can also be represented in a Joint environment. JLCCTC pulls together current constructive simulation systems and future constructive simulations and uses a comprehensive strategy to ensure interoperability among all of those systems. This strategy will allow JLCCTC to meet current and future user needs. JLCCTC leverages the best pieces of current systems to meet current training needs and evolves to meet the training needs of the future. FY11 funding continues product improvements with annual spiral releases of the Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) and continues development of Joint Land Component Constructive Training Capability (JLCCTC).

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</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	26.158	33.213	31.199	0.000	31.199
Current President's Budget	25.095	33.039	30.291	0.000	30.291
Total Adjustments	-1.063	-0.174	-0.908	0.000	-0.908
• Congressional General Reductions		-0.174			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	-0.501	0.000			
• SBIR/STTR Transfer	-0.562	0.000			
• Adjustments to Budget Years	0.000	0.000	-0.908	0.000	-0.908

**Change Summary Explanation**

None required.

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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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>				<b>PROJECT</b> 361: <i>INTELLIGENCE SIMULATION SYSTEMS (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>
361: <i>INTELLIGENCE SIMULATION SYSTEMS (MIP)</i>	2.804	9.249	8.265	0.000	8.265	8.127	7.934	7.367	6.991	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>Intelligence Electronic Warfare Tactical Proficiency Trainer (IEWTPT) provides Warfighting Commanders at all echelons the ability to train with Intelligence, Surveillance, and Reconnaissance products based on realistic assets, people (including the maneuver commander, G-2, G-3, collection manager, analyst/operator) and processes. IEWTPT Technical Control Cell (TCC) and HUMINT Control Cell (HCC) provides the enhancements to simulated battlefields required to stimulate ISR systems in their go to war equipment. IEWTPT interoperates with the Army's constructive simulation training systems and actual operator level field equipment identified as Target Signature Arrays. IEWTPT will interface/stimulate ISR systems including Tactical Unmanned Aerial Vehicle (TUAV), Joint Surveillance Target Attack Radar System-Common Ground Station (JSTARS-CGS), Tactical Exploitation System/Distributed Tactical Exploitation System (TES/DTES), Guardrail, Counter Intelligence/Human Intelligence Management Systems (CHIMS), Prophet and Distributed Common Ground Station-Army (DCGS-A). IEWTPT is the only Army Simulation System supporting ISR training from the Warfighter to the Military ISR Analyst/System Operator. The FY 2011 funding will continue product improvements with annual version releases in the 4th Quarter of each year. Improvements in the Human Intelligence (HUMINT) and Signals Intelligence (SIGINT) will coincide with tactical fielded Intelligence, Surveillance, and Reconnaissance 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  FY09: Service Oriented Architecture (SOA) has been completed, however, upgrades are required as new functionality is added. Continued HUMINT and SIGINT capabilities development.  <i>FY 2009 Accomplishments:</i> FY 2009							2.804	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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 361: <i>INTELLIGENCE SIMULATION SYSTEMS (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 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-FY11: Continue product improvement with annual version releases in the 4th Quarter of each year. Improvements in Human Intelligence (HUMINT) and Signals Intelligence (SIGINT), initiate Measurement and Signatures Intelligence (MASINT) requirements development and migrate existing Imagery Intelligence (IMINT) capability into Geospatial Intelligence (GEOINT) capability; refine additional GEOINT requirements; identify/initiate development of critical Open Source Intelligence (OSINT) training requirements. Activities will coincide with tactical fielded intelligence, Surveillance, and Reconnaissance 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		0.000	9.249	8.265	0.000	8.265

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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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>			<b>PROJECT</b> 361: <i>INTELLIGENCE SIMULATION SYSTEMS (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						2.804	9.249	8.265	0.000	8.265	
<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>OPA3, Appropriation NA0102, Training Devices, Nonsystem, Intelligence</i>	0.798	8.923	7.590	0.000	7.590	7.363	7.481	6.572	4.631	Continuing	Continuing
<b>D. Acquisition Strategy</b> Sole Source (GD C4 Systems).											
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 361: <i>INTELLIGENCE SIMULATION SYSTEMS (MIP)</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			
Eng & Manufacturing Dev.	C/CPIF	Gen Dynamics C4 Systems Orlando, FL	27.547	6.964		5.845		0.000		5.845	Continuing	Continuing	29.003
HCC Technology	C/Various	Multiple Location could not be determined.	0.737	1.000		1.100		0.000		1.100	Continuing	Continuing	0
<b>Subtotal</b>			28.284	7.964		6.945		0.000		6.945			29.003

**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 & Technical Support	C/Various	PEO STRI Orlando	2.271	0.372		0.390		0.000		0.390	Continuing	Continuing	1.943
<b>Subtotal</b>			2.271	0.372		0.390		0.000		0.390			1.943

**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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>				<b>PROJECT</b> 361: <i>INTELLIGENCE SIMULATION SYSTEMS (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			
TEMP Support	C/Various	Multiple Location could not be determined.	0.319	0.000		0.000		0.000		0.000	Continuing	Continuing	.319
Operational Test Event Support	C/CPIF	Gen Dynamics C4 Systems Location could not be determined.	0.812	0.000		0.000		0.000		0.000	Continuing	Continuing	1.012
Test Engineer Support	C/Various	Multiple Location could not be determined.	1.313	0.000		0.000		0.000		0.000	Continuing	Continuing	1.313
<b>Subtotal</b>			2.444	0.000		0.000		0.000		0.000			2.644

**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/Various	PEO STRI Orlando	2.432	0.913		0.930		0.000		0.930	Continuing	Continuing	0
<b>Subtotal</b>			2.432	0.913		0.930		0.000		0.930			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 361: <i>INTELLIGENCE SIMULATION SYSTEMS (MIP)</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>	35.431	9.249	8.265	0.000	8.265			33.590

**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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 361: <i>INTELLIGENCE SIMULATION SYSTEMS (MIP)</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
Version 4.0 Security Accred.		#																										
Version 4.0 Release		#																										
Version 5.0 Security Accred.							#																					
Version 5.0 Release							#																					
Version 6.0 Security Accred.											#																	
Version 6.0 Release												#																

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 361: <i>INTELLIGENCE SIMULATION SYSTEMS (MIP)</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Version 4.0 Security Accred.	2	2009	2	2009
Version 4.0 Release	2	2009	2	2009
Version 5.0 Security Accred.	2	2010	2	2010
Version 5.0 Release	2	2010	2	2010
Version 6.0 Security Accred.	2	2011	2	2011
Version 6.0 Release	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 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>				<b>PROJECT</b> 362: <i>Jnt Land Component Constructive Trng Capability</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>
362: <i>Jnt Land Component Constructive Trng Capability</i>	22.291	23.790	22.026	0.000	22.026	21.243	21.465	20.295	20.076	Continuing	Continuing
Quantity of RDT&E Articles											
<b>A. Mission Description and Budget Item Justification</b>											
<p>This Project funds the development of the Joint Land Component Constructive Training Capability (JLCCTC), the Army's premier wargaming simulations for training leaders and Battle Staffs from Battalion through echelons above Corps. JLCCTC pulls together current constructive simulation systems and future constructive simulations and uses a comprehensive strategy to ensure interoperability among all of those systems. JLCCTC will provide functionality not currently available (digital operations, stability and support operations and information operations), link to organic Battle Command equipment, and improve exercise generation and after-action reporting. FY 2011 funding supports the development, test and integration, validation, and verification of Multi-Resolution Federation-Warfighter's Simulation (MRF-W).</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-FY11: Verify and validate JLCCTC software models.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010  <i>FY 2011 Base Plans:</i> FY 2011 Base							1.888	1.943	1.872	0.000	1.872

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION</i> <i>SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 362: <i>Jnt Land Component Constructive Trng</i> <i>Capability</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 FY09-FY11: Continue integration of JLCCTC components for interoperability.  <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		12.895	13.584	12.724	0.000	12.724
Program #3 FY09-FY11: Develop and integrate user interface enhancements for Army training applications.  <i>FY 2009 Accomplishments:</i> FY 2009  <i>FY 2010 Plans:</i> FY 2010		4.677	4.753	4.650	0.000	4.650

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION</i> <i>SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 362: <i>Jnt Land Component Constructive Trng</i> <i>Capability</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 FY09-FY11: Develop and evaluate system performance and conduct system test events.  <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		2.831	2.863	2.780	0.000	2.780
Program #5 FY10: Small Business Innovative Research/Small Business Technology Transfer Programs. (SBIR/STTR)  <i>FY 2009 Accomplishments:</i> FY 2009		0.000	0.647	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 5: <i>Development &amp; Demonstration (SDD)</i>			<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION</i> <i>SYSTEMS DEVELOPMENT</i>			<b>PROJECT</b> 362: <i>Jnt Land Component Constructive Trng</i> <i>Capability</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						22.291	23.790	22.026	0.000	22.026	
<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, NA0103, NSTD</i> <i>Command &amp; Control</i>	16.185	21.509	21.453	0.000	21.453	24.110	26.044	31.895	30.370	Continuing	Continuing
<b>D. Acquisition Strategy</b> Competitive development based on performance specifications.											
<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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION</i> <i>SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 362: <i>Jnt Land Component Constructive Trng</i> <i>Capability</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			
WARSIM Development of Army Training System	C/CPFF	Lockheed Martin Info Systems Orlando, FL	83.733	11.246		10.136		0.000		10.136	Continuing	Continuing	0
Integration of JLCCTC	C	Various Location could not be determined.	34.203	4.270		4.629		0.000		4.629	Continuing	Continuing	0
Development of logistics model	C	Tapestry San Diego, CA	13.192	2.000		1.599		0.000		1.599	Continuing	Continuing	0
<b>Subtotal</b>			131.128	17.516		16.364		0.000		16.364			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 & Tech Spt	C	Various Location could not be determined.	6.499	0.650		0.596		0.000		0.596	Continuing	Continuing	0
<b>Subtotal</b>			6.499	0.650		0.596		0.000		0.596			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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 362: <i>Jnt Land Component Constructive Trng Capability</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			
Verification, Validation and Accreditation	C	Various Location could not be determined.	9.384	0.500		0.458		0.000		0.458	Continuing	Continuing	0
System Evaluation and Test	C	Various Location could not be determined.	12.366	0.100		0.092		0.000		0.092	Continuing	Continuing	0
<b>Subtotal</b>			21.750	0.600		0.550		0.000		0.550			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	Various Location could not be determined.	25.231	4.377		4.516		0.000		4.516	Continuing	Continuing	0
Cost Analysis Support	C	Northrup Grumman-TASC Orlando FL	0.414	0.000		0.000		0.000		0.000	Continuing	Continuing	.414
SBIR/STTR	C	Nothing entered for Activity and Location.	0.000	0.647		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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION</i> <i>SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 362: <i>Jnt Land Component Constructive Trng</i> <i>Capability</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			
		Location could not be determined.											
<b>Subtotal</b>			25.645	5.024		4.516		0.000		4.516			0.414

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				
<b>Project Cost Totals</b>	185.022	23.790		22.026		0.000		22.026			0.414

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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 362: <i>Jnt Land Component Constructive Trng Capability</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
P3I Development								#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
JLCCTC V5.5		#																										
OneSAF integration into JLCCTC							#																					
JLCCTC V6											#																	

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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 5: <i>Development &amp; Demonstration (SDD)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604742A: <i>CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT</i>	<b>PROJECT</b> 362: <i>Jnt Land Component Constructive Trng Capability</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
P3I Development	4	2010	3	2015
JLCCTC V5.5	2	2009	2	2009
OneSAF integration into JLCCTC	1	2010	1	2010
JLCCTC V6	2	2011	2	2011

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