

UNCLASSIFIED

**Department of Defense
Fiscal Year (FY) 2013 President's Budget Submission**

February 2012



Army

Justification Book

Research, Development, Test & Evaluation, Army

RDT&E - Volume II, Budget Activity 5B

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 Department of the Army
 FY 2013 RDT&E Program
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Exhibit R-1

Summary

06-Jan-2012

Summary Recap of Budget Activities		Thousands of Dollars				
		FY2011	FY2012	FY2013	FY2013 OCO	FY2013 Total
Basic research		388,660	456,200	444,071	0	444,071
Applied Research		825,021	946,836	874,730	0	874,730
Advanced technology development		804,783	1,132,838	890,722	0	890,722
Advanced Component Development and Prototypes		930,583	544,328	610,121	19,860	629,981
System Development and Demonstration		3,968,785	3,238,656	3,286,629	0	3,286,629
Management support		1,400,358	1,097,294	1,153,980	0	1,153,980
Operational system development		1,437,782	1,339,540	1,664,534	0	1,664,534
Total	RDT&E, Army	9,755,972	8,755,692	8,924,787	19,860	8,944,647

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Appropriation: 2040 A RDT&E, Army

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Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2011	FY2012	FY2013	FY2013 OCO	FY2013 Total
Basic research								
1	0601101A	01	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	21,095	21,031	20,860		20,860
2	0601102A	01	DEFENSE RESEARCH SCIENCES	190,019	213,604	219,180		219,180
3	0601103A	01	UNIVERSITY RESEARCH INITIATIVES	84,445	80,850	80,986		80,986
4	0601104A	01	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	93,101	140,715	123,045		123,045
Total: Basic research				388,660	456,200	444,071	0	444,071
Applied Research								
5	0602105A	02	MATERIALS TECHNOLOGY	28,730	50,679	29,041		29,041
6	0602120A	02	SENSORS AND ELECTRONIC SURVIVABILITY	46,491	43,453	45,260		45,260
7	0602122A	02	TRACTOR HIP	14,126	14,207	22,439		22,439
8	0602211A	02	AVIATION TECHNOLOGY	40,869	44,539	51,607		51,607
9	0602270A	02	ELECTRONIC WARFARE TECHNOLOGY	16,939	15,765	15,068		15,068
10	0602303A	02	MISSILE TECHNOLOGY	48,092	67,079	49,383		49,383
11	0602307A	02	ADVANCED WEAPONS TECHNOLOGY	17,542	20,002	25,999		25,999
12	0602308A	02	ADVANCED CONCEPTS AND SIMULATION	19,907	20,900	23,507		23,507
13	0602601A	02	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	61,893	64,205	69,062		69,062
14	0602618A	02	BALLISTICS TECHNOLOGY	60,595	59,121	60,823		60,823
15	0602622A	02	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	10,555	4,869	4,465		4,465
16	0602623A	02	JOINT SERVICE SMALL ARMS PROGRAM	7,630	8,231	7,169		7,169
17	0602624A	02	WEAPONS AND MUNITIONS TECHNOLOGY	41,368	54,727	35,218		35,218
18	0602705A	02	ELECTRONICS AND ELECTRONIC DEVICES	63,186	62,862	60,300		60,300
19	0602709A	02	NIGHT VISION TECHNOLOGY	39,131	55,116	53,244		53,244
20	0602712A	02	COUNTERMINE SYSTEMS	18,507	32,728	18,850		18,850
21	0602716A	02	HUMAN FACTORS ENGINEERING TECHNOLOGY	20,583	21,767	19,872		19,872
22	0602720A	02	ENVIRONMENTAL QUALITY TECHNOLOGY	21,704	20,804	20,095		20,095
23	0602782A	02	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	24,914	26,075	28,852		28,852
24	0602783A	02	COMPUTER AND SOFTWARE TECHNOLOGY	6,599	8,577	9,830		9,830
25	0602784A	02	MILITARY ENGINEERING TECHNOLOGY	73,346	80,190	70,693		70,693

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26	0602785A	02	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	18,982	18,917	17,781		17,781
27	0602786A	02	WARFIGHTER TECHNOLOGY	26,972	46,261	28,281		28,281
28	0602787A	02	MEDICAL TECHNOLOGY	96,360	105,762	107,891		107,891
Total: Applied Research				825,021	946,836	874,730	0	874,730
Advanced technology development								
29	0603001A	03	WARFIGHTER ADVANCED TECHNOLOGY	36,122	52,896	39,359		39,359
30	0603002A	03	MEDICAL ADVANCED TECHNOLOGY	114,036	102,810	69,580		69,580
31	0603003A	03	AVIATION ADVANCED TECHNOLOGY	55,492	62,095	64,215		64,215
32	0603004A	03	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	65,495	76,955	67,613		67,613
33	0603005A	03	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	125,677	145,914	104,359		104,359
34	0603006A	03	COMMAND, CONTROL, COMMUNICATIONS ADVANCED TECHNOLOGY	7,823	5,304	4,157		4,157
35	0603007A	03	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	7,694	10,282	9,856		9,856
36	0603008A	03	ELECTRONIC WARFARE ADVANCED TECHNOLOGY	48,698	69,852	50,661		50,661
37	0603009A	03	TRACTOR HIKE	7,761	8,142	9,126		9,126
38	0603015A	03	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	14,788	17,907	17,257		17,257
39	0603020A	03	TRACTOR ROSE	11,872	12,577	9,925		9,925
40	0603105A	03	MILITARY HIV RESEARCH	25,738	22,760	6,984		6,984
41	0603125A	03	COMBATING TERRORISM - TECHNOLOGY DEVELOPMENT	9,424	22,172	9,716		9,716
42	0603130A	03	TRACTOR NAIL		4,271	3,487		3,487
43	0603131A	03	TRACTOR EGGS		2,257	2,323		2,323
44	0603270A	03	ELECTRONIC WARFARE TECHNOLOGY	18,973	23,640	21,683		21,683
45	0603313A	03	MISSILE AND ROCKET ADVANCED TECHNOLOGY	76,272	90,458	71,111		71,111
46	0603322A	03	TRACTOR CAGE	9,661	10,299	10,902		10,902
47	0603461A	03	HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM		227,790	180,582		180,582
48	0603606A	03	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	26,089	31,491	27,204		27,204
49	0603607A	03	JOINT SERVICE SMALL ARMS PROGRAM	8,236	7,674	6,095		6,095
50	0603710A	03	NIGHT VISION ADVANCED TECHNOLOGY	71,723	42,348	37,217		37,217
51	0603728A	03	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	15,417	15,934	13,626		13,626
52	0603734A	03	MILITARY ENGINEERING ADVANCED TECHNOLOGY	23,617	36,458	28,458		28,458

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53	0603772A	03	ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECHNOLOGY	24,175	30,552	25,226		25,226
Total: Advanced technology development				804,783	1,132,838	890,722	0	890,722
Advanced Component Development and Prototypes								
54	0603305A	04	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	11,156	24,386	14,505		14,505
55	0603308A	04	ARMY SPACE SYSTEMS INTEGRATION	29,845	9,763	9,876		9,876
56	0603619A	04	LANDMINE WARFARE AND BARRIER - ADV DEV	14,686	19,596	5,054		5,054
57	0603627A	04	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	2,337	4,572	2,725		2,725
58	0603639A	04	TANK AND MEDIUM CALIBER AMMUNITION	35,849	40,314	30,560		30,560
59	0603653A	04	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	200,312	65,417	14,347		14,347
60	0603747A	04	SOLDIER SUPPORT AND SURVIVABILITY	26,847	13,903	10,073	19,860	29,933
61	0603766A	04	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM - ADV DEV	19,610	5,856	8,660		8,660
62	0603774A	04	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT	4,975		10,715		10,715
63	0603779A	04	ENVIRONMENTAL QUALITY TECHNOLOGY - DEM/VAL	3,622	5,023	4,631		4,631
64	0603782A	04	WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL	200,732	185,819	278,018		278,018
65	0603790A	04	NATO RESEARCH AND DEVELOPMENT	4,879	4,839	4,961		4,961
66	0603801A	04	AVIATION - ADV DEV	8,058	7,218	8,602		8,602
67	0603804A	04	LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV	62,999	12,706	14,605		14,605
68	0603805A	04	COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION AND ANALYSIS	20,801	5,250	5,054		5,054
69	0603807A	04	MEDICAL SYSTEMS - ADV DEV	27,247	35,543	24,384		24,384
70	0603827A	04	SOLDIER SYSTEMS - ADVANCED DEVELOPMENT	51,415	18,030	32,050		32,050
71	0603850A	04	INTEGRATED BROADCAST SERVICE	939	1,494	96		96
72	0604115A	04	TECHNOLOGY MATURATION INITIATIVES	3,000	10,165	24,868		24,868
73	0604131A	04	TRACTOR JUTE		15,584	59		59
74	0604284A	04	JOINT COOPERATIVE TARGET IDENTIFICATION - GROUND (JCTI-G) / TECHNOLOG		15,287			
75	0604319A	04	INDIRECT FIRE PROTECTION CAPABILITY INCREMENT 2-INTERCEPT (IFPC2)			76,039		76,039
76	0604775A	04	DEFENSE RAPID INNOVATION PROGRAM	101,265				
77	0604785A	04	INTEGRATED BASE DEFENSE (BUDGET ACTIVITY 4)			4,043		4,043
78	0305205A	04	ENDURANCE UAVS	100,009	43,563	26,196		26,196

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Total: Advanced Component Development and Prototypes				930,583	544,328	610,121	19,860	629,981
System Development and Demonstration								
79	0604201A	05	AIRCRAFT AVIONICS	70,926	119,573	78,538		78,538
80	0604220A	05	ARMED, DEPLOYABLE HELOS	69,922	82,363	70,277		70,277
81	0604270A	05	ELECTRONIC WARFARE DEVELOPMENT	196,428	34,233	181,347		181,347
82	0604280A	05	JOINT TACTICAL RADIO	755				
83	0604290A	05	MID-TIER NETWORKING VEHICULAR RADION (MNVR)			12,636		12,636
84	0604321A	05	ALL SOURCE ANALYSIS SYSTEM	24,322	7,405	5,694		5,694
85	0604328A	05	TRACTOR CAGE	17,914	26,552	32,095		32,095
86	0604601A	05	INFANTRY SUPPORT WEAPONS	73,008	83,395	96,478		96,478
87	0604604A	05	MEDIUM TACTICAL VEHICLES	3,578	3,957	3,006		3,006
88	0604609A	05	SMOKE, OBSCURANT AND TARGET DEFEATING SYS - ENG DEV	5,146				
89	0604611A	05	JAVELIN		9,930	5,040		5,040
90	0604622A	05	FAMILY OF HEAVY TACTICAL VEHICLES	2,829	55,426	3,077		3,077
91	0604633A	05	AIR TRAFFIC CONTROL	9,559	22,900	9,769		9,769
92	0604641A	05	TACTICAL UNMANNED GROUND VEHICLE (TUGV)			13,141		13,141
93	0604642A	05	LIGHT TACTICAL WHEELED VEHICLES	1,918	19,981	20,217		20,217
94	0604661A	05	FCS SYSTEMS OF SYSTEMS ENGR & PROGRAM MGMT	471,559	298,589			
95	0604662A	05	FCS RECONNAISSANCE (UAV) PLATFORMS	18,792				
96	0604663A	05	FCS UNMANNED GROUND VEHICLES	200,000	35,966			
97	0604664A	05	FCS UNATTENDED GROUND SENSORS	1,451				
98	0604665A	05	FCS SUSTAINMENT & TRAINING R&D	598,673				
99	0604710A	05	NIGHT VISION SYSTEMS - ENG DEV	44,513	59,195	32,621		32,621
100	0604713A	05	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	2,043	2,073	2,132		2,132
101	0604715A	05	NON-SYSTEM TRAINING DEVICES - ENG DEV	26,848	29,981	44,787		44,787
102	0604716A	05	TERRAIN INFORMATION - ENG DEV		1,594	1,008		1,008
103	0604741A	05	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE - ENG DEV	139,662	82,932	73,333		73,333
104	0604742A	05	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	29,287	28,274	28,937		28,937
105	0604746A	05	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	13,553	14,361	10,815		10,815

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106	0604760A	05	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - ENG DEV	15,031	15,787	13,926		13,926
107	0604780A	05	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	26,699	22,205	17,797		17,797
108	0604798A	05	BRIGADE ANALYSIS, INTEGRATION AND EVALUATION			214,270		214,270
109	0604802A	05	WEAPONS AND MUNITIONS - ENG DEV	25,099	13,815	14,581		14,581
110	0604804A	05	LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV	39,588	173,146	43,706		43,706
111	0604805A	05	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - ENG DEV	73,042	81,733	20,776		20,776
112	0604807A	05	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT - ENG DEV	33,262	27,132	43,395		43,395
113	0604808A	05	LANDMINE WARFARE/BARRIER - ENG DEV	37,707	76,248	104,983		104,983
114	0604814A	05	ARTILLERY MUNITIONS - EMD	25,467	37,592	4,346		4,346
115	0604817A	05	COMBAT IDENTIFICATION	2,893				
116	0604818A	05	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	57,264	93,846	77,223		77,223
117	0604820A	05	RADAR DEVELOPMENT		2,885	3,486		3,486
118	0604822A	05	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	13,094	793	9,963		9,963
119	0604823A	05	FIREFINDER	22,455	10,348	20,517		20,517
120	0604827A	05	SOLDIER SYSTEMS - WARRIOR DEM/VAL	20,122	61,350	51,851		51,851
121	0604854A	05	ARTILLERY SYSTEMS - EMD	99,937	120,032	167,797		167,797
122	0604869A	05	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)	450,584	389,630	400,861		400,861
123	0604870A	05	NUCLEAR ARMS CONTROL MONITORING SENSOR NETWORK	7,017	7,391	7,922		7,922
124	0605013A	05	INFORMATION TECHNOLOGY DEVELOPMENT	50,054	32,065	51,463		51,463
125	0605018A	05	INTEGRATED PERSONNEL AND PAY SYSTEM-ARMY (IPPS-A)	58,348	68,628	158,646		158,646
126	0605450A	05	JOINT AIR-TO-GROUND MISSILE (JAGM)	71,760	126,895	10,000		10,000
127	0605455A	05	SLAMRAAM	18,358	1,529			
128	0605456A	05	PAC-3/MSE MISSILE	121,475	88,909	69,029		69,029
129	0605457A	05	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)	246,691	270,180	277,374		277,374
130	0605625A	05	MANNED GROUND VEHICLE	312,269	448,679	639,874		639,874
131	0605626A	05	AERIAL COMMON SENSOR	101,171	31,435	47,426		47,426
132	0605812A	05	JOINT LIGHT TACTICAL VEHICLE (JLTV) ENGINEERING AND MANUFACTURING D			72,295		72,295
133	0303032A	05	TROJAN - RH12	3,578	3,916	4,232		4,232
134	0304270A	05	ELECTRONIC WARFARE DEVELOPMENT	13,134	13,807	13,942		13,942

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Total: System Development and Demonstration				3,968,785	3,238,656	3,286,629	0	3,286,629
Management support								
135	0604256A	06	THREAT SIMULATOR DEVELOPMENT	25,367	26,117	18,090		18,090
136	0604258A	06	TARGET SYSTEMS DEVELOPMENT	8,362	11,229	14,034		14,034
137	0604759A	06	MAJOR T&E INVESTMENT	40,671	49,359	37,394		37,394
138	0605103A	06	RAND ARROYO CENTER	19,763	20,352	21,026		21,026
139	0605301A	06	ARMY KWAJALEIN ATOLL	190,005	145,377	176,816		176,816
140	0605326A	06	CONCEPTS EXPERIMENTATION PROGRAM	17,101	28,755	27,902		27,902
141	0605502A	06	SMALL BUSINESS INNOVATIVE RESEARCH	232,092				
142	0605601A	06	ARMY TEST RANGES AND FACILITIES	399,931	311,650	369,900		369,900
143	0605602A	06	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	68,118	70,116	69,183		69,183
144	0605604A	06	SURVIVABILITY/LETHALITY ANALYSIS	42,320	43,414	44,753		44,753
145	0605605A	06	DOD HIGH ENERGY LASER TEST FACILITY	4,568	18			
146	0605606A	06	AIRCRAFT CERTIFICATION	4,938	5,621	5,762		5,762
147	0605702A	06	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	6,983	7,171	7,402		7,402
148	0605706A	06	MATERIEL SYSTEMS ANALYSIS	18,863	19,638	19,954		19,954
149	0605709A	06	EXPLOITATION OF FOREIGN ITEMS	5,285	5,436	5,535		5,535
150	0605712A	06	SUPPORT OF OPERATIONAL TESTING	68,481	68,678	67,789		67,789
151	0605716A	06	ARMY EVALUATION CENTER	60,694	63,202	62,765		62,765
152	0605718A	06	ARMY MODELING & SIM X-CMD COLLABORATION & INTEG	3,787	3,415	1,545		1,545
153	0605801A	06	PROGRAMWIDE ACTIVITIES	71,984	82,923	83,422		83,422
154	0605803A	06	TECHNICAL INFORMATION ACTIVITIES	49,579	55,286	50,820		50,820
155	0605805A	06	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	42,474	57,054	46,763		46,763
156	0605857A	06	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	3,084	4,953	4,601		4,601
157	0605898A	06	MANAGEMENT HQ - R&D	15,845	17,530	18,524		18,524
158	0909999A	06	FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS	63				
Total: Management support				1,400,358	1,097,294	1,153,980	0	1,153,980

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Operational system development								
159	0603778A	07	MLRS PRODUCT IMPROVEMENT PROGRAM	19,016	66,641	143,005		143,005
160	0607665A	07	BIOMETRICS ENTERPRISE	65,781	45,511			
161	0607865A	07	PATRIOT PRODUCT IMPROVEMENT			109,978		109,978
162	0102419A	07	AEROSTAT JOINT PROJECT OFFICE	399,477	327,338	190,422		190,422
163	0203347A	07	INTELLIGENCE SUPPORT TO CYBER (ISC) MIP	2,283				
164	0203726A	07	ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	23,812	29,500	32,556		32,556
165	0203735A	07	COMBAT VEHICLE IMPROVEMENT PROGRAMS	187,207	36,150	253,959		253,959
166	0203740A	07	MANEUVER CONTROL SYSTEM	24,648	42,347	68,325		68,325
167	0203744A	07	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS	121,084	149,469	280,247		280,247
168	0203752A	07	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	688	822	898		898
169	0203758A	07	DIGITIZATION	6,103	8,016	35,180		35,180
170	0203759A	07	FORCE XXI BATTLE COMMAND, BRIGADE AND BELOW (FBCB2)	3,748				
171	0203801A	07	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	23,415	53,015	20,738		20,738
172	0203808A	07	TRACTOR CARD	14,340	42,487	63,243		63,243
173	0208053A	07	JOINT TACTICAL GROUND SYSTEM	12,005	27,586	31,738		31,738
174	0208058A	07	JOINT HIGH SPEED VESSEL (JHSV)	3,041		35		35
175	0301359A	07	SPECIAL ARMY PROGRAM					
176	0303028A	07	SECURITY AND INTELLIGENCE ACTIVITIES		2,850	7,591		7,591
177	0303140A	07	INFORMATION SYSTEMS SECURITY PROGRAM	12,232	15,684	15,961		15,961
178	0303141A	07	GLOBAL COMBAT SUPPORT SYSTEM	123,136	160,491	120,927		120,927
179	0303142A	07	SATCOM GROUND ENVIRONMENT (SPACE)	32,525	12,085	15,756		15,756
180	0303150A	07	WWWCCS/GLOBAL COMMAND AND CONTROL SYSTEM	12,606	23,899	14,443		14,443
181	0305204A	07	TACTICAL UNMANNED AERIAL VEHICLES	38,049	26,508	31,303		31,303
182	0305208A	07	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	125,404	31,649	40,871		40,871
183	0305219A	07	MQ-1 SKY WARRIOR A UAV	119,195	121,846	74,618		74,618
184	0305232A	07	RQ-11 UAV	1,547	1,935	4,039		4,039
185	0305233A	07	RQ-7 UAV	7,555	31,896	31,158		31,158
186	0305235A	07	MQ-18 UAV		7,500	2,387		2,387
187	0307665A	07	BIOMETRICS ENABLED INTELLIGENCE	2,069	15,018	15,248		15,248

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 Department of the Army
 FY 2013 RDT&E Program
 President's Budget 2013

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

06-Jan-2012

Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2011	FY2012	FY2013	FY2013 OCO	FY2013 Total
188	0708045A	07	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	56,816	59,297	59,908		59,908
		Total:	Operational system development	1,437,782	1,339,540	1,664,534	0	1,664,534
Total:	RDT&E, Army			9,755,972	8,755,692	8,924,787	19,860	8,944,647

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80	05	0604220A	Armed, Deployable Helos.....	25
81	05	0604270A	Electronic Warfare Development.....	39
82	05	0604280A	Joint Tactical Radio.....	78
83	05	0604290A	Mid-tier Networking Vehicular Radio (MNVR).....	83
84	05	0604321A	ALL SOURCE ANALYSIS SYSTEM.....	89
85	05	0604328A	TRACTOR CAGE.....	104
86	05	0604601A	Infantry Support Weapons.....	106
87	05	0604604A	MEDIUM TACTICAL VEHICLES.....	160
88	05	0604609A	Smoke, Obscurant and Target Defeating Sys - Eng Dev.....	165
89	05	0604611A	JAVELIN (AAWS-M).....	170
90	05	0604622A	Family of Heavy Tactical Vehicles.....	177
91	05	0604633A	AIR TRAFFIC CONTROL.....	199
92	05	0604641A	TACTICAL UNMANNED GROUND VEHICLE.....	211
93	05	0604642A	LIGHT TACTICAL WHEELED VEHICLES.....	218

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***Budget Activity 05: Development & Demonstration (SDD)
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94	05	0604661A	FCS Systems of Systems Engr & Program Mgmt.....	225
95	05	0604662A	FCS Reconnaissance (UAV) Platforms.....	246
96	05	0604663A	FCS Unmanned Ground Vehicles.....	256
97	05	0604664A	FCS Unattended Ground Sensors.....	268
98	05	0604665A	FCS Sustainment & Training R&D.....	271
99	05	0604710A	Night Vision Systems - Eng Dev.....	286
100	05	0604713A	Combat Feeding, Clothing, and Equipment.....	320
101	05	0604715A	Non-System Training Devices - Eng Dev.....	333
102	05	0604716A	TERRAIN INFORMATION - ENG DEV.....	355
103	05	0604741A	Air Defense Command, Control and Intelligence - Eng Dev.....	359
104	05	0604742A	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT.....	381
105	05	0604746A	Automatic Test Equipment Development.....	397
106	05	0604760A	Distributive Interactive Simulations (DIS) - Eng Dev.....	414
107	05	0604780A	Combined Arms Tactical Trainer (CATT) Core.....	431
108	05	0604798A	Brigade Analysis, Integration and Evaluation.....	457
109	05	0604802A	Weapons and Munitions - Eng Dev.....	479
110	05	0604804A	Logistics and Engineer Equipment - Eng Dev.....	489
111	05	0604805A	Command, Control, Communications Systems - Eng Dev.....	572

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Budget Activity 05: Development & Demonstration (SDD)
Appropriation 2040: Research, Development, Test & Evaluation, Army

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112	05	0604807A	Medical Materiel/Medical Biological Defense Equipment - Eng Dev.....	593
113	05	0604808A	Landmine Warfare/Barrier - Eng Dev.....	621
114	05	0604814A	Artillery Munitions - EMD.....	647
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116	05	0604818A	Army Tactical Command & Control Hardware & Software.....	664
117	05	0604820A	RADAR DEVELOPMENT.....	707
118	05	0604822A	General Fund Enterprise Business System (GFEBs).....	717
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120	05	0604827A	Soldier Systems - Warrior Dem/Val.....	739
121	05	0604854A	Artillery Systems - EMD.....	763
122	05	0604869A	Patriot/MEADS Combined Aggregate Program (CAP).....	770
123	05	0604870A	Nuclear Arms Control Monitoring Sensor Network.....	779
124	05	0605013A	Information Technology Development.....	788
125	05	0605018A	Army Integ Military Human Resources Sys (A-IMRS).....	825
126	05	0605450A	Joint Air-to-Ground Missile (JAGM).....	835
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Budget Activity 05: Development & Demonstration (SDD)
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131	05	0605626A	Aerial Common Sensor - SDD.....	881
132	05	0605812A	Joint Light Tactical Vehicle - ED.....	890
133	05	0303032A	TROJAN - RH12 - MIP.....	899
134	05	0304270A	Electronic Warfare Development.....	906

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ALL SOURCE ANALYSIS SYSTEM	0604321A	84	05.....	89
Aerial Common Sensor - SDD	0605626A	131	05.....	881
Air Defense Command, Control and Intelligence - Eng Dev	0604741A	103	05.....	359
Armed, Deployable Helos	0604220A	80	05.....	25
Army Integ Military Human Resources Sys (A-IMRS)	0605018A	125	05.....	825
Army Integrated Air and Missile Defense (AIAMD)	0605457A	129	05.....	857
Army Tactical Command & Control Hardware & Software	0604818A	116	05.....	664
Artillery Munitions - EMD	0604814A	114	05.....	647
Artillery Systems - EMD	0604854A	121	05.....	763
Automatic Test Equipment Development	0604746A	105	05.....	397
Brigade Analysis, Integration and Evaluation	0604798A	108	05.....	457
CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	0604742A	104	05.....	381
Combat Feeding, Clothing, and Equipment	0604713A	100	05.....	320
Combat Identification	0604817A	115	05.....	658
Combined Arms Tactical Trainer (CATT) Core	0604780A	107	05.....	431

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Distributive Interactive Simulations (DIS) - Eng Dev	0604760A	106	05.....	414
Electronic Warfare Development	0604270A	81	05.....	39
Electronic Warfare Development	0304270A	134	05.....	906
FCS Reconnaissance (UAV) Platforms	0604662A	95	05.....	246
FCS Sustainment & Training R&D	0604665A	98	05.....	271
FCS Systems of Systems Engr & Program Mgmt	0604661A	94	05.....	225
FCS Unattended Ground Sensors	0604664A	97	05.....	268
FCS Unmanned Ground Vehicles	0604663A	96	05.....	256
FIREFINDER	0604823A	119	05.....	724
Family of Heavy Tactical Vehicles	0604622A	90	05.....	177
General Fund Enterprise Business System (GFEBS)	0604822A	118	05.....	717
Infantry Support Weapons	0604601A	86	05.....	106
Information Technology Development	0605013A	124	05.....	788
JAVELIN (AAWS-M)	0604611A	89	05.....	170
Joint Air-to-Ground Missile (JAGM)	0605450A	126	05.....	835
Joint Light Tactical Vehicle - ED	0605812A	132	05.....	890
Joint Tactical Radio	0604280A	82	05.....	78
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Logistics and Engineer Equipment - Eng Dev	0604804A	110	05.....	489
MEDIUM TACTICAL VEHICLES	0604604A	87	05.....	160
Manned Ground Vehicle	0605625A	130	05.....	869
Medical Materiel/Medical Biological Defense Equipment - Eng Dev	0604807A	112	05.....	593
Mid-tier Networking Vehicular Radio (MNVR)	0604290A	83	05.....	83
Night Vision Systems - Eng Dev	0604710A	99	05.....	286
Non-System Training Devices - Eng Dev	0604715A	101	05.....	333
Nuclear Arms Control Monitoring Sensor Network	0604870A	123	05.....	779
PAC-3/MSE MISSILE	0605456A	128	05.....	848
Patriot/MEADS Combined Aggregate Program (CAP)	0604869A	122	05.....	770
RADAR DEVELOPMENT	0604820A	117	05.....	707
SLAMRAAM	0605455A	127	05.....	843
Smoke, Obscurant and Target Defeating Sys - Eng Dev	0604609A	88	05.....	165
Soldier Systems - Warrior Dem/Val	0604827A	120	05.....	739
TACTICAL UNMANNED GROUND VEHICLE	0604641A	92	05.....	211
TERRAIN INFORMATION - ENG DEV	0604716A	102	05.....	355
TRACTOR CAGE	0604328A	85	05.....	104
TROJAN - RH12 - MIP	0303032A	133	05.....	899

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Program Element Title	Program Element Number	Line Item	Budget Activity	Page
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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	25.099	13.815	14.581	-	14.581	18.943	14.038	14.522	14.767	Continuing	Continuing
AS5: <i>Artillery Munitions Engineering Development</i>	10.300	-	-	-	-	-	-	-	-	Continuing	Continuing
S36: <i>PRECISION GUIDANCE KIT</i>	14.799	13.815	14.581	-	14.581	18.943	14.038	14.522	14.767	Continuing	Continuing

Note

FY 2011: \$9.0 million Congressional decrement. \$10.3 million increase from FY11-25PA reprogramming action.

A. Mission Description and Budget Item Justification

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

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	24.345	13.828	14.424	-	14.424
Current President's Budget	25.099	13.815	14.581	-	14.581
Total Adjustments	0.754	-0.013	0.157	-	0.157
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	10.300	-			
• SBIR/STTR Transfer	-0.456	-			
• Adjustments to Budget Years	-	-0.013	0.157	-	0.157
• Other Adjustments 1	-9.000	-	-	-	-
• Other Adjustments 2	-0.090	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT AS5: <i>Artillery Munitions Engineering Development</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
AS5: <i>Artillery Munitions Engineering Development</i>	10.300	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This program in FY11 funds the following as a result of FY11-25PA:

\$1.0 million to develop an efficient way to safely destroy buried Insensitive High Explosive (IHE) munitions. With the increasing deployment of Insensitive Munitions (IM) explosives there is an immediate need to develop an efficient and reliable method of IM neutralization. Current procedures are expensive and expose the soldier to unnecessary risk as the amount of C4 used for disposal does not always succeed at neutralizing its target. The improved 66MM shaped charge will be designed to penetrate munitions walls and dispose of the IM explosive fill utilizing minimal C4. This is OCO funding. This is an acceleration of an FY 2012 requirement.

\$9.3 million to accelerate the development of prototypes, in-house testing, development engineering support, verification of hardware and software, and conduct warfighter demonstrations. This effort specifically includes Molecular Imprinted Polymers (MIPs) for explosive compound and explosive precursor detection, which are being used by Insurgents to make Homemade Explosives (HME), and Picatinny Optics Detection System (PODS). This is in direct support of JUONs CC-0325 and CC-0416 respectively. This is an acceleration of an FY 2012 requirement. This is OCO funding.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Picatinny Optical Detection System (PODS 2.1)</p> <p align="right">Articles:</p> <p>Description: "Picatinny Optical Detection System (PODS 2.1)" for \$7.1M - Deliverables include: five surrogate systems for software development, environmental testing, user training, and ATEC safety evaluation; and approximately 50 prototypes ready for in-theatre operational assessment.</p> <p>FY 2011 Accomplishments: "Picatinny Optical Detection System (PODS 2.1)" for \$7.1M - Deliverables include: five surrogate systems for software development, environmental testing, user training, and ATEC safety evaluation; and approximately 50 prototypes ready for in-theatre operational assessment.</p>	7.100 0	-	-
<p>Title: Molecularly Imprinted Polymers (MIPs)</p>	2.200	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT AS5: <i>Artillery Munitions Engineering Development</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p align="right">Articles:</p> <p>Description: "Molecularly Imprinted Polymers (MIPs) Army FY12 RDTE" for \$2.2M - Deliverables include: formulation samples; formulation demonstrations; polymer acceptance test plan; polymer product specifications; prototypes for wipes, sprays, trace collection wipes for each polymeric solution developed; and testing of prototypes at NAVEOD.</p> <p>FY 2011 Accomplishments: "Molecularly Imprinted Polymers (MIPs) Army FY12 RDTE" for \$2.2M - Deliverables include: formulation samples; formulation demonstrations; polymer acceptance test plan; polymer product specifications; prototypes for wipes, sprays, trace collection wipes for each polymeric solution developed; and testing of prototypes at NAVEOD.</p>	0		
<p>Title: 66mm Hand-Packable Shape Charge for EOD Applications</p> <p align="right">Articles:</p> <p>Description: "66mm Hand-Packable Shape Charge for EOD Applications" for \$1.0M- Deliverables include: modeling and simulation results for 4 IHE lumpy liner designs; verification Test Report of the final lumpy design against M107 projectiles; and 4 physical Prototypes of the counter-IM lumpy liner shaped charge.</p> <p>FY 2011 Accomplishments: "66mm Hand-Packable Shape Charge for EOD Applications" for \$1.0M- Deliverables include: modeling and simulation results for 4 IHE lumpy liner designs; verification Test Report of the final lumpy design against M107 projectiles; and 4 physical Prototypes of the counter-IM lumpy liner shaped charge.</p>	1.000 0	-	-
Accomplishments/Planned Programs Subtotals	10.300	-	-

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

N/A

D. Acquisition Strategy

Not applicable for this item.

E. Performance Metrics

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT S36: <i>PRECISION GUIDANCE KIT</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
S36: <i>PRECISION GUIDANCE KIT</i>	14.799	13.815	14.581	-	14.581	18.943	14.038	14.522	14.767	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

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

	FY 2011	FY 2012	FY 2013
<p>Title: Contractor Engineering and Manufacturing Development</p> <p style="text-align: right;">Articles:</p> <p>Description: Contractor Engineering and Manufacturing Development</p> <p>FY 2011 Accomplishments: Contractor Engineering and Manufacturing Development</p> <p>FY 2012 Plans: Contractor Engineering and Manufacturing Development</p> <p>FY 2013 Plans: Engineering and Manufacturing Development</p>	<p>10.350</p> <p>0</p>	<p>6.934</p> <p>0</p>	<p>5.415</p>
<p>Title: Government Engineering Support</p> <p style="text-align: right;">Articles:</p> <p>Description: Continue Engineering Support</p> <p>FY 2011 Accomplishments: Continue Engineering Support</p> <p>FY 2012 Plans: Continue Engineering Support</p> <p>FY 2013 Plans:</p>	<p>3.483</p> <p>0</p>	<p>4.643</p> <p>0</p>	<p>4.526</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT S36: <i>PRECISION GUIDANCE KIT</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue Engineering Support			
Title: Continue Development/Operational Testing	0.966	2.238	4.640
Articles:	0	0	
Description: Continue Development/Operational Test			
FY 2011 Accomplishments: Continue Development/Operational Test			
FY 2012 Plans: Continue Development/Operational Test			
FY 2013 Plans: Continue Development/Operational Test			
Accomplishments/Planned Programs Subtotals	14.799	13.815	14.581

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• E99250: <i>Procurement of Ammunition Army: Precision Guidance Kit (PGK) E99250</i>	0.047		37.952		37.952		69.176	70.080	55.796	Continuing	Continuing

D. Acquisition Strategy

The Precision Guidance Kit (PGK) program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible, and to deliver advanced capabilities at lower costs as technology matures. The Acquisition Strategy/Acquisition Plan for the PGK Increment 1 program was approved by the Milestone Decision Authority (MDA) on 20 October 2005, subsequently revised and approved on 5 March 2009. Alliant Techsystems (ATK) was competitively awarded the Engineering and Manufacturing Development (EMD) phase in May 2007 following a Technology Development Demonstration. Approval to initiate the procurement of First Article/Production Verification Test (FAT/PVT) hardware occurred at Milestone C In-Process Review (IPR) 3Q FY 2009. The FAT/PVT hardware was procured in 3Q FY 2010. However, Milestone C/Type Classification Limited Procurement was delayed due to reliability growth challenges that required failure and root cause analysis that led to the restructure of the PGK Engineering and Manufacturing Development program and subsequent implementation of a reliability design improvement corrective action plan. As a result, Milestone C is planned for 2Q FY 2013 and Initial Operational Capability (IOC) of Increment 1 is scheduled for 3Q FY 2014. Following the Increment 1 Milestone C decision, a follow-on development effort is planned to make PGK compatible with future high explosive projectiles that contain a high explosive Insensitive Munition fill.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT S36: <i>PRECISION GUIDANCE KIT</i>

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT S36: <i>PRECISION GUIDANCE KIT</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support	Various	Camber: Mt Arlington, NJ	1.597	0.243		0.061		-		0.061	0.000	1.901	1.901
Miscellaneous Support Contract	Various	MITRE Corporation: Fort Monmouth, NJ	0.600	-		-		-		-	0.000	0.600	0.600
Analysis Support	MIPR	Command and Control Directorate: Ft Monmouth, NJ	0.300	-		-		-		-	0.000	0.300	0.300
Subtotal			2.497	0.243		0.061		-		0.061	0.000	2.801	2.801

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PGK TD Contract	C/CPHF	Alliant Techsystems (ATK): Plymouth, MN	5.279	-		-		-		-	0.000	5.279	5.279
PGK TD Contract	C/CPHF	BAE: Minneapolis, MN	3.103	-		-		-		-	0.000	3.103	3.103
Soft Recovery Modules	MIPR	SubSystems Technology: Rosslyn, VA	0.116	-		-		-		-	0.000	0.116	0.116
M107 Metal Parts	MIPR	US ARMY Field Support Command: Rock Island, IL	0.079	-		-		-		-	0.000	0.079	0.079
PGK EMD & Phase 1-2 (Reliability Failure/Root Cause Analysis)	C/CPAF	Alliant Techsystems (ATK): Plymouth, MN	53.947	-		-		-		-	0.000	53.947	53.947
PGK EMD - Phase 3a to 5	C/FFP	Alliant Techsystems (ATK): Plymouth, MN	14.090	6.934		1.160		-		1.160	0.000	22.184	22.184
PGK Insensitive Munitions	C/FFP	TBD: TBD	-	-		4.255		-		4.255	18.857	23.112	23.112
Subtotal			76.614	6.934		5.415		-		5.415	18.857	107.820	107.820

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT S36: <i>PRECISION GUIDANCE KIT</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Office	PO	PM CAS:Picatinny, NJ	7.995	0.725		0.735		-		0.735	1.510	10.965	10.965
Government Engineering Support	PO	ARDEC:Picatinny, NJ	21.990	3.675		3.730		-		3.730	5.160	34.555	34.555
Subtotal			29.985	4.400		4.465		-		4.465	6.670	45.520	45.520

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Component Air Gun/Railgun Testing	PO	ARDEC:Picatinny, NJ	0.317	-		-		-		-	0.000	0.317	0.317
Other Development Testing	Various	Various:Various	1.359	-		-		-		-	0.000	1.359	1.359
System Development Testing Increment 1	MIPR	Yuma Proving Ground:Yuma, AZ	7.784	2.238		0.690		-		0.690	3.068	13.780	13.780
Initial Operational Test & Evaluation - Increment 1	MIPR	Yuma Proving Ground:Yuma, AZ	-	-		3.500		-		3.500	0.000	3.500	3.500
Qualification Testing for Insensitive Munitions	MIPR	Yuma Proving Ground:Yuma, AZ	-	-		-		-		-	3.950	3.950	3.950
Cold Region Testing - Increment 1	MIPR	Cold Region Test Center:Ft Greely, AK	-	-		0.450		-		0.450	0.000	0.450	0.450
Subtotal			9.460	2.238		4.640		-		4.640	7.018	23.356	23.356

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		118.556	13.815		14.581		-	14.581	32.545	179.497	179.497

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT S36: <i>PRECISION GUIDANCE KIT</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Insensitive Munitions Development	3	2013	4	2015
Milestone C - Type Classification Limited Procurement	2	2013	2	2013
First Article Test (FAT)	2	2013	2	2013
Initial Operational Test and Evaluation (IOT&E)	4	2013	4	2013
Type Classification Standard / Full Materiel Release	3	2014	3	2014
IOC	3	2014	3	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	39.588	173.146	43.706	-	43.706	51.442	30.773	24.469	21.833	Continuing	Continuing
194: <i>ENGINE DRIVEN GEN ED</i>	6.919	11.188	9.692	-	9.692	3.864	8.479	7.675	4.637	Continuing	Continuing
H01: <i>COMBAT ENGINEER EQ ED</i>	5.361	5.474	6.351	-	6.351	2.951	2.921	1.960	2.010	Continuing	Continuing
H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>	9.864	55.108	9.525	-	9.525	30.747	8.220	2.865	2.886	Continuing	Continuing
H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>	0.920	1.055	1.415	-	1.415	0.405	0.512	0.943	0.964	Continuing	Continuing
L39: <i>Field Sustainment Support ED</i>	5.599	4.226	2.550	-	2.550	2.431	2.368	2.331	2.269	Continuing	Continuing
L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>	2.636	2.077	3.839	-	3.839	3.601	3.615	3.726	3.789	Continuing	Continuing
L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>	0.842	1.095	1.916	-	1.916	1.180	1.170	1.287	1.534	Continuing	Continuing
L46: <i>Maintenance Support Equipment</i>	3.066	3.162	3.697	-	3.697	1.674	1.780	1.799	1.829	Continuing	Continuing
L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>	4.381	-	2.976	-	2.976	2.968	-	-	-	Continuing	Continuing
L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>	-	87.217	-	-	-	-	-	-	-	Continuing	Continuing
VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>	-	2.544	1.745	-	1.745	1.621	1.708	1.883	1.915	Continuing	Continuing

Note

Change Summary Explanation: Funding - FY 2013: Adjustment for Joint Light Tactical Vehicle (JLTV) move from Engineering development to Joint Light Tactical Vehicles(655812/VU9).

A. Mission Description and Budget Item Justification

This Program Element (PE) provides system development and demonstration for various projects. This PE includes the development of military tactical bridging, material handling equipment, construction equipment, engineer support equipment, soldier support equipment (to include shelter systems, environmental control, field

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

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

service equipment, camouflage systems and aerial delivery equipment), water purification equipment, petroleum distribution equipment, mobile electric power and water craft.

Decrease from FY 2012 to FY 2013 reflects Joint Light Tactical Vehicle(JLTV) move from Engineering Development to Joint Light Tactical Vehicles(PE: 655812/Project: VU9.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	41.039	251.104	99.363	-	99.363
Current President's Budget	39.588	173.146	43.706	-	43.706
Total Adjustments	-1.451	-77.958	-55.657	-	-55.657
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-1.451	-77.958	-55.657	-	-55.657

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE				PROJECT				
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>				194: <i>ENGINE DRIVEN GEN ED</i>				
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
194: <i>ENGINE DRIVEN GEN ED</i>	6.919	11.188	9.692	-	9.692	3.864	8.479	7.675	4.637	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This project supports the Mobile Electric Power (MEP) program which is established to develop a Modernized, Standard Family of Mobile Electric Power Sources for All Services throughout the Department of Defense. Building on the device/component evaluations conducted in PE 0603804A project G11, this project supports the system development and demonstration of a series of innovative mobile electric power sources that are essential to the development and eventual fielding of modernized mobile electric power sources from 0.5 kW to 840 kW. These sources will ensure compliance with federally mandated environmental statutes and significantly lower noise and thermal signatures (thereby improving battlefield survivability), improve fuel and electrical efficiency, reduce weight, enhance portability, improve reliability and maintainability, and reduce operational and support costs. FY11 funds completion of DT/OT (Development Test/Operational Test) for AMMPS in preparation for MS-C. FY11-12 fund the performance specification preparation and award of the Engineering and Manufacturing Development (EMD) Phase contract for Large Advanced Mobile Power Sources (LAMPS). FY 13 will continue the EMD phase for LAMPS.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Complete Development Test/Operational Test (DT/OT) for AMMPS</p> <p align="right">Articles:</p>	0.850 0	-	-	-	-
<p>Description: Complete DT/OT for AMMPS. Complete Documentation for Type Classification (TC), Materiel Release (MR) and other actions required for Milestone C Production Award, e.g., TM's (technical manuals), sustainment test, fielding plans.</p> <p>FY 2011 Accomplishments: Perform final DT/OT requirements for AMMPS Milestone C decision in July 2011.</p>					
<p>Title: LAMPS Engineering & Manufacturing Demonstration (EMD) Phase</p> <p align="right">Articles:</p>	6.069 0	11.188 0	9.692	-	9.692
<p>Description: Prepare LAMPS performance specification and begin EMD Phase</p> <p>FY 2011 Accomplishments:</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT 194: <i>ENGINE DRIVEN GEN ED</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Begin preparing LAMPS performance specification and begin EMD Phase					
<i>FY 2012 Plans:</i> Continue preparing LAMPS performance specification and continue EMD Phase					
<i>FY 2013 Base Plans:</i> Continue EMD Phase					
Accomplishments/Planned Programs Subtotals	6.919	11.188	9.692	-	9.692

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 643804.G11: <i>Logistics and Engineer Equipment - Adv Dev G11</i>	2.531	0.690	3.921		3.921		0.675	7.378	4.230	Continuing	Continuing
• MA9800: <i>Generators and Associated Equipment</i>	191.915	67.897	60.302		60.302		178.107	244.083	231.742	Continuing	Continuing

D. Acquisition Strategy
Perform Developmental Testing (DT)/Operational Testing (OT) for the AMMPS family; perform phase II contract award through a down select. Developmental test and evaluation of technologies that transition into procurement after Milestone C. Complete Delivery of Technical Drawing Packages, Repair Parts and Special Tools List (RPSTL), Technical Manuals and Training Packages in preparation of Milestone C and Phase III-Production and Fielding. Prepare Performance Specification, Purchase Description and Statement of Work for LAMPS (Large Advanced Mobile Power Sources). Begin LAMPS EMD Phase.

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

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT 194: <i>ENGINE DRIVEN GEN ED</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MS C - AMMPS				■																								
Production Release				■																								
Transition to Production				■	■																							
Milestone B - LAMPS	■																											
EMD - LAMPS	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Prepare Procurement Package and Solicitation							■																					
Award Phase 1 Contract							■																					
Production Qualification Test													■	■	■	■												
Limited User Test																	■	■	■	■								
MS C-LAMPS																												
LAMPS Production Option (2yr)																					■	■	■	■	■	■	■	■
Pre-EMD Review																												
RFP & Solicitation													■	■	■	■												
Milestone B - STEP																												
EMD Award																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT 194: <i>ENGINE DRIVEN GEN ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MS C - AMMPS	4	2011	4	2011
Production Release	4	2011	4	2011
Transition to Production	4	2011	1	2012
Milestone B - LAMPS	2	2011	2	2011
EMD - LAMPS	2	2011	4	2015
Prepare Procurement Package and Solicitation	2	2012	2	2012
Award Phase 1 Contract	3	2012	3	2012
Production Qualification Test	1	2014	4	2014
Limited User Test	4	2014	2	2015
MS C-LAMPS	4	2015	4	2015
LAMPS Production Option (2yr)	4	2015	4	2017
Pre-EMD Review	3	2014	3	2014
RFP & Solicitation	3	2014	2	2015
Milestone B - STEP	2	2015	2	2015
EMD Award	2	2015	2	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>				PROJECT H01: <i>COMBAT ENGINEER EQ ED</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
H01: <i>COMBAT ENGINEER EQ ED</i>	5.361	5.474	6.351	-	6.351	2.951	2.921	1.960	2.010	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Family of All Terrain Cranes</p> <p align="right">Articles:</p> <p>Description: System Pre-Award requirements, Key Performance Parameters (KPP), selection criteria development. Testing of systems.</p> <p>FY 2012 Plans: System Pre-Award requirements, KPP, selection criteria development. Testing of systems.</p> <p>FY 2013 Base Plans: Simulator/Scenario development and test; Armor packaging and design; System Engineering/Program Management. system test and evaluation.</p>	-	2.494 0	1.306	-	1.306
<p>Title: CE Armor</p> <p align="right">Articles:</p> <p>Description: Design armor kits for Combat Engineer Equipment.</p> <p>FY 2011 Accomplishments: Design armor kits for Combat Engineer Equipment.</p> <p>FY 2013 Base Plans:</p>	0.500 0	-	1.000	-	1.000

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT			
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	H01: <i>COMBAT ENGINEER EQ ED</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Qualify alternative sources of supply for opaque & Transparent armor on existing CE equipment. Full Vehicle Armor Protection.					
Title: CE Robotics Research Description: Development of Robotics Research FY 2011 Accomplishments: Development of Robotics Research FY 2012 Plans: Development of Robotics Research FY 2013 Base Plans: Development of Robotics Research	0.100 0	0.100 0	0.500	-	0.500
Title: CE Simulators Description: Labor, software, and hardware simulator development FY 2011 Accomplishments: Labor, software, and hardware simulator development FY 2012 Plans: Labor, software, and hardware simulator development FY 2013 Base Plans: Labor, software, and hardware simulator development	1.000 0	2.880 0	1.245	-	1.245
Title: Hazard Clearance Description: Hazard Clearance at Speed FY 2013 Base Plans: Adapt existing vehicle to provide area and route clearance to remove explosive and non-explosive obstacles.	-	-	0.500	-	0.500
Title: Forced Entry (Airborne/Air Assault) HMEE, Grader, ERACC Type 4 and Loader Type 1 Study/Development	3.711 0	-	0.500	-	0.500

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H01: <i>COMBAT ENGINEER EQ ED</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<i>Articles:</i>						
Description: FY10: Forced Entry (Airborne/Air Assault) HMEE, Grader, and Loader Type 1 Study/Development						
FY 2011 Accomplishments: Forced Entry (Airborne/Air Assault) HMEE, Grader and Loader Type 1 Study/Development						
FY 2013 Base Plans: FY13: ERACC Type 4 Study/Development						
Title: Market Research						
Description: Market Research Survey						
FY 2013 Base Plans: Conduct market research and documentation preparation for all types of construction equipment.						
Title: Non Nuclear Soil Density Set Testing						
<i>Articles:</i>						
Description: FY10: Test non nuclear soil density test sets.						
FY 2011 Accomplishments: Test non nuclear soil density test sets.						
Title: Fuel Efficiency						
Description: Improve Fuel Efficiency/Reduce Maintenance Time						
FY 2013 Base Plans: Using Government supplied vehicles (GFE), evaluate new technologies be developed by private industry to improve the efficiency or reduce maintenance burden.						
Title: Duty Cycle						
Description: Duty Cycle Monitoring						
FY 2013 Base Plans:						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H01: <i>COMBAT ENGINEER EQ ED</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Instrumentation of vehicles at FLW and select units to monitor the usage and to establish training and operational usage of the machine. This data, once analyzed will be used in CPD development.					
Title: ERACC Type III Description: ERACC Type III Equipment FY 2013 Base Plans: Integration of ERACC Type III Equipment	-	-	0.200	-	0.200
Title: System Engineering/Program Management Description: Program Management FY 2013 Base Plans: Program Management Support of R&D Program for CE	-	-	0.500	-	0.500
Accomplishments/Planned Programs Subtotals	5.361	5.474	6.351	-	6.351

C. Other Program Funding Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• High Mobility Engineer Excavator <i>I: High Mobility Engineer Excavator I</i>	62.342	16.907	30.042		30.042					0.000	109.291
• HMEE III: <i>High Mobility Engineer Excavator III</i>	2.024	2.067								0.000	4.091
• Grader, Mtzd, Hvy: <i>Grader, Mtzd, Hvy</i>	51.498	2.201	2.028		2.028					0.000	57.727
• Loader, Scoop Type, 2 1/2 CU <i>YD: Loader, Scoop Type, 2 1/2 CU YD</i>	8.321									0.000	8.321
• Hydraulic Excavator: <i>Hydraulic Excavator</i>	8.410									0.000	8.410
• Plant, Asphalt Mixing: <i>Plant, Asphalt Mixing</i>	10.722	0.614	3.629		3.629		11.378	11.168	2.828	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Tractor Full Tracked, Med T-9: <i>Tractor Full Tracked, Med T-9</i>	63.672	50.434	20.867		20.867		34.504	34.652	13.912	Continuing	Continuing
• All Terrain Cranes: <i>All Terrain Cranes</i>			4.003		4.003		18.452	26.161	13.799	Continuing	Continuing
• Skid Steer Loaders: <i>Skid Steer Loaders</i>		8.584								0.000	8.584
• Scraper, Earthmoving: <i>Scraper, Earthmoving</i>	15.577	21.031	6.146		6.146		55.805	56.468	23.177	Continuing	Continuing
• EMMs: <i>EMMs</i>	53.807	43.432	31.200		31.200		3.500			0.000	163.726
• ERACC: <i>ERACC</i>			13.725		13.725		13.597	13.907	14.547	Continuing	Continuing

D. Acquisition Strategy

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

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H01: <i>COMBAT ENGINEER EQ ED</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Pre-Award requirements, KPP, selection criteria development, Testing of systems	Various	TACOM & TARDEC:Warren, MI	-	2.494		1.306		-		1.306	0.000	3.800	0.000
Design armor kits for Combat Engineer	Various	TARDEC:Warren, MI	5.512	-		1.000		-		1.000	0.000	6.512	Continuing
Development of Robotic Research for Combat Engineer	Various	TBD:TBD	1.619	0.100		0.500		-		0.500	0.000	2.219	Continuing
Development of Simulator	Various	PEO Stricom:PEO, Stricom, Orlando, FL	5.409	2.880		1.245		-		1.245	0.000	9.534	Continuing
Forced Entry: HMEE Type II, Grader, ERACC Type III and Loader Type I Study/ Development	Various	TARDEC:Warren, MI	8.239	-		0.500		-		0.500	0.000	8.739	Continuing
Hazard Clearance at Speed	TBD	TARDEC:Warren, Michigan	-	-		0.500		-		0.500	0.000	0.500	0.000
ERACC Type III Integration	TBD	TARDEC/ TACOM:Waren, Michigan	-	-		0.200		-		0.200	0.000	0.200	0.000
Market Research	TBD	TARDEC:Warren, Michigan	-	-		0.100		-		0.100	0.000	0.100	0.000
Subtotal			20.779	5.474		5.351		-		5.351	0.000	31.604	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering/Program Mgmt	TBD	TARDEC/ TACOM:Warren, Michigan	-	-		0.500		-		0.500	0.000	0.500	0.000
Subtotal			-	-		0.500		-		0.500	0.000	0.500	0.000

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H01: <i>COMBAT ENGINEER EQ ED</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Family of All Terrain Cranes-Selection criteria & Testing of Systems																												
Design of Armor Kits																												
Robotic Research																												
Simulator Development for Construction Equipment																												
Force Entry: HMEE Type II, Grader, ERACC III & Loader Type I Study/Development																												
Hazard Clearance at Speed																												
ERACC III integration																												
Market Research																												
System Engineer/Program Support																												
Fuel Efficiency																												
Duty Cycle Monitoring																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H01: <i>COMBAT ENGINEER EQ ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Family of All Terrain Cranes-Selection criteria & Testing of Systems	1	2013	4	2013
Design of Armor Kits	1	2012	4	2013
Robotic Research	1	2012	4	2013
Simulator Development for Construction Equipment	1	2012	4	2013
Force Entry: HMEE Type II, Grader, ERACC III & Loader Type I Study/Development	1	2012	4	2013
Hazard Clearance at Speed	1	2013	4	2013
ERACC III integration	1	2013	4	2013
Market Research	1	2013	4	2013
System Engineer/Program Support	1	2013	4	2013
Fuel Efficiency	1	2013	4	2013
Duty Cycle Monitoring	1	2013	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>	9.864	55.108	9.525	-	9.525	30.747	8.220	2.865	2.886	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project supports the engineering, system development and demonstration, and transition to procurement of Future Force Tactical Bridge Systems. Efforts supported include the development, integration and testing of the Bridge Erection Boat (BEB) as well as development, integration and testing of the Line of Communication Bridge (LOCB). Other efforts supported include Bridging laboratory equipment used in the verification of product improvements to launch platforms as well as structural strength and fatigue testing of Bridging prototypes, development systems, and validation of design modifications. This project also includes the development and testing of light assault gap crossing capability, a remote controlled automatic launch for the Rapidly Emplaced Bridge System (REBS) and integrate and test the REBS on a Stryker chassis, and the development and testing of the Joint Assault Bridge (JAB) system.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: LOC Bridge POR Testing</p> <p align="right">Articles:</p> <p>Description: LOC Bridge POR Testing</p> <p>FY 2011 Accomplishments: LOC Bridge POR Testing</p>	1.800 0	-	-	-	-
<p>Title: JAB Development and Testing</p> <p align="right">Articles:</p> <p>Description: JAB Development and Testing</p> <p>FY 2011 Accomplishments: JAB Development</p> <p>FY 2012 Plans: JAB Development.</p> <p>FY 2013 Base Plans: JAB Testing.</p>	3.441 0	49.810 0	7.625	-	7.625
Title: BEB Testing	3.500	4.198	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p align="right"><i>Articles:</i></p> <p>Description: BEB Testing</p> <p>FY 2011 Accomplishments: BEB Testing</p> <p>FY 2012 Plans: Completion of operational and development testing and logistics demonstration of the Bridge Erection Boat.</p>	0	0			
<p>Title: Development, integration, and testing of REBS Auto Launch-Retrieve with Common Bridge Transporter (CBT)</p> <p align="right"><i>Articles:</i></p> <p>Description: Development, integration, and testing of REBS Auto Launch-Retrieve with Common Bridge Transporter (CBT)</p> <p>FY 2012 Plans: Completion of the development, integration and testing of the Rapidly Emplaced Bridge System Auto Launch-Retrieve capability with the Common Bridge Transporter (CBT).</p> <p>FY 2013 Base Plans: Completion of the development, integration and testing of the Rapidly Emplaced Bridge System Auto Launch-Retrieve capability with the Common Bridge Transporter (CBT).</p>	-	1.100 0	1.400	-	1.400
<p>Title: LOCB Development</p> <p align="right"><i>Articles:</i></p> <p>Description: LOCB Development</p> <p>FY 2011 Accomplishments: LOCB Development</p> <p>FY 2013 Base Plans: LOCB Development</p>	1.123 0	-	0.500	-	0.500
Accomplishments/Planned Programs Subtotals	9.864	55.108	9.525	-	9.525

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA3, MX0100: <i>OPA3, MX0100</i>	62.817	92.428	35.599		35.599		21.013	20.997	21.548	Continuing	Continuing
• OPA3, MA8890: <i>OPA3, MA8890</i>	109.057	72.354	32.893		32.893		26.951	37.052	28.710	Continuing	Continuing
• WTCV, G82925: <i>WTCV, G82925</i>	77.930	97.004	50.039		50.039		70.901	26.141	65.369	Continuing	Continuing
• WTCV, GZ3001: <i>WTCV, GZ3001</i>							80.889	113.242	102.593	Continuing	Continuing

D. Acquisition Strategy

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

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JAB Development	Various	TBS:TBD	-	49.810		-		-		-	Continuing	Continuing	Continuing
LOCB Development	Various	TBS:TBD	1.123	-		0.500		-		0.500	Continuing	Continuing	Continuing
Subtotal			1.123	49.810		0.500		-		0.500			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government In-House	MIPR	TACOM:Warren, MI	2.100	3.000		3.000		-		3.000	Continuing	Continuing	Continuing
Subtotal			2.100	3.000		3.000		-		3.000			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JAB Testing	Various	TBS:TBD	2.541	-		5.125		-		5.125	Continuing	Continuing	Continuing
REBS Testing (Auto Launch-Retrieve)	TBD	TBS TBD:TBS TBD	-	1.100		0.900		-		0.900	0.000	2.000	0.000
BEB Testing	Various	Various:Various	5.230	1.198		-		-		-	0.000	6.428	0.000
LOC Testing	Various	A TEC:APG/Ft. Leonardwood	4.800	-		-		-		-	0.000	4.800	0.000
Subtotal			12.571	2.298		6.025		-		6.025			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			15.794	55.108		9.525		-		9.525			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>		PROJECT H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
JAB Development and Testing	[REDACTED]																											
LOCB Development and Testing	[REDACTED]												[REDACTED]															

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H02: <i>TACTICAL BRIDGING - ENGINEERING DEVELOPMENT</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
JAB Development and Testing	2	2011	4	2015
LOCB Development and Testing	2	2012	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>	0.920	1.055	1.415	-	1.415	0.405	0.512	0.943	0.964	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project supports system development and demonstration of Material Handling Equipment (MHE) including Rough Terrain Forklifts, Container Handling Equipment, and other cargo handling related items to enable Combat Service Support units to rapidly and efficiently move and deliver critical supplies worldwide to the Warfighter. Efforts performed under this project include conducting market research, supporting operational requirements identification and validation, conducting trade studies, generating life cycle cost estimates, performing system engineering, developing performance specifications, conducting pre-production test and evaluation, and preparing program management and acquisition documents.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Material Handling Equipment (MHE) Training Aids</p> <p align="right">Articles:</p> <p>Description: Material Handling Equipment (MHE) Training Aids</p> <p>FY 2011 Accomplishments: Upgrade Rough Terrain Container Handler (RTCH) Electronic Training Aid</p> <p>FY 2012 Plans: Continue upgrade of Rough Terrain Container Handler (RTCH) Electronic Training Aid. Conduct design verification testing</p>	0.920 0	1.055 0	-	-	-
<p>Title: Material Handling Equipment (MHE) System Improvement</p> <p>Description: System Improvements for Light Capacity Rough Terrain Forklift (LCRTEF) for Tactical Operations</p> <p>FY 2013 Base Plans: Design and test air drop configuration package for the LCRTEF. Integrate and test add-on hardware for reliable cold starting.</p>	-	-	0.655	-	0.655
<p>Title: Material Handling Equipment (MHE) Armor Kits</p> <p>Description: Lightweight Armor for All Terrain Lifter Army System (ATLAS) II</p>	-	-	0.460	-	0.460

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<i>FY 2013 Base Plans:</i> Investigate alternative armor solutions to eliminate known performance degradation when operated with current add on armor package (A/B Kit) installed.					
<i>Title:</i> Sling Load Attachment for Rough Terrain Container Handler (RTCH) <i>Description:</i> Sling Load Attachment for Rough Terrain Container Handler (RTCH)	-	-	0.300	-	0.300
<i>FY 2013 Base Plans:</i> Conduct demonstrations and evaluations of proposed Sling Load Attachment to assess operational suitability and value added capability.					
Accomplishments/Planned Programs Subtotals	0.920	1.055	1.415	-	1.415

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPA M41200: <i>Rough Terrain Container Handler</i>	33.856									0.000	33.856
• OPA M41800: <i>All Terrain Lifting Army System</i>	75.303	23.659								0.000	98.962
• OPA G41002: <i>Light Capacity Rough Terrain (LCRT) Forklift</i>	12.864	10.944	5.895		5.895		6.145	6.264	7.119	Continuing	Continuing

D. Acquisition Strategy
Develop specifications for LCRTF improvements, award contracts to produce test items for production verification testing. Testing LCRTF improvements to be performed using Army test facilities. Design lightweight armor solution for ATLAS II using U.S. Army TARDEC's Center for Ground Vehicle Development and Integration. Test armored ATLAS II at Aberdeen Proving Ground, MD. Procure RTCH Sling Load Attachment, obtain safety confirmation and conduct user demonstrations to valid requirements.

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MHE Training Aids	MIPR	Kalmar Rt:Cibolo, TX	0.974	1.055		-		-		-	Continuing	Continuing	Continuing
System Improvements for LCRTF for Tactical Operations	Various	TBD:TBD	-	-		0.200		-		0.200	0.000	0.200	0.000
Lightweight Armor for ATLAS II	MIPR	TARDEC:Warren, MI	-	-		0.350		-		0.350	0.000	0.350	0.000
Sling Load Attachment for RTCH	Reqn	Kalmar RT Center:Cibolo, TX	-	-		0.100		-		0.100	0.000	0.100	0.000
Subtotal			0.974	1.055		0.650		-		0.650			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Improvements for LCRTF for Tactical Operations	MIPR	TARDEC:Warren, MI	-	-		0.055		-		0.055	0.000	0.055	0.000
Lightweight Armor for ATLAS II	MIPR	TARDEC:Warren, MI	-	-		0.110		-		0.110	0.000	0.110	0.000
Subtotal			-	-		0.165		-		0.165	0.000	0.165	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Improvements for LCRTF for Tactical Operations	TBD	TBD:TBD	-	-		0.400		-		0.400	0.000	0.400	0.000
Sling Load Attachment for RTCH	MIPR	Various:Various	-	-		0.200		-		0.200	0.000	0.200	0.000
Subtotal			-	-		0.600		-		0.600	0.000	0.600	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>				PROJECT H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>				
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.974	1.055		1.415		-		1.415			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Develop LCRTF air drop package																												
Develop LCRTF cold weather start kit																												
Test LCRTF air drop and cold start capabilities																												
Design and trade analysis of alternative armor for ATLAS II																												
Develop detailed design of lightweight armor kit for ATLAS II																												
Conduct RTCH Sling Load Attachment user demonstrations																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT H14: <i>MATERIALS HANDLING EQUIPMENT - ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Develop LCRTF air drop package	1	2013	4	2013
Develop LCRTF cold weather start kit	1	2013	4	2013
Test LCRTF air drop and cold start capabilities	4	2013	4	2013
Design and trade analysis of alternative armor for ATLAS II	1	2013	4	2013
Develop detailed design of lightweight armor kit for ATLAS II	1	2014	1	2014
Conduct RTCH Sling Load Attachment user demonstrations	3	2013	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L39: <i>Field Sustainment Support ED</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L39: <i>Field Sustainment Support ED</i>	5.599	4.226	2.550	-	2.550	2.431	2.368	2.331	2.269	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Joint Precision Airdrop System P3I (JPADS)</p> <p align="right">Articles:</p> <p>Description: JPADS is a Precision Guided Airdrop system that autonomously navigates along a predetermined glide and flight path to accurately deliver supplies and equipment. Its two primary components, a decelerator and an Autonomous Guidance Unit (AGU), interface with the United States Air Force (USAF) JPADS mission planner and has a gross rigged weight of 2,400 pounds (lbs) to 10,000 lbs.</p> <p>FY 2012 Plans: Continue JPADS 2K product improvement efforts to integrate advanced hardware and software capabilities</p>	-	1.626 0	-	-	-
<p>Title: Joint Precision Airdrop System 10,000 lbs. (JPADS 10K)</p> <p align="right">Articles:</p> <p>Description: JPADS 10K is a Precision Guided Airdrop system that autonomously navigates along a predetermined glide and flight path to accurately deliver supplies and equipment. It utilizes two primary components, a JPADS 10K air vehicle's decelerator connected to an Autonomous Guided Unit (AGU) which interface with the USAF JPADS Mission Planner, and has a maximum gross rigged weight of 10,000 lbs.</p>	3.191 0	1.400 0	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>		PROJECT L39: <i>Field Sustainment Support ED</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
FY 2011 Accomplishments: Complete Developmental Testing (DT) and initiate Operational Testing (OT) for JPADS 10K.					
FY 2012 Plans: Complete Operational Testing (OT) and obtain Milestone C for JPADS 10K.					
Title: Advanced Low Velocity Airdrop System (ALVADS) - Light and Heavy					
Description: ALVADS - Light and Heavy are capable of airdrop operations at an altitude of 500-ft Above Ground Level (AGL) with increased aircraft survivability, and improved accuracy. Light-Gross rigged weight of 2,520-22,000 lbs and Heavy-Gross rigged weight of 22,001-42,000 lbs.					
FY 2013 Base Plans: Complete Design Validation (DV) for ALVADS-L and initiate Developmental Testing (DT).					
Title: Low Cost Aerial Delivery System (LCADS)					
Articles:					
Description: LCADS is a modular suite of low cost, expendable parachute/container air items that can be used in lieu of current low and high velocity systems. System includes a low cost container, high-velocity parachute (70 - 90 feet per second (fps)) and low-velocity parachute (less than 28.5 fps). System is compatible with United States Air Force Aircraft (USAF A/C) and aerial port handling equipment. LCADS is a proven means to execute critical resupply missions without having to place soldiers and ground vehicle convoys on the road.					
FY 2011 Accomplishments: Execute Low Cost Aerial Delivery System (LCADS) P3I efforts with a focus on reusable Low Cost Low Altitude (LCLA) personnel parachutes for cargo use.					
FY 2012 Plans: Execute LCADS product improvement efforts with focus on modular capability that spans weights and altitudes for low velocity and high velocity systems.					
Title: Advanced Cargo Parachute Release System (ACPRS)					
Description: The ACPRS will replace the existing M-1 and M-2 cargo parachute release and is intended to decrease the number of inoperable payloads due to rollovers, while also providing a capability to airdrop loads at 500 ft Above Ground Level (AGL).					
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
	-	-	2.000	-	2.000
	1.577 0	1.200 0	-	-	-
	-	-	0.550	-	0.550

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L39: <i>Field Sustainment Support ED</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<i>FY 2013 Base Plans:</i> Obtain Milestone C on ACPRS and initiate pre-planned product improvement effort.					
<i>Title:</i> Space Heater Convective 90,000 British Thermal Unit per Hour (BTUH) (SHC 90K) <i>Description:</i> The SHC 90K is a self-powered, thermoelectric heater that operates outside the tent and provides forced hot air circulation without the need for an external power supply (i.e., field generator). The SHC 90K generates its own electrical power, without any moving parts, through the use of thermoelectric modules located inside the combustion chamber that convert waste heat into electricity. The internal generation of electrical power gives the SHC 90K the added capabilities of single switch operation, forced hot air circulation, outside the tent operation, completely automatic safety and temperature controls, built-in troubleshooting diagnostics, operation without the need for a fire guard, and significantly higher combustion efficiencies, all without the need for an external power supply. The heater burns multi-fuels and operates in extreme cold temperatures down to -60oF. <i>FY 2011 Accomplishments:</i> FY 11: Complete the User Field Evaluation on the Space Heater Convective 90,000 BTUH (SHC 90K) and procured preparation test items to support Milestone C decision in FY 12.	0.300 0	-	-	-	-
<i>Title:</i> Pyrolysis Waste to Energy System <i>Description:</i> The Pyrolysis waste to Energy System is a containerized solid waste disposal system with energy reclamation that utilizes pyrolysis technology (low oxygen thermal destruction) to process several waste streams that include plastic, cardboard, paper, metal cans, medical and sanitary, liquid oil, sewage sludge and food waste in a single waste management machine. Key benefits of pyrolysis over competing technologies include that it requires very little input to operate, has the ability to export energy, and requires minimal water to cool the system. <i>FY 2011 Accomplishments:</i> Conduct evaluation of hardware at National Training Center (BTC). Conclude FCT evaluations and remove hardware from NTC.	0.531 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	5.599	4.226	2.550	-	2.550

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L39: <i>Field Sustainment Support ED</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• MA7806: <i>Precision Airdrop, OPA</i>	21.282	16.207	5.935		5.935		8.129	9.555	9.128	Continuing	Continuing
3,											
• 643804 K39: <i>Field Sustainment Support AD,</i>	18.237	2.998	2.970		2.970		3.571	3.107	3.159	Continuing	Continuing
• 643804 VR8: <i>Combat Service Support Systems AD,</i>		2.074	2.023		2.023		2.039	2.375	2.415	Continuing	Continuing
• 654804 VR7: <i>Combat Service Support Systems,</i>		2.544	1.745		1.745		1.708	1.883	1.915	Continuing	Continuing

D. Acquisition Strategy

Accelerate product development and testing to transition into production.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L39: <i>Field Sustainment Support ED</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Support	Various	PM FSS, Natick:Natick, MA	1.823	0.370		0.400		-		0.400	0.000	2.593	Continuing
Subtotal			1.823	0.370		0.400		-		0.400	0.000	2.593	

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	PM FSS, Natick:Various	3.867	-		-		-		-	0.000	3.867	0.000
ALVADS-L	Various	Various:Various	14.003	-		0.400		-		0.400	0.000	14.403	Continuing
JPADS P3I	Various	Various:Various	5.270	0.500		-		-		-	0.000	5.770	Continuing
LCADS P3I efforts	Various	Various:Various	0.750	0.200		-		-		-	0.000	0.950	Continuing
Subtotal			23.890	0.700		0.400		-		0.400	0.000	24.990	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	Yuma Proving Ground (YPG), AZ, AEC:AZ	9.079	0.800		-		-		-	0.000	9.879	Continuing
JPADS P3I	Various	Yuma Proving Ground, AZ:Yuma, AZ	-	0.500		-		-		-	0.000	0.500	0.000
JPADS 10K OT	Various	GSA:GSA	0.108	0.960		-		-		-	0.000	1.068	Continuing
ACPRS	Various	Yuma Proving Ground, AZ:Yuma, AZ	-	-		0.500		-		0.500	0.000	0.500	0.000
ALVADS-L	Various	YPG, AZ/ OTC, NC:YPG, AZ/ OTC, NC	2.642	0.896		1.250		-		1.250	0.000	4.788	Continuing
Subtotal			11.829	3.156		1.750		-		1.750	0.000	16.735	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>				PROJECT L39: <i>Field Sustainment Support ED</i>				
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	37.542	4.226		2.550		-		2.550	0.000	44.318	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L39: <i>Field Sustainment Support ED</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Milestone C (MS C) Joint Precision Airdrop System (JPADS) 10K							■																					
Operational Testing (OT) on JPADS 10 K			■																									
Milestone C on Advanced Cargo Parachute Release System (ACPRS)											■																	
Milestone C (MS C) on Helicopter External/Internal Cargo Delivery																												■
Complete Advanced Low Velocity Airdrop System-Light (ALVADS-L) MS C																				■								
Conduct Developmental Testing/Operational Testing DT/OT on ALVADS-L												■																
Conduct OT on ALVADS Rapid Rigging/ Derigging Airdrop System																■												
Conduct Milestone C on ALVADS Rapid Rigging/ Derigging Airdrop System																				■								
Conduct Developmental Testing (DT) on JPADS 10K		■																										
Obtain Milestone C for Space Heater Convective 90K British Thermal Unit per Hou								■																				
Conduct Developmental Testing/Operational Testing (DT/OT) on ALVADS-H																								■				
Execute JPADS P3I Efforts				■																								
Conduct Design Validation ALVADS-L											■																	
Conduct follow on testing ACPRS P3I											■																	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L39: <i>Field Sustainment Support ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Milestone C (MS C) Joint Precision Airdrop System (JPADS) 10K	3	2012	3	2012
Operational Testing (OT) on JPADS 10 K	3	2011	1	2012
Milestone C on Advanced Cargo Parachute Release System (ACPRS)	1	2013	1	2013
Milestone C (MS C) on Helicopter External/Internal Cargo Delivery	3	2017	3	2017
Complete Advanced Low Velocity Airdrop System-Light (ALVADS-L) MS C	4	2015	4	2015
Conduct Developmental Testing/Operational Testing DT/OT on ALVADS-L	4	2013	1	2015
Conduct OT on ALVADS Rapid Rigging/Derigging Airdrop System	1	2015	2	2015
Conduct Milestone C on ALVADS Rapid Rigging/Derigging Airdrop System	4	2015	4	2015
Conduct Developmental Testing (DT) on JPADS 10K	2	2011	3	2011
Obtain Milestone C for Space Heater Convective 90K British Thermal Unit per Hou	4	2012	4	2012
Conduct Developmental Testing/Operational Testing (DT/OT) on ALVADS-H	3	2016	2	2017
Execute JPADS P3I Efforts	1	2012	4	2012
Conduct Design Validation ALVADS-L	1	2013	3	2013
Conduct follow on testing ACPRS P3I	1	2013	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>				PROJECT L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>	2.636	2.077	3.839	-	3.839	3.601	3.615	3.726	3.789	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Integrate product improvements and conduct system level testing and evaluation.	0.525	0.314	0.250	-	0.250
Articles:	0	0			
Description: Funding is provided for the following effort					
FY 2011 Accomplishments: Integrate product improvements and conduct system level testing and evaluation of improved Tactical Water Purification System (TWPS) and Lightweight Water Purification system (LWP) and Reverse Osmosis Water Purification Unit (ROWPU), Load Handling System Water Tank Rack (HIPPO) system and the Unit Water Pod (Camel II) system. Based on component testing results, perform engineering integration analysis and system design to incorporate in-line water quality monitoring and perform technical and operational testing on TWPS, LWPs and ROWPUs. Perform engineering integration analysis and system design to incorporate chlorine dosing and control into the Hippo system and Unit Water Pod System (Camel II) system and conduct technical and operational testing. Prepare technical data to incorporate improved components into production units and to support system modernization through spares.					
FY 2012 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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<p>Continue integration of product improvements and conduct system level testing and evaluation of improved Tactical Water Purification System (TWPS) and Lightweight Water Purification system (LWP) and Reverse Osmosis Water Purification Unit (ROWPU), Load Handling System Water Tank Rack (HIPPO) system and the Unit Water Pod (Camel II) system. Based on component testing results, perform engineering integration analysis and system design to incorporate in-line water quality monitoring and perform technical and operational testing on TWPS, LWPs and ROWPUs. Prepare technical data to incorporate improved components into production units and to support system modernization through spares.</p> <p>FY 2013 Base Plans: Continue integration of product improvements and conduct system level testing and evaluation of improved Tactical Water Purification System (TWPS) and Lightweight Water Purification system (LWP) and Reverse Osmosis Water Purification Unit (ROWPU), Load Handling System Water Tank Rack (HIPPO) system and the Unit Water Pod (Camel II) system. Based on component testing results, perform engineering integration analysis and system design to incorporate in-line water quality monitoring and perform technical and operational testing on TWPS, LWPs and ROWPUs. Prepare technical data to incorporate improved components into production units and to support system modernization through spares.</p>					
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<p>Title: Fuel System Supply Point (FSSP).</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Continue improvements for the Family of Fuel System Supply Points (FSSPs).</p> <p>FY 2013 Base Plans: Address the Army's capability gap for automated gauging to capture fuel quantities in collapsible tanks in the Fuel System Supply Point (FSSP). This includes the development of a data device that will transmit and store the data internally and externally to higher command.</p>	0.700 0	-	0.624	-	0.624
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<p>Title: 3 K Tactical Water Purification System (TWPS).</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2013 Base Plans:</p>	-	-	0.535	-	0.535
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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>		PROJECT L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Hold Milestone B Decision review and Fabricate full size 3K Tactical Water Purification System (TWPS) prototype.					
<p>Title: Integration of component level improvements at the system level for the Fuel System Supply Point (FSSP). Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Integration of component level improvements at the system level for the Fuel System Supply Point (FSSP). Reliability and limited user testing. Preparation of component level performance based specifications</p> <p>FY 2013 Base Plans: The Fuel System Supply Points (FSSP) has two different pumps, the 350 Gallon Per Minute (GPM) and the 600 GPM . These pumps will be replaced with one common pump to provide commonality across the fleet. Build the common pump prototypes for testing and finalize the technical manuals and technical data package (drawing package). The technical data package will allow the Army to competitively procure the common pump in the future.</p>	0.403 0	-	0.700	-	0.700
<p>Title: Introduction of new technologies to enhance the Petroleum Quality Analysis System (PQAS). Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Introduction of new technologies to enhance the Petroleum Quality Analysis System (PQAS). Market surveys and component testing.</p>	0.228 0	-	-	-	-
<p>Title: Future Water Storage and Distribution Water Packaging System (EWPS). Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Develop Future Water Storage and Distribution Water Packaging Systems. Test commercial systems and prepare draft Purchase Description (PD).</p> <p>FY 2012 Plans:</p>	0.780 0	0.600 0	0.524	-	0.524

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army				DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>		PROJECT L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
Continue development of Expeditionary Water Packaging System (EWPS). Test automated EWPS and finalize Purchase Description (PD) and prepare Request for Proposal (RFP).						
FY 2013 Base Plans: Prepare Milestone C decision documents and prepare for review.						
Title: Modular Tactical Refueling System (MTRS)						
Articles:						
Description: Funding is provided for the following effort.						
FY 2012 Plans: Test and evaluation of the Modular Tactical Refueling System (MTRS).						
FY 2013 Base Plans: The Capability Production Document (CPD) for the Modular Tactical Refueling System (MTRS) was sent out for worldwide staffing. Assemble two prototype systems for testing, finalize the technical manuals and technical data package (drawing package) . The technical data package will allow the Army to competitively procure the MTRS in the future.						
Title: Testing the Modular Fuel System (MFS).						
Articles:						
Description: Funding is provided for the following effort						
FY 2012 Plans: Initial Operational test and evaluation of the Modular Fuel system (MFS) pump rack module (PRM) .						
Title: Camel II (800 gallon watertank)						
Description: Perform operational testing on Camel II prototypes						
FY 2013 Base Plans: Perform operational testing on Camel II prototypes.						
Accomplishments/Planned Programs Subtotals						
		2.636	2.077	3.839	-	3.839

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0603804/K41: <i>RDTE, Logistics and Engineer Equipment - Advanced Development</i>	2.493	4.187	2.706		2.706		3.104	2.972	3.022	Continuing	Continuing
• R05600: <i>OPA 3, Water Purification Systems</i>	15.683									0.000	15.683
• MA6000: <i>OPA 3, Distribution Systems, Petroleum & Water</i>	230.174	75.457	36.266	2.119	38.385		93.778	87.714	75.551	Continuing	Continuing

D. Acquisition Strategy

Not applicable for this item.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Advanced Petroleum Test Kit (PTK)	RO	TARDEC:Warren, MI	0.330	-		-		-		-	0.000	0.330	0.000
Water Purification Systems Improvements	Various	TARDEC:TARDEC Warren, MI	0.124	0.060		0.125		-		0.125	0.000	0.309	Continuing
FSSP Improvements	Various	TBD:TARDEC, Warren, MI	2.211	-		0.824		-		0.824	0.000	3.035	Continuing
Water Purification Systems Improvements	Various	TBD:TBD	0.101	0.054		0.025		-		0.025	0.000	0.180	Continuing
Expeditionary Water Packaging System (EWPS)	Various	TARDEC:TARDEC Warren, MI	0.150	0.400		0.424		-		0.424	0.000	0.974	Continuing
Petroleum Quality Analysis System (PQAS-E)	MIPR	TARDEC:TARDEC Warren, MI	0.814	-		-		-		-	0.000	0.814	Continuing
3K Tactical Water Purification System (TWPS)	Various	NFESC:Pt. Huneme, CA	-	-		0.200		-		0.200	0.000	0.200	Continuing
3K Tactical Water Purification System (TWPS)	MIPR	TARDEC:Warren, MI	-	-		0.335		-		0.335	0.000	0.335	0.000
Modular Tactical Refueling System (MTRS)	MIPR	TARDEC:Warren, MI	-	0.300		0.200		-		0.200	0.000	0.500	0.000
Subtotal			3.730	0.814		2.133		-		2.133	0.000	6.677	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Fuel System Supply Point (FSSP)	Various	TARDEC:Warren, MI	0.122	-		-		-		-	0.000	0.122	Continuing
Water Purification Systems Improvements	Various	TARDEC:Warren, MI	-	-		0.100		-		0.100	0.000	0.100	Continuing
Subtotal			0.122	-		0.100		-		0.100	0.000	0.222	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete			
Modular Fuel System	Various	Yuma Proving Ground:YPG, AZ	-	0.600		-		-		-	0.000	0.600	Continuing	
Fuel System Supply Point (FSSP)	MIPR	Yuma:Yuma Proving Ground, AZ	-	-		0.500		-		0.500	0.000	0.500	Continuing	
Water Purification Improvements	Various	TARDEC:Warren, MI	0.265	0.100		-		-		-	0.000	0.365	Continuing	
Water Purification Improvements	Various	NFESC:Port Hueneme, CA	0.626	0.100		-		-		-	0.000	0.726	Continuing	
Water Packaging System	Various	Aberdeen Proving Ground:APG, MD	0.630	0.200		0.100		-		0.100	0.000	0.930	Continuing	
Camel II	MIPR	Yuma Proving Ground:YPG, AZ	-	-		0.506		-		0.506	0.000	0.506	0.000	
Modular Tactical Refueling System (MTRS)	Various	Yuma:Yuma Proving Ground, AZ	-	0.263		0.500		-		0.500	0.000	0.763	Continuing	
Subtotal			1.521	1.263		1.606		-		1.606	0.000	4.390		
Project Cost Totals			5.373	2.077		3.839		-		3.839	0.000	11.289		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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				
Family of Fuel System Supply Points (FSSPs): Performance of common pumps																																
Evaluate Improvements to Water Purification and Distribution Systems																																
Bulk Fuel Distribution System																																
Modular Tactical Refueling System (MTRS)																																
3K Tactical Water Purification System (TWPS)																																
Water Quality Monitoring																																
Unit Water Pod (Camel II)																																
Small Unit Water Purifier																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L41: <i>WATER AND PETROLEUM DISTRIBUTION - ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Family of Fuel System Supply Points (FSSPs): Performance of common pumps	1	2012	4	2015
Evaluate Improvements to Water Purification and Distribution Systems	1	2012	4	2017
Bulk Fuel Distribution System	1	2015	1	2016
Modular Tactical Refueling System (MTRS)	1	2013	4	2014
3K Tactical Water Purification System (TWPS)	2	2013	2	2016
Water Quality Monitoring	1	2016	4	2017
Unit Water Pod (Camel II)	2	2013	3	2013
Small Unit Water Purifier	4	2014	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>				PROJECT L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>	0.842	1.095	1.916	-	1.916	1.180	1.170	1.287	1.534	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This project supports development, demonstration, testing and evaluation within the Engineering Support Equipment arena for the Hydraulic Electric Pneumatic Petroleum Operated Equipment (HEPPOE), Surveying, Firefighting Individual Requirements Equipment Support (FIRES), Concrete and Masonry, Electricians, Plumbers, Pipefitters, Field Lighting Sets, Diving Equipment, Surface Swimmer Support Sets, Surface Supplied Diving Set, procurement of new Technical Tools, Pioneer Support Set, and the Pioneer Land Clearing and Building Erection Set. Funding will support the procurement of market samples and testing for Hazard ID & Marking, Pioneer Light Field Engineering, Deep Sea Set, Underwater Construction Set, Closed Circuit Scuba Set, the Family of Diving Air Compressors, Diver Propulsion Systems, Vertical Skills Engineer Construction Kit (VSECK), Family of Detainee Processing Evidence Collection Kit, Fire Protection Equipment (FPE) and Assault Boats and Outboard Motors. Efforts will also involve modernization of the Swimmer Support Sets and Individual Swimmer Support Sets as well as existing Sets, Kits, and Outfits (SKOs).

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Document Development	0.125	0.045	0.050	-	0.050
Articles:	0	0			
Description: Development of various capabilities documents and other documents					
FY 2011 Accomplishments: Coordinate to have Initial Capabilities Documents (ICDs), Capability Development Documents (CDDs), and Capabilities Production Documents (CPDs) written for various programs					
FY 2012 Plans: Coordinate to have ICDs, CDDs, and CPDs written for various programs					
FY 2013 Base Plans: Continue development of ICDs, CDDs, and CPDs for various programs					
Title: Underwater Construction Sets	0.143	0.250	0.350	-	0.350

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p align="right">Articles:</p> <p>Description: Research, Development, and Testing of Underwater Construction Sets</p> <p>FY 2011 Accomplishments: Conduct market research on Underwater Construction Sets</p> <p>FY 2012 Plans: Procurement of Underwater Construction Set test articles</p> <p>FY 2013 Base Plans: Procure and test Underwater Construction Set articles</p>	0	0			
<p align="right">Articles:</p> <p>Title: Soldier Portable Sets and Support Equipment</p> <p>Description: Procure and test Soldier Portable Set market samples and Support Equipment</p> <p>FY 2011 Accomplishments: Procure market samples for the testing and evaluation of Surveying, Individual Firefighter Support, Concrete & Masonry, Electricians, Plumbers, Pipefitters, Field Lighting, Power Plant Installation, and other Soldier Portable Sets and Support Equipment</p>	0.343 0	-	-	-	-
<p align="right">Articles:</p> <p>Title: Air Compressors for the Diving Program</p> <p>Description: Air Compressors for the Diving Program</p> <p>FY 2012 Plans: Procurement of air compressor test articles</p>	-	0.175 0	-	-	-
<p align="right">Articles:</p> <p>Title: Fire Protection Equipment (FPE)</p> <p>Description: Fire Protection Equipment</p> <p>FY 2012 Plans:</p>	-	0.118 0	0.170	-	0.170

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Procure FPE items FY 2013 Base Plans: Procure Type II and Type III FPE items					
Title: Deep Sea Set Articles: Description: Development of the Deep Sea Set FY 2011 Accomplishments: Continue the redevelopment of state of the art Deep Sea Set based on the latest technology (Life Support Equipment) FY 2013 Base Plans: Create Computer Model of existing set /add enhancements to model /develop TDP in support of make-or-buy decision	0.175 0	-	0.221	-	0.221
Title: Soldier Portable/Shelter Mounted Sets, Kits, and Outfits (SKOs) Articles: Description: Modernization Analysis for modularity of Soldier Portable/Shelter Mounted Sets, Kits, and Outfits FY 2011 Accomplishments: Modernization Analysis for modularity of Soldier Portable/Shelter Mounted Sets, Kits, and Outfits to determine the feasibility of upgrading/combining sets	0.056 0	-	-	-	-
Title: Assault Boats and Outboard Motors Articles: Description: Development of various Assault Boats and Outboard Motors FY 2012 Plans: Procurement of Assault Boats and Outboard Motors test articles FY 2013 Base Plans: Testing of 7-man and 15-man boats and testing of motors	-	0.160 0	0.625	-	0.625
Title: Engineering and Quality Assurance	-	0.223	0.300	-	0.300

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p align="right">Articles:</p> <p>Description: Engineering and Quality Assurance of engineering SKOs</p> <p>FY 2012 Plans: Engineering and Quality Assurance dedicated to the development and quality of Assault Boats, Outboard Motors, Diving Equipment, and other engineering sets</p> <p>FY 2013 Base Plans: Engineering and Quality Assurance dedicated to the development and quality of Assault Boats, Outboard Motors, Diving Equipment, Soldier Portable, Firefighting and other engineering sets</p>		0			
<p>Title: Vertical Skills Engineer Construction Kit (VSECK)</p> <p align="right">Articles:</p> <p>Description: Research, Development, and Testing of Vertical Skills Engineer Construction Kit (VSECK)</p> <p>FY 2012 Plans: Purchase and analysis of VSECK market samples</p> <p>FY 2013 Base Plans: Procure and test VSECK</p>	-	0.020 0	0.125	-	0.125
<p>Title: Detainee Kit</p> <p align="right">Articles:</p> <p>Description: Research, Development, and Testing of Detainee Kit</p> <p>FY 2012 Plans: Purchase and analysis of Detainee Kit market samples</p> <p>FY 2013 Base Plans: Procure and test Detainee Kits</p>	-	0.044 0	0.075	-	0.075
<p>Title: Diver Propulsion System</p> <p align="right">Articles:</p> <p>Description: Purchase of Diver Propulsion Systems</p>	-	0.060 0	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<i>FY 2012 Plans:</i> Purchase Diver Propulsion test articles					
Accomplishments/Planned Programs Subtotals	0.842	1.095	1.916	-	1.916

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPA 3 ML5301: <i>OPA 3 ML5301, Items Less than \$5.0M (Engineering Support)</i>	31.243	12.482	14.093		14.093		8.775	4.365	4.641	Continuing	Continuing
• OPA 3 R70110: <i>OPA 3 R70110, Hydraulic Electric Pneumatic Petroleum Operated Equipment (HEPPOE)</i>		28.949	5.889		5.889		7.620	7.614	7.617	Continuing	Continuing
• OPA 3 R70120: <i>OPA 3 R70120, Urban Operations, Platoon Set</i>		13.760	13.434		13.434		20.977	21.096	21.262	Continuing	Continuing
• OPA 3 R70130: <i>OPA 3 R70130, Urban Operations, Squad Set</i>		11.481	12.250		12.250		21.463	21.439	22.288	Continuing	Continuing

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

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Surface Supplied Diving Set and Deep Sea Set	C/FP	PM SKOT/ECBC/TBS: (IL, MI, TBS)	0.296	-		-		-		-	Continuing	Continuing	Continuing
Underwater Construction Set market research and purchase of test articles	C/FP	PM SKOT/Edgewood Chemical and Biological Center (ECBC)/TBS:(IL, MI, TBS)	0.143	0.200		0.250		-		0.250	Continuing	Continuing	Continuing
Market Samples of Soldier Portable Sets and Support Equipment	SS/FP	PM SKOT:Harrison, MI	0.586	-		-		-		-	Continuing	Continuing	Continuing
Assault Boats and Outboard Motors test articles	C/FP	TBS:TBS	-	0.160		-		-		-	Continuing	Continuing	Continuing
Market Samples for Detainee Kit	C/FP	PM SKOT:Harrison, MI	-	0.044		0.050		-		0.050	Continuing	Continuing	Continuing
Market Samples of Vertical Skills Engineer Construction Kit (VSECK)	C/FP	PM SKOT:Harrison, MI	-	0.020		0.100		-		0.100	Continuing	Continuing	Continuing
Deep Sea Set Computer Modeling and TDP Development	MIPR	ECBC:Rock Island, IL	-	-		0.221		-		0.221	Continuing	Continuing	Continuing
Procure Fire Protection Equipment (Type I, II and III)	C/FP	PM SKOT:Harrison, MI	-	0.118		0.170		-		0.170	Continuing	Continuing	Continuing
Diver Propulsion System Market Samples	C/FP	Patriot 3 Maritime:Fredericksburg, VA	-	0.060		-		-		-	Continuing	Continuing	Continuing
XLDS	SS/FP	TBS:TBS	-	0.050		-		-		-	0.000	0.050	0.000
Develop Air Compressors for Diving Program	C/FP	TBS:TBS	-	0.175		-		-		-	Continuing	Continuing	Continuing
Subtotal			1.025	0.827		0.791		-		0.791			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Modernization Analyses for modularity of Soldier Portable/ Shelter Mounted SKOs	SS/FP	Armament Research Development and Engineering Center (ARDEC):Rock Island, IL	0.056	-		-		-		-	Continuing	Continuing	Continuing
Engineering Support Equipment Configuration Analyses and document development support	MIPR	Combined Arms Support Command (CASCOM)/ Maneuver Support Center (MANSCEN):(VA, MO)	0.125	0.045		0.050		-		0.050	Continuing	Continuing	Continuing
Engineering and Quality Assurance of engineering SKOs (Soldier Portable)	MIPR	ECBC/ARDEC:Rock Island, IL	-	0.123		0.200		-		0.200	Continuing	Continuing	Continuing
Engineering and Quality Assurance (Boats and Motors)	MIPR	ECBC:Rock Island, IL	-	0.100		0.100		-		0.100	Continuing	Continuing	Continuing
Subtotal			0.181	0.268		0.350		-		0.350			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Redevelopment and testing of state of the art Deep Sea Set	MIPR	PM SKOT/ECBC:Rock Island, IL	0.375	-		-		-		-	Continuing	Continuing	Continuing
Underwater Construction Test	C/FP	Navy/ PM SKOT:FL, MI	-	-		0.100		-		0.100	Continuing	Continuing	Continuing
Testing of Boats and Motors	MIPR	NAVSEA:VA	-	-		0.625		-		0.625	Continuing	Continuing	Continuing
Testing of Soldier Portable Sets	MIPR	ECBC/ATEC:IL, VA	-	-		0.050		-		0.050	Continuing	Continuing	Continuing
Subtotal			0.375	-		0.775		-		0.775			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			1.581	1.095		1.916		-		1.916			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army						DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>			PROJECT L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>		
	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Design, develop, build, and test Underwater Construction and Deep Sea Sets	[REDACTED]																											
Procurement of test articles and testing of Assault Boats & Outboard Motors	[REDACTED]																											
Procurement of test articles & testing of Soldier Portable Sets & Support Equip	[REDACTED]																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Design, develop, build, and test Underwater Construction and Deep Sea Sets	2	2011	4	2013
Procurement of test articles and testing of Assault Boats & Outboard Motors	2	2012	4	2015
Procurement of test articles & testing of Soldier Portable Sets & Support Equip	2	2013	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>				PROJECT L46: <i>Maintenance Support Equipment</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L46: <i>Maintenance Support Equipment</i>	3.066	3.162	3.697	-	3.697	1.674	1.780	1.799	1.829	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

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

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Develop the Next Generation Shop Equipment Welding (SEW)	-	-	0.900	-	0.900
Description: Design, Build, and Test the Next Generation SEW, incorporating new technology and a new platform					
FY 2013 Base Plans: Concept design and development of the Next Generation SEW on a new platform					
Title: Develop Next Generation Standard Automotive Tool Set (SATS)	-	-	0.403	-	0.403
Description: Design, Develop, Build, and Test SATS Future Field Modules					
FY 2013 Base Plans: Procure Next Generation SATS prototypes					
Title: Metalworking & Machining Shop Set (MWMSS)	2.446	0.175	0.100	-	0.100
Articles:	0	0			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L46: <i>Maintenance Support Equipment</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Description: Design, Develop, Build, and Test Metalworking & Machining Shop Set (MWMSS) configurations</p> <p>FY 2011 Accomplishments: Test MWMSS and Develop Technical Manuals (TMs)</p> <p>FY 2012 Plans: Additional Testing of MWMSS</p> <p>FY 2013 Base Plans: Additional Testing/Re-testing MWMSS</p>					
<p>Title: Shop Equipment, Shelters, Truck/Trailer Transported</p> <p align="right">Articles:</p> <p>Description: Modernization / Redesign efforts of truck/trailer transported shelters for next generation of vehicles</p> <p>FY 2012 Plans: Purchase of a next generation vehicle chassis, and integration and testing of the next generation vehicle platform variant</p> <p>FY 2013 Base Plans: Modernization and development efforts of truck/trailer transported shelters for next generation of vehicles, to include the Shop Equipment Contact Maintenance (SECM) tool load and other vehicle-mounted maintenance SKOs</p>	-	0.300 0	0.389	-	0.389
<p>Title: Support for Requirements Generation</p> <p align="right">Articles:</p> <p>Description: Support for requirements generation of future SKOs</p> <p>FY 2011 Accomplishments: Document development support for future requirements SKOs</p> <p>FY 2012 Plans: Document development support for future requirements</p> <p>FY 2013 Base Plans:</p>	0.190 0	0.122 0	0.125	-	0.125

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L46: <i>Maintenance Support Equipment</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Document development supporting future requirements SKOs						
Title: Rapid Deployment SKOs						
Description: Develop Rapid Deployment Sets, Kits, and Outfits (SKOs) - Special Tool Initiative and support to Mine Resistance Ambush Protection (MRAP) and other vehicles						
FY 2013 Base Plans: Develop and test various Soldier Portable Tool Kits based on the maintenance requirements of current and future platforms.						
Title: Engineering and Quality Assurance						
	Articles:	0.380 0	0.500 0	0.450	-	0.450
Description: Engineering and Quality Assurance in support of SKOs						
FY 2011 Accomplishments: Engineering and Quality Assurance dedicated to the development and quality of maintenance SKOs						
FY 2012 Plans: Engineering and Quality Assurance of the Armament Shop Set (ARSS), Special Tool Sets, and other maintenance SKOs						
FY 2013 Base Plans: Engineering and Quality Assurance dedicated to the development and quality of maintenance SKOs						
Title: Armament Shop Set (ARSS)						
	Articles:	0.050 0	2.065 0	1.055	-	1.055
Description: Armament Shop Set upgrades						
FY 2011 Accomplishments: Market Research and modeling/simulation for the ARSS						
FY 2012 Plans: Purchase of ARSS prototypes						
FY 2013 Base Plans:						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L46: <i>Maintenance Support Equipment</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Test of ARSS prototypes and development of Technical Manuals					
Accomplishments/Planned Programs Subtotals	3.066	3.162	3.697	-	3.697

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPA 3 M61500: <i>OPA 3 M61500, Shop Equipment, Contact Maintenance (SECM)</i>	30.790	20.428								Continuing	Continuing
• OPA 3 MA9650: <i>OPA 3 MA9650, Standard Automotive Tool Set (SATS)</i>	66.295	8.377					3.585	3.608		Continuing	Continuing
• OPA 3 ML5345: <i>OPA 3 ML5345, Items Less Than \$5.0M (MAINTENANCE EQUIPMENT)</i>	3.682	3.852	0.000	0.030	0.030		3.861	3.858	3.859	Continuing	Continuing
• OPA 3 G05302: <i>OPA 3 G05302, Forward Repair System (FRS)</i>	59.790	8.376								0.000	68.166
• OPA 3 G39200: <i>OPA 3 G39200, Hydraulic Systems Test and Repair Unit (HSTRU)</i>	23.718	4.520	2.495	0.428	2.923		1.631	2.064	2.173	Continuing	Continuing
• OPA 3 G05315: <i>OPA 3 G05315, Metalworking and Machining Shop Set (MWMSS)</i>							15.239	15.228	15.233	Continuing	Continuing

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

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L46: <i>Maintenance Support Equipment</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Maintenance Support Equipment Life Cycle Configuration Analyses and ICD Development Support	MIPR	PM SKOT/ Army Test & Evaluation Command (ATEC)/ Combined Arms Support Command (CASCOM):(IL, MI, MD, VA)	1.431	-		-		-		-	Continuing	Continuing	Continuing
Next Generation Shop Equipment Welding (SEW) concept design and development	MIPR	ECBC:Rock Island, IL	-	-		0.900		-		0.900	Continuing	Continuing	Continuing
Modernization/Redesign efforts of Truck/Trailer transported shelters for next generation vehicles	MIPR	ECBC:Rock Island, IL	-	0.300		0.389		-		0.389	Continuing	Continuing	Continuing
Expedited Modernization Initiative Procedure (EMIP) Procurement of new Technical Tools	SS/FP	Multiple CONUS:(GA, CA, IL, WI, MI)	0.012	-		-		-		-	Continuing	Continuing	Continuing
Develop Rapid Deployment Sets, Kits, & Outfits - Special Tool Initiative. Joint Aviation Tool Set	MIPR	ECBC:Rock Island, IL	0.100	-		0.150		-		0.150	Continuing	Continuing	Continuing
Armament Repair Shop Set (ARSS) market research and prototypes	MIPR	ECBC-PIF:Edgewood, MD	0.050	2.065		-		-		-	Continuing	Continuing	Continuing
Subtotal			1.593	2.365		1.439		-		1.439			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Life Cycle Configuration Analyses & Support to Initial	MIPR	PM SKOT Rock Island/ CASCOM /	0.496	0.122		0.125		-		0.125	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L46: <i>Maintenance Support Equipment</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Capabilities Document Development		Maneuver Support Center (MANSCEN):(IL, VA, MO)											
Modernization of Tool Loads based on Field Feedback	MIPR	PM SKOT:Harrison, MI	0.300	-		-		-		-	Continuing	Continuing	Continuing
Engineer and Quality Assurance in support of SKOs	MIPR	ECBC / ARDEC / PM SKOT:(IL, MI)	0.578	0.500		0.450		-		0.450	Continuing	Continuing	Continuing
Subtotal			1.374	0.622		0.575		-		0.575			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Special Tool Kits	MIPR	ECBC / ATEC:(IL, MD)	-	-		0.125		-		0.125	Continuing	Continuing	Continuing
Testing of the Metalworking & Machining Shop Set (MWMSS)	MIPR	ATEC:Aberdeen, MD	2.446	0.175		0.100		-		0.100	Continuing	Continuing	Continuing
Test Armament Repair Shop Set (ARSS)	MIPR	ATEC:Aberdeen, MD	-	-		1.055		-		1.055	Continuing	Continuing	Continuing
Further develop SATS Field Maintenance Module & viability of adding Load Handling System capability	MIPR	PM SKOT:Harrison, MI	0.263	-		0.403		-		0.403	Continuing	Continuing	Continuing
Subtotal			2.709	0.175		1.683		-		1.683			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			5.676	3.162		3.697		-		3.697			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L46: <i>Maintenance Support Equipment</i>

FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Design, Develop, Build and Test Armament Repair Shop Set (ARSS)	[REDACTED]																											
Joint Modular Intermodal Containerizing of Soldier Portable & Special Tools Sets	[REDACTED]																[REDACTED]											

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L46: <i>Maintenance Support Equipment</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Design, Develop, Build and Test Armament Repair Shop Set (ARSS)	2	2011	4	2015
Joint Modular Intermodal Containerizing of Soldier Portable & Special Tools Sets	1	2015	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>	4.381	-	2.976	-	2.976	2.968	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Improved Environmental Control Units (IECU) program will provide a new generation of ECUs that use environmentally approved refrigerants, with zero ozone-depleting chemicals (ODCs) to replace the current Military Standard (MIL-STD) Family of Environmental Control Units (ECUs). The IECUs will provide improved cooling, heating, and dehumidification to soldiers and materiel systems in combat, combat support and combat service support units. The IECUs are required to replace currently fielded environmental control units in order to comply with statutory and regulatory restrictions on the use of Class II ODCs and to improve the performance of military ECUs. They are form, fit and function replacements to the current MIL-STD ECUs. Technical improvements over existing military-standard ECUs will yield significant fuel and weight savings, reduction in scheduled maintenance, and increased reliability. 9,18, and 36K BTU/H IECUs: The 9,18 and 36K BTU/H IECUs will be a replacement for the current MIL-STD-ECU variants. The new family of IECUs will utilize a new refrigerant which complies with mandated EPA (Environmental Protection Agency) requirements (non-global warming). FY13 funds Engineering and Manufacturing Development (EMD) Phase activities for the 120k IECU which will enable cooling of larger shelters and structures, and may be used to cool multiple tents with one unit. This program has no FY12 RDTE request. There is no current MIL-STD unit in this size.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Concept and Technology Development	2.881	-	-	-	-
Articles:	0				
Description: Funding is provided for the following effort					
FY 2011 Accomplishments:					
Continue Concept and Technology Development, analysis, and assessments for 120K BTUH ECU efforts, as well as evaluation of emerging technologies					
Title: EMD for the 9,18, and 36K IECUs and 120K IECU.	1.500	-	2.976	-	2.976
Articles:	0				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Funding is provided for the following effort					
FY 2011 Accomplishments: Continue EMD for the 9, 18 and 36K IECUs.					
FY 2013 Base Plans: Begin EMD for the 120K IECU					
Accomplishments/Planned Programs Subtotals	4.381	-	2.976	-	2.976

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• MF9303: <i>OPA 3, Improved Environmental Control Units , MF9303</i>	11.389	10.109	10.689		10.689		22.351	24.321	25.671	Continuing	Continuing

D. Acquisition Strategy
Complete Engineering and Manufacturing Development (EMD) for the 9/18/36K IECU variants and transition to production. Begin EMD for 120K IECU which will be acquired in a single-contract, single-contractor, dual-phase approach, via a CPFF 2 year EMD contract, with FFP options for production quantities over a 5 year delivery period.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
9,18 and 36K IECU	Various	PM-MEP:various	1.124	-		-		-		-	0.000	1.124	Continuing
120K IECU	Various	PM-MEP:Various	-	-		0.532		-		0.532	Continuing	Continuing	0.000
SBIR/STTR	Various	various:various	0.137	-		-		-		-	0.000	0.137	0.000
Subtotal			1.261	-		0.532		-		0.532			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
9, 18 and 36K IECU	C/CPFF	Mainstream Engineering:Vero Beach, FL	2.064	-		-		-		-	0.000	2.064	Continuing
120K IECU	C/CPFF	TBD:TBD	-	-		2.000		-		2.000	Continuing	Continuing	0.000
Subtotal			2.064	-		2.000		-		2.000			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
9, 18 and 36K IECU	MIPR	CERDEC:Fort Belvoir, VA	1.642	-		-		-		-	0.000	1.642	0.000
Concept & Technology Development	Various	CERDEC:Fort Belvoir, Va	3.507	-		-		-		-	0.000	3.507	0.000
Subtotal			5.149	-		-		-		-	0.000	5.149	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
9,18 and 36K IECU	Various	ATEC:APG, MD	0.300	-		-		-		-	0.000	0.300	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
120K IEU	Various	ATEC:APG, MD	-	-		0.444		-		0.444	0.000	0.444	Continuing
Subtotal			0.300	-		0.444		-		0.444	0.000	0.744	
Project Cost Totals			8.774	-		2.976		-		2.976			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L47: <i>IMPROVED ENVIRONMENTAL CONTROL UNITS ED</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Production Qualification Test																												
Logistics Demonstration																												
Conduct User Evaluation																												
Milestone C/LRIP Decision																												
LRIP/TC Std/FMR Work																												
Full Rate Production Decision																												
120K BTUH IECU																												
Pre-EMD Review																												
Solicitation and Source Selection																												
Milestone B-120K BTUH IECU																												
EMD Phase																												
MS C - 120K BTUH IECU																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

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

Events	Start		End	
	Quarter	Year	Quarter	Year
Production Qualification Test	2	2012	4	2012
Logistics Demonstration	2	2012	4	2012
Conduct User Evaluation	1	2013	2	2013
Milestone C/LRIP Decision	2	2013	2	2013
LRIP/TC Std/FMR Work	2	2013	2	2014
Full Rate Production Decision	2	2014	2	2014
120K BTUH IECU	1	2013	4	2015
Pre-EMD Review	4	2012	4	2012
Solicitation and Source Selection	4	2012	2	2013
Milestone B-120K BTUH IECU	2	2013	2	2013
EMD Phase	2	2013	1	2015
MS C - 120K BTUH IECU	1	2015	1	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>	-	87.217	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Transition of funding from PE 0604804A, Project L50 to PE 0605812A, Project VU9 occurs in FY 2013 and outyears.
FY 2008 - FY 2011 funding for the Joint Light Tactical Vehicles (JLTV) program is under Program Element (PE) 0603804A, Project L04.

A. Mission Description and Budget Item Justification

Funding supports the development and testing of the Joint Light Tactical Vehicle (JLTV) Family of Vehicles (FoV), which is a joint program between the Army and the Marine Corps. International participation will be offered during the Engineering, Manufacturing and Development (EMD) phase. The JLTV goal is a FoV capable of performing multiple mission roles that will be designed to provide protected, sustained, networked mobility for personnel and payloads across the full range of military operations. JLTV objectives include increased protection and performance over the current fleet; minimizing ownership costs by maximizing commonality, fuel efficiency, reliability, and maintaining effective competition throughout the life cycle. Commonality of components, maintenance procedures, training, etc., between vehicles is expected to be inherent in FoV solutions across mission variants to minimize total ownership cost. Unique service requirements have been minimized.

During FY 2012, major budget activities are based upon an expected January 2012 Capability Development Document (CDD) approval and will support the Source Selection Evaluation Board (SSEB), up to three Engineering and Manufacturing Development (EMD) contracts, hull and ballistic coupon testing, government furnished equipment and program management support. In FY 2012, the program acquisition strategy was revised to address Better Buying Power Initiatives, and reduced the schedule by 15 months to enable a 33-month Non-Developmental Item approach for EMD with Milestone B decision in the third quarter of FY 2012.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Engineering, Manufacturing, and Development (EMD) prototype contract for development and fabrication. Articles:	-	65.610 0	-	-	-
Description: EMD prototype contract.					
FY 2012 Plans: Engineering, Manufacturing, and Development (EMD) contract for prototype development and fabrication, contract source selection board, and costs associated with the successful completion of the EMD phase.					
Title: Joint Light Tactical Vehicles (JLTV) Program Management Support Articles:	-	11.500 0	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Funding is provided for the support of program management government operations.					
FY 2012 Plans: Various costs to provide effort during the Engineering, Manufacturing, and Development (EMD) phase.					
Title: Engineering, Manufacturing, and Developmental Test and Evaluation Articles:	-	1.370 0	-	-	-
Description: Funding is provided for Engineering, Manufacturing, and Development test support to include the start of coupon testing.					
FY 2012 Plans: Engineering, Manufacturing, and Development testing.					
Title: Government Furnished Equipment Articles:	-	8.737 0	-	-	-
Description: Government furnished equipment for Joint Light Tactical Vehicles (JLTV) Engineering, Manufacturing, and Development contract phase.					
FY 2012 Plans: Government furnished equipment for Joint Light Tactical Vehicles (JLTV) Engineering, Manufacturing, and Development contract phase.					
Accomplishments/Planned Programs Subtotals	-	87.217	-	-	-

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PM JLTV PROJECT L04: <i>Joint Light Tactical Vehicles (JLTV), 0603804A, Army RDTE Project L04</i>	36.408									0.000	36.408
• PM JLTV PROJECT VU9: <i>Joint Light Tactical Vehicles (JLTV),</i>			72.295		72.295		31.549	51.924	53.223	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
0605812A, <i>Army RDTE Project VU9</i>											
• PM JLTV PRODUCTION D15603: <i>Joint Light Tactical Vehicles (JLTV), D15603, Army OPA 1</i>							167.408	299.238	516.722	Continuing	Continuing
• PM JLTV PROJECT 3209 0603635M: <i>Marine Corps Ground Combat/Support Systems, RDTE Project 3209 0603635M</i>	18.364	46.866								0.000	65.230
• PM JLTV PROJECT 3209 0605812M: <i>Marine Corps Ground Combat/Support Systems, RDTE Project 3209 0605812M</i>			44.500		44.500		16.000	40.100	44.300	Continuing	Continuing
• PM JLTV PRODUCTION 5095: <i>Marine Corps Ground Combat/Support Systems, Production 5095</i>							24.500	87.300	134.900	Continuing	Continuing

D. Acquisition Strategy

Joint Light Tactical Vehicles (JLTV) is a Joint Services Program with the U.S. Army and Marine Corps as the two main components. In addition, the Navy anticipates procuring JLTV vehicles upon successful Low Rate Initial Production (LRIP) testing. The program will use an evolutionary approach to deliver capabilities in increments based on program priorities. All technologies entering the current Engineering, Manufacturing and Development (EMD) phase shall be no less than Technology Readiness Level 6 to achieve Capabilities Development Document (CDD) requirements.

The program revised the acquisition strategy in the first quarter FY 2012 addressing Better Buying Power Initiatives, and reduced the schedule by 15 months to enable a 33-month Non-Developmental Item approach for EMD with Milestone B in the third quarter FY 2012. This initiative saves \$400.0 million in the Future Years Defense Program (FYDP) for the Services.

Increment I will produce two Mission Role Variant (MRV) configurations (Combat Tactical Vehicle (CTV) and Combat Support Vehicle (CSV)) with mission packages (General Purpose, Heavy Guns Carrier, Close Combat Weapons Carrier, and Utility/Shelter Carrier). EMD vendors will fabricate representative mission packages from both MRVs, which the Government will fully test during the EMD phase. Agreement was reached between the PM and user community to eliminate two mission packages, the Special Purpose (SP) and Command and Control On-The Move (C2OTM) vehicles which integrated WIN-T systems for the Army. Eliminating these

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army DATE: February 2012

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

unique vehicles reduces technical risk and cost of the JLTV EMD effort. It also eliminates duplicate development and relies on the WIN-T program's existing efforts to fund, integrate, and test their capabilities on other vehicles during the JLTV EMD schedule

Through a full and open competition, the program anticipates awarding up to three firm-fixed price contracts for the EMD phase. Unless future market research identifies a valid non-EMD vendor capable of delivering the required capabilities, there will be a down-select from the EMD contractors to enter into the Production and Deployment phase. The down-select will result in a fixed-price type contract with a base LRIP quantity, LRIP options, full-rate production options, and a Technical Data Package option.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Service Support	SS/CPFF	Camber:Huntsville, AL	-	0.200		-		-		-	Continuing	Continuing	0.000
Contract Service Support	SS/CPFF	Booz Allen Hamilton:Ft. Belvoir, VA	-	2.422		-		-		-	Continuing	Continuing	0.000
Contract Service Support	SS/CPFF	US Army Combined Arms Support Commands - CASCOM:Ft. Lee, VA	-	0.200		-		-		-	Continuing	Continuing	0.000
Subtotal			-	2.822		-		-		-			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering and Manufacturing Development Contracts	C/FFP	TBD:Various	-	56.485		-		-		-	Continuing	Continuing	0.000
Subtotal			-	56.485		-		-		-			0.000

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JLTV Program Management	Various	TACOM Life Cycle Management Command (LCMC):Harrison Township, MI	-	11.500		-		-		-	Continuing	Continuing	0.000
JLTV Source Selection Evaluation Board	MIPR	Various:Various	-	0.500		-		-		-	0.000	0.500	0.000
JLTV Program Prototype for Engineering, Manufacturing, and Development Phase	MIPR	Tank Automotive Research, Development, and	-	3.795		-		-		-	Continuing	Continuing	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Engineering Center - TARDEC:Warren, MI											
JLTV Prototype for EMD Phase - Cost and Systems, Legal, Budget, Safety, Security, Contracting	MIPR	TACOM Life Cycle Management Command (LCMC):Warren, MI	-	2.008		-		-		-	Continuing	Continuing	0.000
Government Furnished Equipment	Various	Various:Various	-	8.737		-		-		-	0.000	8.737	0.000
Subtotal			-	26.540		-		-		-			0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JLTV EMD phase test and evaluation - initiation of coupon test	MIPR	TBD:Various	-	1.370		-		-		-	Continuing	Continuing	0.000
Subtotal			-	1.370		-		-		-			0.000

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	87.217		-		-		-				0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Joint Capability Development Document (CDD) Approved																												
Engineering, Manufacturing, and Development (EMD) RFP release																												
Source Selection Evaluation Board (SSEB)																												
MS B																												
EMD Contract Award																												
EMD Development Contract																												
EMD Test and Validation / Report																												
MS C Preparation																												
MS C																												
LRIP Contract Award																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Joint Capability Development Document (CDD) Approved	2	2012	2	2012
Engineering, Manufacturing, and Development (EMD) RFP release	2	2012	2	2012
Source Selection Evaluation Board (SSEB)	2	2012	3	2012
MS B	3	2012	3	2012
EMD Contract Award	3	2012	3	2012
EMD Development Contract	3	2012	4	2014
EMD Test and Validation / Report	4	2012	1	2015
MS C Preparation	2	2014	2	2015
MS C	2	2015	2	2015
LRIP Contract Award	3	2015	3	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>				PROJECT VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>	-	2.544	1.745	-	1.745	1.621	1.708	1.883	1.915	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Human Remains Temperature Controlled Transfer Case (HRTC2)</p> <p align="right">Articles:</p> <p>Description: The HRTC2 is a replacement for the current aluminum case for transporting remains from a theater of operation to CONUS that incorporates insulation and refrigeration to provide optimal temperature control and eliminate use of ice and the need for reicing enroute.</p> <p>FY 2012 Plans: Conduct testing and develop documentation for Milestone C Type Classification.</p> <p>FY 2013 Base Plans: Complete Milestone C and award the production contract.</p>	-	0.600 0	0.600	-	0.600
<p>Title: Modular Ballistic Protection System (MBPS)</p> <p align="right">Articles:</p> <p>Description: MBPS is a lightweight, rapidly deployable and reusable ballistic protection system that can be installed in commonly used military shelters in expeditionary and remote base camps and outposts where more robust forms of ballistic protection (i.e. sandbags, concrete barriers) are not readily available or logistically feasible.</p>	-	0.650 0	0.378	-	0.378

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>		PROJECT VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
FY 2012 Plans: Conduct Operational Testing (OT) on Tent Extendable Modular Personnel (TEMPER) version of the MBPS.					
FY 2013 Base Plans: Conduct OT for MBPS stand-alone variant, prepare for Milestone C and transition to production.					
Title: Family of Space Heaters					
Articles:					
Description: The family of Army Space Heaters support soldiers operating in basic, cold and extreme cold environments with a safe, portable, lightweight, multi-fueled, self-powered, space heaters for use in multiple tents and/or expeditionary shelters that do not require an external power source. These heaters provide the much needed capability of providing heated air effectively and efficiently while eliminating the shortcomings of the antiquated, dangerous and inefficient heaters they are replacing in the inventory.					
FY 2012 Plans: Execute Pre-Planned Product Improvement (P3I) effort on the family of Space Heaters to improve on fuel efficiency					
FY 2013 Base Plans: Complete Developmental and Operational Test on P3I improvements to Army Space Heater and update procurement specification.					
Title: Net-Zero Energy Efficiency Solutions					
Articles:					
Description: Net-Zero Energy Efficiency Solutions reduce the operational energy and logistics footprint of the expeditionary base camp system, with the goal being a significant reduction in fuel, water, and power requirements to sustain operations in the field. Operating a base camp such as Force Provider requires a significant amount of logistics support and also produces an enormous amount of by products, both of which cost money, human effort (that means a risk in the form of soldiers on the road), and represents a potential vulnerability.					
FY 2012 Plans:					
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
	-	0.225 0	0.100	-	0.100
	-	1.069 0	0.667	-	0.667

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Complete Development of Energy Efficiency (E2) shelter kit solutions for Force Provider modules and conduct Developmental Testing (DT)					
<i>FY 2013 Base Plans:</i> Conduct Operational Testing (OT) on Energy Efficiency (E2) shelter kit solutions for Force Provider modules. Obtain full material release of E2 kits and transition into production.					
Accomplishments/Planned Programs Subtotals	-	2.544	1.745	-	1.745

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 643804 K39: <i>Field Sustainment AD,</i>	18.237	2.998	2.970		2.970		3.571	3.107	3.159	Continuing	Continuing
• 643804 VR8: <i>Combat Service Support Systems AD,</i>		2.074	2.023		2.023		2.039	2.375	2.415	Continuing	Continuing
• 654804 L39: <i>Field Sustainment Support ED,</i>	5.599	4.226	2.550		2.550		2.368	2.331	2.269	Continuing	Continuing

D. Acquisition Strategy

Accelerate product development and testing to transition into production.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Support	Various	PM Force Sustainment Systems:Natick, MA	-	0.239		0.162		-		0.162	Continuing	Continuing	0.000
Subtotal			-	0.239		0.162		-		0.162			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	Various:Various	-	1.323		0.897		-		0.897	Continuing	Continuing	0.000
Subtotal			-	1.323		0.897		-		0.897			0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Support Equipment	Various	Various:Various	-	0.982		0.686		-		0.686	Continuing	Continuing	0.000
Subtotal			-	0.982		0.686		-		0.686			0.000

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	2.544		1.745		-		1.745			0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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 DT and OT on HRTC2																												
Obtain Milestone C TC on HRTC2																												
Complete evaluation on Net-Zero energy efficiency solutions																												
Obtain Milestone B and conduct DT for MBPS stand alone																												
Transition Zero-Footprint Base Camp capabilities into Joint Base Camp systems																												
Obtain Milestone C for MBPS stand alone																												
Transition MBPS capability into Base Camp systems																												
Conduct OT SoS Base Camp Efficiency & Environ Combat Outpost																												
Obtain MS C TC SoS Base Camp Efficiency & Environ Combat Outpost																												
Conduct development of Technology Improvements and other variants for ULCANS																												
Conduct DT & OT on Net-Zero Energy Efficiency Solution & transition to production																												
Transition Army Space Heater P3I effort into production																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604804A: <i>Logistics and Engineer Equipment - Eng Dev</i>	PROJECT VR7: <i>COMBAT SERVICE SUPPORT SYSTEMS</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Conduct DT and OT on HRTC2	4	2012	2	2013
Obtain Milestone C TC on HRTC2	4	2013	4	2013
Complete evaluation on Net-Zero energy efficiency solutions	1	2012	4	2013
Obtain Milestone B and conduct DT for MBPS stand alone	1	2013	2	2014
Transition Zero-Footprint Base Camp capabilities into Joint Base Camp systems	1	2014	4	2016
Obtain Milestone C for MBPS stand alone	2	2014	2	2014
Transition MBPS capability into Base Camp systems	3	2014	4	2014
Conduct OT SoS Base Camp Efficiency & Environ Combat Outpost	1	2016	4	2016
Obtain MS C TC SoS Base Camp Efficiency & Environ Combat Outpost	2	2017	2	2017
Conduct development of Technology Improvements and other variants for ULCANS	1	2015	4	2017
Conduct DT & OT on Net-Zero Energy Efficiency Solution & transition to production	2	2013	4	2014
Transition Army Space Heater P3I effort into production	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	73.042	81.733	20.776	-	20.776	-	-	-	-	Continuing	Continuing
485: <i>Info Standards Interop Eng/ Joint Interop Cert</i>	9.652	19.750	-	-	-	-	-	-	-	Continuing	Continuing
589: <i>ARMY SYS ENGINEERING & WARFIGHTING TECH SUP</i>	9.740	-	-	-	-	-	-	-	-	Continuing	Continuing
593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>	53.650	61.983	20.776	-	20.776	-	-	-	-	Continuing	Continuing

Note

FY11 RDTE reduction of \$15.0M was the result of a Congressional Mark.
 FY12 RDTE reduction of \$56.0M was the result of a Congressional Mark.
 FY13 RDTE reduction of \$13.9M was a reduction to fund higher Army priorities.

A. Mission Description and Budget Item Justification

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

Project D593, Joint Battle Command - Platform (JBC-P) funds the Systems Engineering, Software Development and Testing of JBC-P. Joint Battle Command - Platforms (JBC-P), which includes Blue Force Tracking (BFT) and Army Aviation, and provides true Joint force Command and Control (C2) Situational Awareness (SA) and communications (e.g., terrestrial, celestial) capability at the platform level through command center locations (e.g., Network Operations Centers (NOC), Tactical Operation Centers (TOCs), Brigade Command Posts) and enables mission accomplishment across the entire spectrum of military operations.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
2040: <i>Research, Development, Test & Evaluation, Army</i>	PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>
BA 5: <i>Development & Demonstration (SDD)</i>	

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	90.736	137.811	33.492	-	33.492
Current President's Budget	73.042	81.733	20.776	-	20.776
Total Adjustments	-17.694	-56.078	-12.716	-	-12.716
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.654	-			
• Adjustments to Budget Years	-1.040	-0.078	1.184	-	1.184
• Other Adjustments 1	-15.000	-56.000	-	-	-
• Other Adjustments 2	-	-	-13.900	-	-13.900

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 485: <i>Info Standards Interop Eng/Joint Interop Cert</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
485: <i>Info Standards Interop Eng/Joint Interop Cert</i>	9.652	19.750	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

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

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

	FY 2011	FY 2012	FY 2013
Title: C4ISR	2.689	4.882	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 485: <i>Info Standards Interop Eng/Joint Interop Cert</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Articles:		0	0	
Description: Funds to support the following effort				
FY 2011 Accomplishments: Develop and update architecture standards and protocols necessary to ensure C4ISR systems interoperability				
FY 2012 Plans: Develop and update architecture standards and protocols necessary to ensure C4ISR systems interoperability				
Title: Army Warfighter Information Standards		2.011	4.882	-
Articles:		0	0	
Description: Funds to support the following effort				
FY 2011 Accomplishments: Engineer, develop & publish Army Warfighter Information Standards (i.e. XML-USMTF/VMF,Wireless XML, database exchange, etc...) incorporating DoD standards requirements.				
FY 2012 Plans: Engineer, develop & publish Army Warfighter Information Standards (i.e. XML-USMTF/VMF,Wireless XML, database exchange, etc...) incorporating DoD standards requirements.				
Title: technical architecture standards requirements		2.270	4.882	-
Articles:		0	0	
Description: Funds to support the following efforts				
FY 2011 Accomplishments: Identify, analyze, and provide solutions to gaps in technical architecture standards requirements				
FY 2012 Plans: Identify, analyze, and provide solutions to gaps in technical architecture standards requirements				
Title: Army Net-Centric Enterprise Service		2.373	4.794	-
Articles:		0	0	
Description: Funds to support the following effort				
FY 2011 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 485: <i>Info Standards Interop Eng/Joint Interop Cert</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Develop and engineer Army Net-Centric Enterprise Service standards and protocols supporting OSD Global Information Grid messaging requirements and serve as Army focal point for messaging working group.			
FY 2012 Plans: Develop and engineer Army Net-Centric Enterprise Service standards and protocols supporting OSD Global Information Grid messaging requirements and serve as Army focal point for messaging working group.			
Title: Knowledge Center Development	0.309	0.310	-
Articles:	0	0	
Description: Funds to support the following effort			
FY 2011 Accomplishments: Knowledge Center Development - Build & update as necessary access to website repositories for key policies, directives, and architecture products.			
FY 2012 Plans: Knowledge Center Development - Build & update as necessary access to website repositories for key policies, directives, and architecture products			
Accomplishments/Planned Programs Subtotals	9.652	19.750	-

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

N/A

D. Acquisition Strategy

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

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 485: <i>Info Standards Interop Eng/Joint Interop Cert</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Labor	Various	USACECOM ; Ft. Monmouth, NJ	56.513	19.750		-		-		-	Continuing	Continuing	Continuing
Subtotal			56.513	19.750		-		-		-			
Project Cost Totals			56.513	19.750		-		-		-			

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>				PROJECT 589: <i>ARMY SYS ENGINEERING & WARFIGHTING TECH SUP</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
589: <i>ARMY SYS ENGINEERING & WARFIGHTING TECH SUP</i>	9.740	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

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

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

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

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

	FY 2011	FY 2012	FY 2013
<p>Title: C4ISR</p> <p style="text-align: right;">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Analyze and provide Systems Engineering solutions to fill in gaps identified in C4ISR systems under development as well as fielded systems.</p>	2.820 0	-	-
<p>Title: Joint Technical Architecture (JTA)</p> <p style="text-align: right;">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Identify unique Army requirements to influence Army/DoD Architecture Technical standards under new Defense information Systems Repository developed under Defense Information Systems Agency (DISA) oversight. Prior years: Technically influence the development/implementation of Joint Technical Architecture (JTA). FY03 accomplishments: JTA Versions 5.x, 6.0 restructured and aligned with Net-Centric Philosophy and redefined scope and standards applicability. Planned activities: JTA-A version 7.0, 7.5 to include major revision of Information Security Section, to include results of Tactical Imagery Transport Study</p>	0.416 0	-	-
<p>Title: Global Information Grid (GIG) Technologies</p> <p style="text-align: right;">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Investigate information technical standards for inclusion in DSR, Defense Standards Repository. Global Information Grid (GIG) Technologies (XML, JPEG 2000, MPEG 4, IPV6)</p>	0.312 0	-	-
<p>Title: DISR</p> <p style="text-align: right;">Articles:</p>	1.458 0	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 589: <i>ARMY SYS ENGINEERING & WARFIGHTING TECH SUP</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Research and incorporate applicable emerging open standards-based commercial technologies to influence future force systems. Ensure that open commercial standards adopted by Future Force enabling systems are reflected in the DISR baseline. Maintain subject matter expertise on DISR, Defense Standards Repository Information Technology (IT) standards' mandates to ensure current and future force systems remain interoperable. Ensure a logical and cost-effective evolution of TA baselines while maximizing Joint interoperability.</p>				
<p>Title: DISR Compliance Requirements</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: DISR Compliance Requirements -Ensure Program Managers have an executable and effective strategy for implementing the Army/DoD Technical Architecture standards.</p>		0.729 0	-	-
<p>Title: Army Enterprise Technical Views</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Validate/Integrate Army Enterprise Technical Views to enable the Army Technical and Systems Architect (CIO/G6) to monitor, assess and control the inherent risks associated with leveraging continuously changing technologies across all Army Enterprise Functionals/PEO/Communities.</p>		1.506 0	-	-
<p>Title: IPv6 protocol</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Provide systems analysis for implementing IPv6 protocol across Army to ensure communications/data-sharing/data-exchange between systems. Prior Years: As a result of the decision agreed to at the 19 Dec 02 AKEA, GOSC, direction of MU17 funding was realigned to support the Protocols Investigation for the Next Generation (PING) program. The PING supported current technology agreements</p>		0.729 0	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 589: <i>ARMY SYS ENGINEERING & WARFIGHTING TECH SUP</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
with various technology developers such as HP, Cisco, Microsoft and Telecordia. In addition, PING represented the ARMY CIO/G6 office at various ASD (NII)/DoD CIO meetings discussing DoD IPv6 policy and Transisition Planning, participated with JITC at DISA's Def Interop Comm Exercise 2003 (DICE 2003) demonstrating IPv6 interoperability, active member of DoD IPv6 Test Bed evaluating and testing IPv6 benefits and trade-offs, first Army lab participating with North American IPv6 Task Forces MoonV6 initiative, drafted ARmy's Phase I IPv6 Transition plan and initial transition strategy to migrate Army systems and networks to native IPv6 by FY08 in compliance with DoD policy,prepared evaluation criteria for selecting early IPv6 adopter candidates in support of the Army GIO/G6 office, hosted first Army IPv6 data call to collect systems impact information and baseline on Army IPv6 transition plan, provided IPv6 technical guidance and knowledge to the Army acquisition community.				
Title: Define and exploit				
Description: Funding is provided for the following effort				
FY 2011 Accomplishments: Define and exploit (through analysis) the relationships between architectural views to provide quantitative answers to complex questions regarding the Army's future capabilities and the roadmap the Army will pursue in realizing them.				
Title: Joint Blue Force Situational Awareness (JBFSA)initiative				
Description: Funding is provided for the following effort				
FY 2011 Accomplishments: Provide systems engineering solutions including techincal architectures for Army systems supporting Joint Blue Force Situational Awareness (JBFSA)initiative				
Accomplishments/Planned Programs Subtotals		0.729 0	-	-
C. Other Program Funding Summary (\$ in Millions) N/A				
D. Acquisition Strategy The JBC-P program was Joint Requirements Oversight Council (JROC) approved in May 2008. The Acquisition Strategy Report (ASR) was approved in September 2009. An Acquisition Decision Memorandum, approving a Modified Milestone B and entry into the Engineering and Manufacturing Development phase, was issued in September 2009.				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 589: <i>ARMY SYS ENGINEERING & WARFIGHTING TECH SUP</i>

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 589: <i>ARMY SYS ENGINEERING & WARFIGHTING TECH SUP</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Government Systems Engineering Support	Various	ASEO, DCTS, PING/03 only,:various	35.607	-		-		-		-	Continuing	Continuing	Continuing	
Travel	Various	SEC, USACECOM,:various	0.195	-		-		-		-	Continuing	Continuing	Continuing	
Development Support	Various	Northrop Grummon (SEC SSES),:various	0.400	-		-		-		-	Continuing	Continuing	Continuing	
Labor (Internal Government)	Various	SEC, USACECOM,:various	7.411	-		-		-		-	Continuing	Continuing	Continuing	
Equipment	Various	USACECOM,:various	0.040	-		-		-		-	Continuing	Continuing	Continuing	
Development Support	Various	ITEL,:various	0.400	-		-		-		-	Continuing	Continuing	Continuing	
Contract Systems Engineering Support	Various	MITRE,:various	9.877	-		-		-		-	Continuing	Continuing	Continuing	
Contract Systems Engineering Support	TBD	Litton,:TBD	1.450	-		-		-		-	Continuing	Continuing	Continuing	
Contract Systems Engineering Support	TBD	CSC,:TBD	25.506	-		-		-		-	Continuing	Continuing	Continuing	
Travel	TBD	ASEO/WTS GECOM,:TBD	2.016	-		-		-		-	Continuing	Continuing	Continuing	
Subtotal			82.902	-		-		-		-				
Project Cost Totals			82.902	-		-		-		-				

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>				PROJECT 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>	53.650	61.983	20.776	-	20.776	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Joint Battle Command - Platform (JBC-P) provides true Joint force Command and Control (C2) Situational Awareness (SA) and communications (e.g., terrestrial, celestial) capability at the platform level through command center locations (e.g., Network Operations Centers (NOC), Tactical Operation Centers (TOCs), Brigade Command Posts) and enables mission accomplishment across the entire spectrum of military operations.

JBC-P serves as the cornerstone for Joint Blue Force Situational Awareness (JBFSAs). It provides continuous near-real-time identification of friendly locations to populate the Joint Common Operating Picture (JCOP). JBC-P enhances Joint Combat Identification to increase combat effectiveness and reduce fratricide in a secure environment. It enables Joint, Net-Centric Command and Control (C2)/Battle Command by seamlessly passing/sharing relevant information vertically and horizontally, within all levels of command, regardless of Service unit hierarchy.

JBC-P will develop new hardware items and software capabilities designed to run on existing Force XXI Battle Command Brigade and Below (FBCB2) systems, thus reducing the Army's investment in new hardware. The new JBC-P hardware includes: ruggedized remoteable vehicle computers (tablets), dismounted devices for use with tablets, one way beacons, and ancillary equipment (e.g., Secure Mission Data Loader (SMDL), cables, installation kits, etc.).

Fiscal Year 2013 funds provide for the completion of software products for the Army's Capability Set 13-14 fieldings and system/software requirements analysis and system architecture definition for the Army's Capability Set 15-16 products. Efforts include system/software engineering, software development, testing and project management.

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

	FY 2011	FY 2012	FY 2013
Title: Software Development	24.600	28.900	8.915
Articles:	0	0	
Description: Develop Capabilities, Product Applications, Platform Interoperability, and System Services across the JBC-P family of systems, to include the development of capabilities to meet Key Performance Parameters (KPPs) and in support of Mobile Computing Environment, Multi-Level Security Domains for Network, Users, and Information.			
FY 2011 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>		PROJECT 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
Develop Capabilities, Product Applications, Platform Interoperability, and System Services across the JBC-P family of systems, to include the development of capabilities to meet Key Performance Parameters (KPPs), and in support of Multi-Level Security Domains for Network, Users, and Information.				
FY 2012 Plans: Complete Software System Acceptance Test (SSAT) for product build 2 for Capability Set 13-14 software and deliver to PM. Complete engineering, design, development, coding and SSAT for Build 3 and 4 of product software (vehicle, network operations center, command post, and incorporation of Movement Tracking System functionality into JBC-P) for Capability Set 13-14 (to include JBC-P platform IOT&E) and deliver to PM. Complete engineering, design, development, coding of Handheld PDK in support of NETT Warrior/JBC-P dismount requirements. Complete engineering, design and initiate coding for product build 5 to meet the Key Performance Parameters outlined in the Capability Development Document (with the exception of Aviation (still on BFT-1)) for all of the products. Conduct User Juries to gain user feedback on the software. Include Marine Corps participation in working groups and integrated product/process teams and provide software builds to the Marine Corps as required for testing to ensure joint requirements are included and adequately addressed throughout the software development effort.				
FY 2013 Plans: Complete engineering, design and coding for Core/Product Development Kit (PDK) software. Complete engineering, design, and coding for product builds 5 & 6 to fully meet the Key Performance Parameters outlined in the Capability Development Document for all of the products. Conduct User Juries to gain user feedback on the software. Include Marine Corps participation in working groups and integrated product/process teams and provide software builds to the Marine Corps as required for testing to ensure joint requirements are included and adequately addressed throughout the software development effort.				
Title: Software Engineering				
				Articles:
Description: Perform Software/Systems Engineering in support of the development of JBC-P Capabilities, Applications, and Services, to include, but not limited to, Conducting Engineering Studies, Architecture Development (both Software and Network), System Analyses, Technical Readiness Assessments, Technical Interchange Meetings/Events, and development of Related Reports and other deliverables.				
FY 2011 Accomplishments: Perform Software/Systems Engineering in support of the development of JBC-P capabilities, Applications, and Services, to include, but not limited to, Conducting Engineering Studies, Architecture Development (both Software and Network), System Analyses, Technical Readiness Assessments, Technical Interchange Meetings/Events, and development of Related Reports and other deliverables.				
FY 2012 Plans:				
				16.605 0
				12.235 0
				5.285

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>In order to meet timelines for the Army's Capability Set 15-16 fielding cycle, begin Software and System Engineering in Fiscal Year 2012. Begin planning, requirements analysis, system architecture and Family of Systems (FoS) engineering for Capability Set 15-16 software. Begin security engineering including security certification and accreditation plan, safety engineering and FoS definition study and prototyping. Begin development of System/Subsystem specification for Capability Set 15-16 software.</p> <p>FY 2013 Plans: Complete Capability Set 13-14 security engineering including security certification and accreditation plan, safety engineering and FoS definition study and prototyping. Complete development of requirements analysis, System/Subsystem specification and high level system engineering for Capability Set 15-16 software.</p>				
<p>Title: Prototype Manufacturing</p> <p align="right">Articles:</p> <p>Description: Design, Develop and Procure Prototypes for Dismountable Vehicle Tablet Product and Beacon Product, Embedded Encryption and Satellite Transceiver</p> <p>FY 2011 Accomplishments: Design, Develop and Procure Prototypes for Dismountable Vehicle Tablet Product and Beacon Product, Embedded Encryption and Satellite Transceiver.</p> <p>FY 2012 Plans: Test and evaluation of beacon solution. Test and evaluation of COTS/GOTS candidates for dismountable vehicle computer solution. Conduct testing at the Network Integrated Evaluation 12.2 in preparation for Milestone C approval to conduct Initial Operational Test and Evaluation for Capability Set 13-14. Conduct Milestone C decision review.</p>		1.605 0	7.550 0	-
<p>Title: Program Management</p> <p align="right">Articles:</p> <p>Description: FBCB2 Program Management</p> <p>FY 2011 Accomplishments: Program Management, to include Core, Matrix and Contractor Support.</p> <p>FY 2012 Plans: Provide within JBC-P requirement, technical, logistics and business oversight for software and hardware development activities. Monitor progress of performing organizations and prepare reports to higher headquarters. Develop and implement plans for process and product improvements.</p> <p>FY 2013 Plans:</p>		2.235 0	3.423 0	1.861

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Provide within JBC-P requirement, technical, logistics and business oversight for software and hardware development activities. Monitor progress of performing organizations and prepare reports to higher headquarters. Develop and implement plans for process and product improvements.			
<p>Title: Test, Evaluation and Integration</p> <p align="right">Articles:</p> <p>Description: Develop and Conduct Integration Events (i.e., Tests and Assessments)</p> <p>FY 2011 Accomplishments: Develop and Conduct Software and Hardware Integration Events (i.e., Tests and Assessments).</p> <p>FY 2012 Plans: Complete planning for Capability Set 13-14 Operational Test. Equip test unit with Engineering and Manufacturing Development hardware. Conduct test and evaluation of beacon solution. Test and evaluation of COTS/GOTS candidates for dismountable vehicle computer solution. Conduct testing at the Network Integrated Evaluation 12.2 in preparation for Milestone C approval to conduct Initial Operational Test and Evaluation (NIE 13.1) for Capability Set 13-14. Evaluate test data and provide reports to the Project Manager and Milestone Decision Authority for use in decision reviews.</p> <p>FY 2013 Plans: Conduct developmental and operational testing at NIE 13.2 for targeted Joint Interoperability.</p>	8.605 0	9.875 0	4.715
Accomplishments/Planned Programs Subtotals	53.650	61.983	20.776

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Joint Battle Command - Platform: <i>OPA W61990</i>	0.146	69.514	141.385		141.385		121.658	137.754	148.765	0.000	743.753
• Joint Battle Command - Plat (JBC-P): <i>RDTE PE 273759, Proj.</i> <i>No. 122</i>	3.935									0.000	3.935

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>

and Manufacturing Development phase, was issued in September 2009. The MS C in 3Q FY12 will allow JBC-P to enter into IOT&E(NIE 13.1) in 1Q FY13 with JBC-P software on mounted vehicular computers (JV5), Remoteable vehicular computers (JPT/Tablet), TOC Kits, and the Beacon capability.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Battle Command - Platforms (JBC-P) development	MIPR	SED, Redstone Arsenal:Huntsville, AL	24.600	28.900		8.915		-		8.915	Continuing	Continuing	Continuing
JBC-P Software/System Engineering	MIPR	SED, Redstone Arsenal:Huntsville, AL	16.605	12.235		5.285		-		5.285	Continuing	Continuing	Continuing
Design, Develop, and Procure Hardware Prototypes	Various	Multiple:Multiple	1.605	7.550		-		-		-	Continuing	Continuing	Continuing
Subtotal			42.810	48.685		14.200		-		14.200			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Matrix System/ Project Management	MIPR	PM FBCB2:Aberdeen Proving Ground (APG), MD	0.305	1.060		-		-		-	Continuing	Continuing	Continuing
Government In-House System/Project Management	Sub Allot	PM FBCB2:Aberdeen Proving Ground (APG), MD	0.800	1.100		1.861		-		1.861	Continuing	Continuing	Continuing
Contractor System/Project Management Support	C/FP	PM FBCB2:Aberdeen Proving Gound (APG), MD	1.130	1.263		-		-		-	Continuing	Continuing	Continuing
Subtotal			2.235	3.423		1.861		-		1.861			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Develop and Conduct Tests and Assessments	MIPR	Multiple:Multiple	8.605	9.875		4.715		-		4.715	Continuing	Continuing	Continuing
Subtotal			8.605	9.875		4.715		-		4.715			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>				PROJECT 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>				
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	53.650	61.983		20.776		-		20.776			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Critical Design Review				■																								
Network Integrated Evaluation (NIE) 12.2							■	■																				
MS C							■	■																				
LRIP Contract Award								■																				
LRIP: Production & Deployment Phase							■	■	■	■	■	■																
NIE 13.1 (IOT&E)											■	■																
NIE 13.2 (Joint Interoperability)												■	■															
Full Rate Production (FRP) Decision												■	■															
FRP Contract Award												■	■															
Delivery Order (DO) Award Year 2															■	■												
DO Award Year 3																■	■											
DO Award Year 4																				■	■							
DO Award Year 5																								■	■			
FRP: Production & Deployment Phase																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604805A: <i>Command, Control, Communications Systems - Eng Dev</i>	PROJECT 593: <i>JOINT BATTLE COMMAND - PLATFORM (JBC-P)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Critical Design Review	4	2011	4	2011
Network Integrated Evaluation (NIE) 12.2	3	2012	3	2012
MS C	3	2012	3	2012
LRIP Contract Award	4	2012	4	2012
LRIP: Production & Deployment Phase	3	2012	2	2013
NIE 13.1 (IOT&E)	1	2013	1	2013
NIE 13.2 (Joint Interoperability)	3	2013	3	2013
Full Rate Production (FRP) Decision	3	2013	3	2013
FRP Contract Award	3	2013	3	2013
Delivery Order (DO) Award Year 2	3	2014	3	2014
DO Award Year 3	3	2015	3	2015
DO Award Year 4	3	2016	3	2016
DO Award Year 5	3	2017	3	2017
FRP: Production & Deployment Phase	3	2013	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	33.262	27.132	43.395	-	43.395	46.634	47.252	48.312	49.126	Continuing	Continuing
812: <i>MIL HIV VAC&DRUG DEV</i>	4.297	3.860	3.232	-	3.232	4.292	4.444	4.539	4.616	Continuing	Continuing
832: <i>Field Medical Systems Engineering Development</i>	17.159	14.793	23.971	-	23.971	27.469	27.528	28.452	28.932	Continuing	Continuing
849: <i>INFEC DIS DRUG/VACC ED</i>	11.806	8.479	13.771	-	13.771	14.873	15.280	15.321	15.578	Continuing	Continuing
VS8: <i>MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - END DEV</i>	-	-	2.421	-	2.421	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

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

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

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

(PROJ 849) funds development of candidate medical countermeasures for military relevant infectious diseases. These products fall between four major areas: vaccines, drugs, diagnostic kits/devices, and insect control measures to limit exposure and disease transmission. FDA approval is a mandatory obligation for all military products placed into the hands of medical providers or service members for human use. Products from this project will normally transition to DoD Health Programs or OPA funds.

(PROJ VS8) program receives products that transition from VS7 and funds effort to complete research and development for the MEDEVAC Mission Essential Packages (MEPs) to support 256 Medical Evacuation legacy helicopters. The force design will increase the number of air frames in the force from 12 to 15 aircraft for 37 MEDEVAC companies to better meet operation needs.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>
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This program is managed by U.S. Army Medical Materiel Development Activity (USAMMDA) and U.S. Army Medical Materiel Agency (USAMMA) of the US Army Medical Research and Materiel Command.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	34.474	27.160	41.872	-	41.872
Current President's Budget	33.262	27.132	43.395	-	43.395
Total Adjustments	-1.212	-0.028	1.523	-	1.523
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.998	-			
• Adjustments to Budget Years	-	-	1.523	-	1.523
• Other Adjustments 1	-0.214	-0.028	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 812: <i>MIL HIV VAC&DRUG DEV</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
812: <i>MIL HIV VAC&DRUG DEV</i>	4.297	3.860	3.232	-	3.232	4.292	4.444	4.539	4.616	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

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

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

	FY 2011	FY 2012	FY 2013
Title: Military HIV Vaccine and Drug Development			
Articles:	4.297 0	3.860 0	3.232
Description: This project provides funds for engineering and manufacturing development of candidate vaccines and drugs to permit large-scale field testing of vaccines for medical countermeasures to HIV			
FY 2011 Accomplishments: Finalized and submitted results to the Food and Drug Administration (FDA) from the expanded safety/efficacy trial in Thailand, updated/revised the clinical development plan, and continued to follow up clinical trial for HIV positive for viral load.			
FY 2012 Plans: Perform three inter-related studies to enhance our understanding of how the vaccine strategy used in the 2009 safety/efficacy trial caused vaccine recipients to be protected from infection, including intense laboratory studies using samples from the trial, and commencement of two small clinical vaccine trials to generate data and samples to define what vaccine responses to try to generate for next increment studies.			
FY 2013 Plans: Will refine vaccine administration schedule as well as clinical trial design based on data from previous clinical trials. Will adjust plan for increment 1 future efficacy trial planned to begin in late 2014.			
Accomplishments/Planned Programs Subtotals	4.297	3.860	3.232

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 812: <i>MIL HIV VAC&DRUG DEV</i>

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

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

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 812: <i>MIL HIV VAC&DRUG DEV</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1M individually	Various	Various:Various	1.124	0.215		0.299		-		0.299	Continuing	Continuing	0.000
Subtotal			1.124	0.215		0.299		-		0.299			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	Various	Henry M. Jackson Foundation,:Various	27.742	2.655		2.145		-		2.145	Continuing	Continuing	Continuing
Subtotal			27.742	2.655		2.145		-		2.145			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1M individually	Various	Various:Various	0.580	0.046		0.031		-		0.031	Continuing	Continuing	0.000
Subtotal			0.580	0.046		0.031		-		0.031			0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	Various	Henry M. Jackson Foundation,:Various	23.446	0.944		0.757		-		0.757	Continuing	Continuing	Continuing
Subtotal			23.446	0.944		0.757		-		0.757			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>				PROJECT 812: <i>MIL HIV VAC&DRUG DEV</i>				
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	52.892	3.860		3.232		-		3.232			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 812: <i>MIL HIV VAC&DRUG DEV</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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 study of Vaccine candidates																												
Initiate Phase 3 Study of Vaccine candidates																												
Increment 1 Efficacy Trial																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

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

Events	Start		End	
	Quarter	Year	Quarter	Year
Phase 2 study of Vaccine candidates	1	2014	2	2014
Initiate Phase 3 Study of Vaccine candidates	1	2015	1	2015
Increment 1 Efficacy Trial	4	2014	2	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>				832: <i>Field Medical Systems Engineering Development</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
832: <i>Field Medical Systems Engineering Development</i>	17.159	14.793	23.971	-	23.971	27.469	27.528	28.452	28.932	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

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

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

	FY 2011	FY 2012	FY 2013
Title: Medical Materiel/Medical Biological Defense Equipment- Engineering Development FY 2010 and 2011	17.159	-	-
Articles:	0		
Description: This project funds in FY 2010 and 2011 the engineering and manufacturing development of medical products for enhanced combat casualty care and follow-on care, including rehabilitation.			
FY 2011 Accomplishments: In FY 2011, Freeze-dried Plasma: start enrollment in the multi-center limited human safety/efficacy clinical trial and evaluate stability profile of the product. Red Blood Cell Extended Life Program: complete the human safety/efficacy study, conduct data analysis, and prepare and submit report to the FDA. Platelet Derived Hemostatic Agent (PDHA): transition from project 836 to begin enrollment/follow-up in the human safety/efficacy trial. Intranasal Ketamine (low dose pain management via nasal spray): transition from project 836 and conduct pre-clinical trial activities for human drug use in aeromedical evacuation and burn patients. Hypertonic Saline Dextran (treatment of shock due to blood loss): support human expanded safety/efficacy trial for treatment of shock. Continue market analysis and surveys for candidate resuscitative fluids for treatment of shock. Enhanced SAve: Conduct clinical user evaluation and operational testing. Remote Diagnostic Access: Conduct Prototype field testing and refinement for			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 832: <i>Field Medical Systems Engineering Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>MOC Sensor Modul Development phase of this device. Treatment Table for PM, HBCT Medical Mission Package for Treatment Variants: Transition from Project 836. Transition to production for use on PM, HBCT Treatment Variant. Refrigerator for PM, HBCT for Medical Mission Package for Treatment Variant: Transition from Project 836. Conduct environmental and operational testing. Shelter for PM, HBCT Treatment Variant: Transition from Project 836. Evaluate alternatives in operational setting. Shock and Vibration Isolation System for Patient Litters in Ground and Air Medical Evacuation Vehicles: Transition from Project 836. Conduct Shock and Vibration Isolation System for patient litters - air worthiness and ground vehicle testing. One-handed tourniquet update: Conduct study to update medical set and down select product. Passive Cold Chain Capability for Temperature Sensitive Medical Materiel: Transition from Project 836. Conduct environmental testing and user testing.</p>				
<p>Title: Field Medical Systems Engineering Development FY 2012 PM Medical Devices</p> <p align="right">Articles:</p> <p>Description: This project funds in FY 2012 the engineering and manufacturing development of medical products for enhanced combat casualty care managed by PM Medical Devices.</p> <p>FY 2012 Plans: The Burn Resuscitation Decision Device: Will conduct final environmental, operational and clinical testing on device for MS C submission. Wireless Medical Monitoring will transition from Congressional Special Interest (CSI) project to an Army Core funded project and will undergo a Milestone C review as well as prototype field testing. Plasma Knife: Will transition from 836 6.4 funding line into 832 6.5 funding line. Will finalize results of clinical and operational testing. Will also identify and address all refinements and undergo Milestone C review in 4Q.</p> <p>FY 2013 Plans: Enhanced SAVE: No further R&D funding required as this is now a COTS product. The Burn Resuscitation Decision Device: Preparing documentation for CPD and MS B/C. No further R&D required as this product will transition to procurement in FY 2013. MS B/C expected 2Q FY 2013. Total Intravenous Anesthesia (TIVA): This product is transitioning to tech watch in FY 2012. Wireless Medical Monitoring: no requirement and no RDTE planned. Plasma Knife: No further R&D funding required as this is now a COTS product. Noise-Immune Stethoscope: Will finalize and conduct a MS C review in FY 2012; no RDTE efforts for FY 2013. Oxygen Generator (15 LPM) System: 15LPM draft CDD completed and a request for proposals (RFP) award is expected in March 2012. Will continue development with a target to field in FY 2015. Replacement for the M-138 Steam Sterilizer: FY 2013 funding planned for testing of the device. Will begin design and development of system in FY 2012 and continue development through FY 2013. One-Handed Tourniquet update: No RDTE efforts in FY 2012 or FY 2013.</p>		-	6.019 0	0.200
<p>Title: Field Medical Systems Engineering Development FY 2012 PM Pharmaceuticals</p> <p align="right">Articles:</p>		-	5.034 0	17.599

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 832: <i>Field Medical Systems Engineering Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Description: Funding is provided for engineering and manufacturing development of medical products managed by PM Pharmaceuticals for enhanced combat casualty care and follow-on care, including rehabilitation.</p> <p>FY 2012 Plans: Freeze-Dried Plasma: Begin enrollment in a multi-center limited human safety/efficacy clinical trial; will Begin improvement of manufacturing & laboratory capabilities to meet Food and Drug Administration requirements; and will evaluate stability profile of the product. Cryopreserved Platelets (CPP) (formerly Platelet Derived Hemostatic Agent (PDHA): Continue enrollment/follow-up in a human safety/efficacy clinical trial.</p> <p>FY 2013 Plans: Blood Pathogen Reduction/Inactivation transitioned to advanced development in FY 2012, transitioning from Army to be funded with Defense Health Program RDT&E funding; transitioned to Freeze-dried Plasma program to maintain current schedule and avoid delays. Freeze-Dried Plasma: Finalize Phase 3 test plan and protocols, recruit test sites for Phase 3 Pivotal clinical trial, and continue development of commercially sustainable current Good Manufacturing Practices compliant manufacturing capability. Accelerated fielding of a FDA-approved Freeze-Dried Plasma was validated in the June 2011 Army Surgeon General's Report by the Blast Injury Task Force. Cryopreserved Platelets: Continue validation of current Good Manufacturing Practices manufacturing processes in support of U.S. Food and Drug Administration licensure. Develop Phase 3 clinical testing network and protocols if Phase 3 Pivotal clinical trial is required by the U.S. Food and Drug Administration.</p>				
<p>Title: Field Medical Systems Engineering Development FY 2012 PM Integrated Clinical Systems (ICS)</p> <p align="right">Articles:</p> <p>Description: This project funds in FY 2012 the engineering and manufacturing development of medical products managed by PM ICS for enhanced combat casualty care and follow-on care, including rehabilitation.</p> <p>FY 2012 Plans: Will conduct final testing of Phase IV of Remote Access Device (RDA). Will Develop a universal security compliant access portal to serve as a standardized compliance wrapper for all vendors, medical technology, and even IT management products that may traverse between the .com and .mil networks. The Milestone Decision Authority (MDA) has scheduled an in process review for the RDA project in March 2011 .</p>		-	0.737 0	-
<p>Title: Field Medical Systems Engineering Development FY 2012 PM Medical Support Systems</p> <p align="right">Articles:</p> <p>Description: This project funds in FY 12 the engineering and manufacturing development of medical products managed by PM Medical Support Systems for enhanced combat casualty care and follow-on care, including rehabilitation.</p>		-	3.003 0	6.172

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 832: <i>Field Medical Systems Engineering Development</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p><i>FY 2012 Plans:</i> Collaborate with PM HBCT on medical equipment for the future treatment vehicle variant. Test and evaluate the shock and litter isolation system for potential addition to Ground Ambulance and Air Ambulance Medical Equipment Sets (MES). Transition to Force Provider by fielding a Force Provider CSH. Fully test the new 2-sided ISO shelter under the Joint shelter Program and finalize acquisition strategy in coordination with Program Manager's Force Provider program. Continue to develop Medical Evacuation Vehicles in coordination with Program Executive Office Combat Service Support vehicle developers.</p> <p><i>FY 2013 Plans:</i> Will transition from 836 and collaborate with PM HBCT on final integration/operational testing of the treatment table and blood refrigerator in the future treatment vehicle variant. As part of the medical equipment sets, will transition cold chain technology, trauma tiered medical bag, water/waste water management system, and quad fold litter from 836 and complete operational evaluation. Will continue modernization of medical equipment sets for preventive medicine, air and ground medical evacuation, and fresh water/waste water combat support hospital support. Will transition ISO panel from 836 and complete operational testing. Will transition from 836 and complete final operational evaluation of Force Provider CSH. Will complete operational/technical testing of Future Medical Shelter System (hard-wall 1-sided and 2-sided shelters) for a materiel procurement decision. Will continue collaboration with PEO Combat Service Support on finalization of MRAP medical vehicle evacuation platforms including a redesign of the Casualty Evacuation (CASEVAC) medical equipment set.</p>			
Accomplishments/Planned Programs Subtotals	17.159	14.793	23.971

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

N/A

D. Acquisition Strategy

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

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 832: <i>Field Medical Systems Engineering Development</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1Million individually	Various	Various:Various	22.060	0.418		2.577		-		2.577	Continuing	Continuing	Continuing
Subtotal			22.060	0.418		2.577		-		2.577			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Freeze-dried Human Plasma	Various	HemCon Medical Technologies, Inc.;Tigard OR	17.525	5.796		6.000		-		6.000	Continuing	Continuing	Continuing
Hypertonic Saline Dextran	Various	National Institutes of Health, National Heart, Lung and Blood Institute (NHLBI);Various	15.100	-		-		-		-	Continuing	Continuing	Continuing
Extended Life Red Blood Cell Product	Various	Hemerus Medical, LLC.;Various	3.140	-		-		-		-	Continuing	Continuing	Continuing
No product/contract costs greater than \$1M individually	Various	Various:Various	3.260	-		0.250		-		0.250	Continuing	Continuing	Continuing
Cryopreserved Platelets	Various	Multiple DoD activities and Dartmouth Hitchcock Med Ctr:North Potomac, MD	-	7.757		9.108		-		9.108	Continuing	Continuing	Continuing
Subtotal			39.025	13.553		15.358		-		15.358			

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 832: <i>Field Medical Systems Engineering Development</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Total Intravenous Anesthesia (TIVA) (MS-C)																												
Burn Resuscitation Decision Device (MS-C)																												
Wireless Medical Monitoring (MS-C)																												
Plasma Knife (MS-C)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

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

Events	Start		End	
	Quarter	Year	Quarter	Year
Total Intravenous Anesthesia (TIVA) (MS-C)	1	2013	1	2013
Burn Resuscitation Decision Device (MS-C)	2	2012	2	2012
Wireless Medical Monitoring (MS-C)	4	2012	4	2012
Plasma Knife (MS-C)	2	2012	2	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 849: <i>INFEC DIS DRUG/VACC ED</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
849: <i>INFEC DIS DRUG/VACC ED</i>	11.806	8.479	13.771	-	13.771	14.873	15.280	15.321	15.578	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

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

	FY 2011	FY 2012	FY 2013
<p>Title: FY 2010 Malaria Drug/ Vaccine Engineering Development</p> <p style="text-align: right;">Articles:</p> <p>Description: This project funds development of candidate medical countermeasures for militarily relevant infectious diseases.</p> <p>FY 2011 Accomplishments: Conducted clinical trials, developmental testing, and reviews of malarial/antimalarial vaccines, drugs, diagnostics and insect repellents. For Tafenoquine, completed pre-trial activities for a large-scale safety/efficacy human clinical trial (treatment indication) in a malaria endemic country.</p>	4.147 0	-	-
<p>Title: FY 2010 Infectious Disease Drug and Vaccine Engineering Development</p> <p style="text-align: right;">Articles:</p> <p>Description: FY 2010 funding for research and development efforts described below.</p> <p>FY 2011 Accomplishments: Analyzed the data for Topical Antileishmanial Cream, and prepared the final report on the Tunisia large scale human safety/ efficacy trial, continued pretrial activities for enrollment in the second large scale (> 300 subjects) human safety/efficacy trial in Central/South America. Analyzed the data and prepared the final report for the three small scale (<35 subjects) pharmacokinetic</p>	7.659 0	8.479 0	13.771

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 849: <i>INFEC DIS DRUG/VACC ED</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>(drug metabolism) human trials in France, Peru and Panama. Continued a human treatment protocol in the U.S For Pentostam. Completed the study report for DTV vaccine on the expanded human safety and immunity trial in Puerto Rico and began the expanded safety and efficacy trial in children in Thailand. Continued maintenance of study blood specimens for Hepatitis E vaccine kept under cold storage and monitored industry partner's Hepatitis E vaccine development effort.</p> <p>FY 2012 Plans: Conduct Clinical trials, developmental testing, and reviews of malarial/antimalarial vaccines, drugs, diagnostics and insect repellents. Down-select from candidate anti-malaria drugs (e.g. Tafenoquine and other drugs) to prepare for clinical trial activities for a safety/efficacy human clinical trial (treatment indication) in a malaria endemic country. Conduct clinical trials, developmental testing, and appropriate reviews of grouped vaccines, drugs, and diagnostics (Leishmaniasis (a skin-based disease caused by a parasite and transmitted by sand flies), Dengue (a severe debilitating disease caused by a virus and transmitted by a mosquito), and other viral diseases: For Topical Antileishmanial Cream, begin the clinical study report on the Tunisia large scale human safety/efficacy trial, begin enrollment efforts in the second large scale (> 300 subjects) human safety/efficacy trial in Central/South America. For Dengue Tetravalent Vaccine (DTV), begin study close out activities for expanded safety and efficacy trial in children in Thailand; begin a new DTV large scale (> 300 subjects) human trial in Thailand and Philippines to expand safety data and demonstrate efficacy in children/adults.</p> <p>FY 2013 Plans: Review and analyze data from the on-going Adult Indication study begun in FY 2012 with industry partner Sanofi Pasteur and determine a Go/No Go Decision on continued product development for the Dengue Tetravalent Vaccine. Phase 3 clinical effectiveness studies are on-going with industry partner Sanofi Pasteur for the Dengue Tetravalent Vaccine, as well as Phase 3 studies for traveler/military indication. Complete preparation prior to initiating Phase 3 Pivotal clinical trial for Malaria Prophylaxis Drug. For Topical Antileishmanial Cream, complete Phase 2 safety and effectiveness New World clinical trial analysis and complete Phase 3 New World Pivotal clinical trial, and begin New World Treatment Protocol for Phase 3 site(s). The enteric JBAIDS assay transitions to advanced development and clinical trial planning begins. The Dengue Rapid Diagnostic Device (DRDD) (Hand Held Infectious Disease Diagnostics) transitions to advanced development and will be evaluated in a multi-site clinical performance study. Leishmania Rapid Diagnostic Device (LRDD) will continue the new world clinical trial started in FY 2012. The Leishmania Skin Test project will complete FDA approval and transition to procurement. The Antimalarial Drug, Artesunate Intravenous will transition from 808 and conduct MS C review.</p>				
Accomplishments/Planned Programs Subtotals		11.806	8.479	13.771
C. Other Program Funding Summary (\$ in Millions)				
N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 849: <i>INFEC DIS DRUG/VACC ED</i>

D. Acquisition Strategy

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

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 849: <i>INFEC DIS DRUG/VACC ED</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1M individually	Various	Various:Various	12.558	1.931		2.172		-		2.172	Continuing	Continuing	Continuing
Subtotal			12.558	1.931		2.172		-		2.172			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1M individually	Various	Various:Various	21.423	3.171		4.034		-		4.034	Continuing	Continuing	Continuing
Topical Antileishmanial Drug	TBD	TBD:TBD	-	-		2.400		-		2.400	0.000	2.400	0.000
Subtotal			21.423	3.171		6.434		-		6.434			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1M individually	Various	Various:Various	10.951	0.992		2.620		-		2.620	Continuing	Continuing	Continuing
Subtotal			10.951	0.992		2.620		-		2.620			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
No product/contract costs greater than \$1M individually	Various	Various:Various	31.778	2.385		2.545		-		2.545	Continuing	Continuing	Continuing
Subtotal			31.778	2.385		2.545		-		2.545			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>				PROJECT 849: <i>INFEC DIS DRUG/VACC ED</i>				
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	76.710	8.479		13.771		-		13.771			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 849: <i>INFECTION DIS DRUG/VACC ED</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Dengue Tetravalent Vaccine (DTV) Critical Design Review (CDR)				■																								
DTV Phase 3 Adult Indication Studies					■																							
DTV Adult Indication Decision												■																
DTV Milestone C (MS-C)																								■				
DTV Biologic Licensing Application (BLA) Submission																												■
Malaria Prophylaxis Phase 3 Pivotal Clinical Trial												■																
Malaria Prophylaxis (MS-C)																								■				
Paromomycin/Gentamicin Topical Antileishmanial Cream (TLC)					■																							
Paromomycin/Gentamicin TLC Phase 3 Clinical Trials			■																									
Paromomycin/Gentamicin TLC Milestone C (MS-C)																■												
Paromomycin/Gentamicin TLC New Drug Application (NDA)																■												
Paromomycin/Gentamicin TLC FDA Approval																												■
Paromomycin/Gentamicin TLC																									■			
Leishmania Rapid Diagnostic Device MS-C																■												
Leishmania Rapid Diagnostic Device FDA Approval																												■
Leishmania Rapid Diagnostic Device Fielding/Delivery																									■			

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT 849: <i>INFEC DIS DRUG/VACC ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Dengue Tetravalent Vaccine (DTV) Critical Design Review (CDR)	4	2011	4	2011
DTV Phase 3 Adult Indication Studies	2	2012	2	2015
DTV Adult Indication Decision	4	2013	4	2013
DTV Milestone C (MS-C)	4	2016	4	2016
DTV Biologic Licensing Application (BLA) Submission	4	2017	4	2017
Malaria Prophylaxis Phase 3 Pivotal Clinical Trial	4	2013	4	2015
Malaria Prophylaxis (MS-C)	1	2017	1	2017
Paromomycin/Gentamicin Topical Antileishmanial Cream (TLC)	1	2012	1	2014
Paromomycin/Gentamicin TLC Phase 3 Clinical Trials	3	2011	3	2013
Paromomycin/Gentamicin TLC Milestone C (MS-C)	1	2014	1	2014
Paromomycin/Gentamicin TLC New Drug Application (NDA)	4	2014	4	2014
Paromomycin/Gentamicin TLC FDA Approval	4	2015	4	2015
Paromomycin/Gentamicin TLC	1	2016	4	2017
Leishmania Rapid Diagnostic Device MS-C	1	2014	1	2014
Leishmania Rapid Diagnostic Device FDA Approval	2	2014	2	2014
Leishmania Rapid Diagnostic Device Fielding/Delivery	4	2014	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>				PROJECT VS8: <i>MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - END DEV</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
VS8: <i>MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - END DEV</i>	-	-	2.421	-	2.421	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Funding for this project starts in FY 2013. Original models of Army Black Hawk MEDEVAC helicopters continue to play a major role in maintaining high US troop survival rates in Iraq and Afghanistan by evacuating wounded troops in less than one-hour. In 2009, a VCSA-approved force design update increased the number of air frames in the force from 12 to 15 aircraft for 37 MEDEVAC companies to better meet operational needs. In 2010, the Army Medical Department (AMEDD) accepted life-cycle management of the MEDEVAC MEP from PEO Aviation. In order to achieve required operational capability and enhance commonality across the MEDEVAC fleet, the MEDEVAC MEP program upgrades and retrofits the 256 MEDEVAC legacy helicopters to achieve the medical capability provided by the HH-60M, which is factory built for the MEDEVAC mission.

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

	FY 2011	FY 2012	FY 2013
Title: MEDEVAC Mission Sensor Forward Looking Infrared Radar (FLIR)	-	-	2.421
Description: MEDEVAC Mission Sensor (MMS) FLIR for UH-60 aircraft. One of the requirements for the UH-60A/L MEDEVAC is a sensor system that will assist the pilots in locating patient pick-up points and assist them in maintaining situational awareness in night and adverse weather conditions. The MMS is currently being qualified for use on the HH-60M aircraft. This system will be installed on UH-60 aircraft using the proven Sponson-Mount FLIR system, which is currently being used in Operation Enduring Freedom (OEF) for the MEDEVAC mission.			
FY 2013 Plans: Will transition from VS7 and complete testing and integration of the Talon FLIR into the aircraft sponson to ensure maximum capability of the sensor, while minimizing impact to aircraft performance.			
Accomplishments/Planned Programs Subtotals	-	-	2.421

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

N/A

D. Acquisition Strategy

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT VS8: <i>MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - END DEV</i>

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT VS8: <i>MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - END DEV</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MEDEVAC Mission Sensor Forward Looking Infrared	TBD	Redstone Arsenal,AL	-	-		1.800		-		1.800	0.000	1.800	0.000
Subtotal			-	-		1.800		-		1.800	0.000	1.800	0.000

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
No product/contract costs greater than \$1M individually	SS/UCA	Redstone Arsenal:AL	-	-		0.621		-		0.621	0.000	0.621	0.000
Subtotal			-	-		0.621		-		0.621	0.000	0.621	0.000

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		2.421		-		2.421	0.000	2.421	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT VS8: <i>MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - END DEV</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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

MEDEVAC Mission Sensor (MMS) FLIR	<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 40%;"></td> <td style="width: 40%; background-color: black;"></td> <td style="width: 20%;"></td> </tr> </table>			

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	PROJECT VS8: <i>MEDEVAC MISSION EQUIPMENT PACKAGE (MEP) - END DEV</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MEDEVAC Mission Sensor (MMS) FLIR	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	37.707	76.248	104.983	-	104.983	67.977	26.641	14.180	12.155	Continuing	Continuing
016: <i>Close Combat Capabilities ENG DEV</i>	19.280	0.012	0.012	-	0.012	0.012	0.013	0.013	0.013	Continuing	Continuing
415: <i>MINE NEUTRAL/DETECTION</i>	18.427	67.282	90.861	-	90.861	53.214	19.812	14.167	12.142	Continuing	Continuing
434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>	-	8.954	14.110	-	14.110	14.751	6.816	-	-	Continuing	Continuing

Note

FY 2011: \$46.0 million Congressional decrement. -\$24.2M for FY11 Rescission.

FY 2012: \$11.1 million Congressional decrement.

FY 2013: \$39.828 million increase to support additional efforts in the following programs: Autonomous Mine Detection System, Explosive Hazard Pre-Detonation, Interrogation Arms, Vehicle Optical Sensor System and the Route Clearance Integration System.

A. Mission Description and Budget Item Justification

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

Project 016, Close Combat Capabilities Engineering Development, provided for the development of the anti-vehicle mine replacement, Scorpion (previously the Intelligent Munitions System (IMS)), which supported the current force in accordance with the landmine policy. In FY 2011, the Department directed the restructure of the Scorpion program in FY 2011 due to affordability. The Scorpion contract was closed out in September 2011. A more cost effective anti-vehicular capability will be developed under a Spider Increment II program starting in FY 2012.

Project 415, Mine Neutralization/Detection provides for development of next generation standoff detection capability programs such as Ground Vehicle Sub Surface Sensor System (GVS4), Multi-Function Display (MFD), development of interface kits and the Autonomous Mine Detection System (AMDS). It also supports development of training devices for Military Working Dogs involved in mine/Improvised Explosive Device (IED) detection and Explosive Hazard Pre-Detonation (EHP) capability to neutralize/detonate a broad spectrum of improvised explosive hazards while on the move, to support the route clearance mission.

Project 434, Anti-Personnel (AP) Landmine Alternatives - Spider Networked Munitions (NM) is an integrated system of effects (lethal anti-personnel (AP), anti-vehicle (AV), non-lethal), software, and communications. The Spider system is a hand emplaced, remotely controlled (Man-In-The Loop) system that provides highly

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>
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responsive terrain-shaping and protection capabilities. Spider Inc 1 replaces persistent anti-personnel landmines, is compliant with US National Landmine policy, and has been fielded to Afghanistan. Spider Inc 2 will build on the existing Spider system, develop additional capabilities to enhance the Spider Remote Control Station and demonstrate the ability to employ legacy Government-Of-The-Shelf (GOTS) lethal anti-vehicle (AV) munitions. Spider Increment 2 is the recipient of the transferred AV landmine alternative mission from the Intelligent Munitions System program (Scorpion) that was closed out due to affordability. Follow-on Increments of the Spider program will leverage heavy AV/Anti-Tank (AT) munitions effects technology to close the capability gap left by the end use of persistent AP and AV/AT legacy landmines IAW National Landmine Policy.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	95.577	87.426	65.155	-	65.155
Current President's Budget	37.707	76.248	104.983	-	104.983
Total Adjustments	-57.870	-11.178	39.828	-	39.828
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	14.030	-			
• SBIR/STTR Transfer	-1.258	-			
• Adjustments to Budget Years	-46.000	-11.178	39.828	-	39.828
• Other Adjustments 1	-0.442	-	-	-	-
• Other Adjustments 2	-24.200	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>				PROJECT 016: <i>Close Combat Capabilities ENG DEV</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
016: <i>Close Combat Capabilities ENG DEV</i>	19.280	0.012	0.012	-	0.012	0.012	0.013	0.013	0.013	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Close Combat Capabilities Engineering Development, provided for the development of the anti-vehicle mine replacement, Scorpion (previously the Intelligent Munitions System (IMS)), which supported the current force in accordance with the landmine policy. In FY 2011, the Department directed the restructure of the Scorpion program in FY 2011 due to affordability. The Scorpion contract was closed out in September 2011. A more cost effective anti-vehicular capability will be developed under a Spider Increment II program starting in FY 2012

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

	FY 2011	FY 2012	FY 2013
<p>Title: Complete IMS/Scorpion Increment-I System Development.</p> <p>Description: This is the main effort to develop the IMS/Scorpion</p> <p>FY 2011 Accomplishments: Complete hardware and software integration.</p>	3.800 0	-	-
<p>Title: Hardware fabrication to support Government Qualification Testing</p> <p>Description: FY 2010-FY 2011 Hardware Fabrication to Support Government Qualification Testing.</p> <p>FY 2011 Accomplishments: Refine MPO/TPO, and fabricate system hardware for FY 2011 Government Qualification tests.</p>	6.477 0	-	-
<p>Title: IMS/Scorpion Increment-I modeling and simulation.</p> <p>Description: Continue to conduct IMS/Scorpion Increment-I modeling and simulation.</p> <p>FY 2011 Accomplishments: Completed Verification and Validation (V&V) of Scorpion models.</p>	0.141 0	-	-
<p>Title: Conduct IMS/Scorpion Increment-I Government Development and Operational Testing.</p>	1.007 0	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 016: <i>Close Combat Capabilities ENG DEV</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Description: Conduct IMS/Scorpion Inc-I Government Development and Operational Testing.				
FY 2011 Accomplishments: Conduct operational testing: Limited User Test.				
Title: Work with PEO-STRI to develop an IMS Training Device				
Description: Develop IMS training device with PEO-STRI.				
FY 2011 Accomplishments: Conduct Logistics Demonstration and User Jury.				
Title: Scorpion Engineering Support				
Description: Scorpion Engineering Support				
FY 2011 Accomplishments: Provide engineering and modeling support for the Scorpion System				
Title: Scorpion Program Restructure				
Description: The Department directed the restructure of the Scorpion program in FY 2011 due to affordability. A more cost effective anti-vehicular capability will be developed under a Spider Increment II program starting in FY 2012.				
FY 2011 Accomplishments: Funding returned from original closeout effort of \$19,280K for the Scorpion program. Returned \$5000K which was reported as program efficiencies.				
FY 2012 Plans: No funding required for the Scorpion Program.				
FY 2013 Plans: No funding required for the Scorpion Program.				
Accomplishments/Planned Programs Subtotals		0.050 0	-	-
		2.805 0	-	-
		5.000 0	0.012 0	0.012
		19.280	0.012	0.012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 016: <i>Close Combat Capabilities ENG DEV</i>

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

D. Acquisition Strategy
The Intelligent Munitions System (IMS) Scorpion was being developed as an evolutionary acquisition program utilizing an incremental approach. This strategy addressed all IMS Scorpion capabilities in the requirements document. The first increment would have supported National Landmine Policy and provided full spectrum weapons system effectiveness in offensive, defensive, and stability operations. In June 2006, a competitive Engineering and Manufacturing Development (EMD) Contract was awarded to Textron Defense Systems of Wilmington, MA. This contract was closed out September 2011.

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 016: <i>Close Combat Capabilities ENG DEV</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IMS	MIPR	PM CCS:Picatinny Arsenal, NJ	11.555	-		-		-		-	Continuing	Continuing	Continuing
IMS	SS/FP	BRTRC:Alexandria, VA	3.440	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			14.995	-		-		-		-			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Scorpion System Development & Demonstration	SS/CPIF	Textron Defense Systems, Wilmington, MA	302.932	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			302.932	-		-		-		-			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IMS Engineering Support	MIPR	ARDEC:Picatinny Arsenal, NJ	39.807	-		-		-		-	Continuing	Continuing	Continuing
Modeling and Simulation	MIPR	NVESD:Ft Belvoir, VA	2.091	-		-		-		-	Continuing	Continuing	Continuing
C4ISR and IA	MIPR	CECOM:Ft Monmouth, NJ	1.426	-		-		-		-	Continuing	Continuing	Continuing
IMS Engineering Support	MIPR	CERDEC:Ft Monmouth, NJ	8.853	-		-		-		-	Continuing	Continuing	Continuing
PEO STRI	MIPR	PEO STRI:Orlando, VL	0.470	-		-		-		-	Continuing	Continuing	Continuing
IMS - PM HMS	MIPR	PM HMS:Ft Monmouth, NJ	4.144	-		-		-		-	Continuing	Continuing	Continuing
ARL	MIPR	ARL HRED:Aberdeen, MD	0.660	-		-		-		-	Continuing	Continuing	0.000
Miscellaneous	TBD	Various:Various	5.000	0.012		0.012		-		0.012	Continuing	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>MINE NEUTRAL/DETECTION</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
415: <i>MINE NEUTRAL/DETECTION</i>	18.427	67.282	90.861	-	90.861	53.214	19.812	14.167	12.142	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This Project provides for Engineering Manufacturing and Development (EMD) for the next generation of capabilities to detect, identify and neutralize explosive hazards such as Improvised Explosive Devices (IEDs) and landmines. These capabilities are a Family of Systems (FOS) encompassing handheld, vehicle mounted, small robotic mounted, aerial platform mounted and area clearance systems operating in manned, remotely controlled, semi-autonomous or fully autonomous modes. Continued development of this FOS is necessary to support Route Clearance Platoons located within both Engineer Companies, and Brigade Combat Teams.

The Husky Mounted Detection System (HMDS) provides state of the art detection (ground penetrating radar) of surface laid and shallow buried explosive hazards (IEDs and landmines), deep buried cache detection, and semi-autonomous operation in support of route clearance missions. HMDS is a mission equipment package mounted on Husky route clearance vehicles and is located within Route Clearance Platoons.

The Route Clearance & Interrogation System (RCIS) is a two vehicle system which provides a standoff capability to detect and neutralize the full spectrum of explosive hazards using semi-autonomous, teleoperated controls. RCIS Type 1 will be based on the High Mobility Engineering Excavator (HMEE) and be capable of interrogating and classifying explosive hazards. RCIS Type 2 will be based on the RG-31 and be able to detect, neutralize and proof explosive hazards. RCIS capabilities will be employed on Route Clearance Squads and Engineer Platoons. Beginning in FY13, funding will also be used for interoperability.

The Vehicle Optical Sensor System (VOSS) provides a telescoping, gyro-stabilized, high-resolution, triple sensor (daylight, night-vision, and thermal-imaging) surveillance system to optically detect from standoff distances, explosive hazards (IEDs and landmines) and their trigger sources. VOSS is mounted on Medium Mine Protected Vehicles (MMPV) and the Joint EOD Rapid Response Vehicle (JERRV) located within Route Clearance Platoons and EOD Companies.

The Ground Vehicle Sub Surface Sensor System (GVS4) is a payload with detection and neutralization equipment mounted and integrated on manned or unmanned platforms to support Army Heavy and Infantry BCTs. This package may include downward looking, forward looking and side-looking radars, articulating crane arms with digging attachments and standoff optical and thermal viewing capabilities.

The Multi-Function Display (MFD) provides view/control capability of the enablers (Interrogation Arms, VOSS, Man Transportable Robotic System, Drivers Vision Enhancement, Vehicle Situational Awareness Cameras) in the Medium Mine Protected Vehicle (MMPV) to all Operators. New capabilities will be added into that display to view and control future Unmanned Ground Vehicle Systems (UGVs) programs Route Clearance & Integration System (RCIS) and Husky Mounted Detection System (HMDS) and view Unmanned Aerial Vehicles video feeds. Additional software will need to be developed to add these capabilities. In addition, a new capability to push the video feeds of all of the enablers (Interrogation Arms, VOSS, Man Transportable Robotic System, Drivers Vision Enhancement, Vehicle Situational Awareness Cameras) from various vehicles within a Route Clearance Patrol will be developed.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>MINE NEUTRAL/DETECTION</i>
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The following RCV enablers will have interface kits (A-Kits) developed so that they will integrate onto the various Route Clearance Vehicles:

- Wire Neutralization System on the Medium Mine Protected Vehicle (MMPV) Type II
- Debris Blower on the Buffalo Mine Protected Clearance Vehicle (MPCV)
- RCIS on the MMPV Type I & II and Buffalo MPCV
- HMDS on the Husky and MMPV Type I & II
- An interface kit (A-Kit) for all RCVs for the next generation Add-on-Armor (AoA) kits.

An improvement to interior and exterior storage will be developed for the MMPV Type I & Type II vehicles to account for additional responsibilities of the crew members and to better utilize the storage space available within the vehicles.

The Military Working Dogs will fund development of training devices and a worldwide deployable kennel for transporting/housing of the animals involved in explosive hazard detection and qualification of new explosive scents as part of kits procured.

The Area Mine Proofing System (AMPS) will provide improved capabilities for area clearance of explosive hazards including remote control kits (teleoperational capability) for the medium mine clearing flails that integrates a proofing mechanism with a prime mover.

Explosive Hazard Pre-Detonation (EHP) capability to include a roller, debris blower, and Wire Neutralization System (WNS) to neutralize/detonate a broad spectrum of improvised explosive hazards while on the move, to support route clearance mission.

Autonomous Mine Detection System (AMDS) provides stand-off detection for the dismounted soldier. AMDS consist of three payloads for a robotic platform. The payloads are for surface laid and buried threat detection and marking, explosive hazards trace detection and marking, and neutralization. AMDS will transition from Technical Development to Engineering and Manufacturing Development (EMD) in FY2013. AMDS will integrate technologies into the best available solution during EMD.

Interrogation Arms is a mechanical counter IED asset deployed to assist route clearance teams in interrogating/confirming IED targets. Provides interrogation of suspected explosive hazards and a camera to identify targets.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>Title: GVS4 Support</p> <p align="right">Articles:</p> <p>Description: GVS4 Program Support</p> <p>FY 2011 Accomplishments: GVS4 Program Support</p>	<p>4.572</p> <p>0</p>	<p>-</p>	<p>-</p>
Title: Military Working Dog Kit Development	1.300	1.260	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>MINE NEUTRAL/DETECTION</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Articles:		0	0	
Description: FY 2011 Military Working Dog Kit Development				
FY 2011 Accomplishments: FY 2011 Military Working Dog Kit Development				
FY 2012 Plans: FY 2012 Military Working Dog Kit Development				
Title: Military Working Dog Support Equipment Program Management		0.250	0.250	-
Articles:		0	0	
Description: Military Working Dog Support Equipment Program Management				
FY 2011 Accomplishments: Military Working Dog Support Equipment Program Management				
FY 2012 Plans: Military Working Dog Support Equipment Program Management				
Title: Military Working Dog Contractor Support		0.150	0.150	-
Articles:		0	0	
Description: FY2011: Military Working Dog Contractor Support				
FY 2011 Accomplishments: FY2011: Military Working Dog Contractor Support				
FY 2012 Plans: FY2012: Military Working Dog Contractor Support				
Title: HMDS		-	38.223	40.522
Articles:			0	
Description: HMDS				
FY 2012 Plans: HMDS Document Prep and Testing of Individual Sensors				
FY 2013 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>MINE NEUTRAL/DETECTION</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
HMDS Source Selection and EMD Contract Award				
Title: VOSS MDD & Milestone C Prep Description: VOSS MDD & Milestone C Prep FY 2012 Plans: VOSS MDD & Milestone C Prep FY 2013 Plans: VOSS, Milestone C & SSEB		-	4.360 0	5.862
		Articles:		
Title: EHP Description: FY 2012: EHP Contract Award FY 2012 Plans: EHP Contract Award FY 2013 Plans: FY2013: EHP Debris Blower and Wire Neutralization System (WNS) Technical Insertion Contract Awards		-	9.956 0	21.300
		Articles:		
Title: RCIS Description: FY 2012: RCIS MDD, Program Documentation Prep FY 2012 Plans: RCIS MDD, Program Documentation Prep FY 2013 Plans: Contract Award		-	5.364 0	7.960
		Articles:		
Title: AMPS MDD and MS B Preparation Description: AMPS MDD and MS B Preparation FY 2012 Plans:		-	7.719 0	-
		Articles:		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
AMPS MDD and MS B Preparation			
Title: AMDS Description: AMDS FY 2013 Plans: FY13 Description: Design Develop Mission AMDS Integrate and Test AMDS Package	-	-	14.445
Title: Interrogation Arms Description: Interrogation Arms FY 2013 Plans: Integration & Testing Verification	-	-	0.772
Title: Homemade Explosive Standoff Detection Description: Homemade Explosive Standoff Detection FY 2011 Accomplishments: Homemade Explosive Standoff Detection	12.155 0	-	-
Accomplishments/Planned Programs Subtotals			
	18.427	67.282	90.861

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 606: <i>Countermine/Barrier Advanced Dev</i>	14.686	19.596	5.054		5.054		5.362	5.054	5.051	Continuing	Continuing
• R68102: <i>GSTAMIDS</i>	220.620	20.678					98.765	75.867	99.957	Continuing	Continuing
• MA7700: <i><\$5M, Countermine Equipment</i>	3.635	7.352	3.698		3.698		4.581	3.760	3.826	Continuing	Continuing

D. Acquisition Strategy
AMDS, HMDS, VOSS, RCIS, A-Kits, AMPS and MWD will all be competitively solicited and contract awards projected in FY 2012-2014. EHP Roller, Debris Blower and Wire Neutralization System technology insertion effort is intended to meet the Explosive Hazards Pre-detonation KSA and KPP requirements. AMDS is currently in technology development effort and will be completed in FY 2013. Engineering Manufacturing Development will commence in FY 2013.

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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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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>MINE NEUTRAL/DETECTION</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	PM-CCS:Picatinny Arsenal, NJ	11.154	3.002		4.618		-		4.618	Continuing	Continuing	0.000
Program Management Contractor Support	PO	USFALCON:Fairfax, VA	10.670	0.953		0.709		-		0.709	Continuing	Continuing	0.000
Program Management Contractor Support	PO	TBD:TBD	-	1.106		-		-		-	Continuing	Continuing	0.000
MFD	TBD	Various:TDB	-	-		-		-		-	0.930	0.930	0.930
Interface Kits	TBD	Various:TBD	-	-		-		-		-	0.100	0.100	0.100
Subtotal			21.824	5.061		5.327		-		5.327			1.030

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GSTAMIDS (GSV4)	Various	BAE Systems:Austin, TX	101.380	-		-		-		-	Continuing	Continuing	Continuing
ACERTS	Various	Northrop Grumman:Northrop Grumman	91.997	-		-		-		-	Continuing	Continuing	Continuing
MWD	TBD	TBD:TBD	1.300	0.571		-		-		-	Continuing	Continuing	Continuing
HMDS	TBD	TBD:TBD	-	31.123		18.380		-		18.380	0.000	49.503	0.000
EHP Roller	TBD	TBD:TBD	-	6.096		-		-		-	Continuing	Continuing	Continuing
EHP Debris Blower/WNS	TBD	TBD:TBD	-	-		16.300		-		16.300	Continuing	Continuing	0.000
RCIS	TBD	TBD:TBD	-	4.675		8.936		-		8.936	Continuing	Continuing	Continuing
AMDS	TBD	TBD:TBD	-	-		8.886		-		8.886	Continuing	Continuing	Continuing
AMPS	TBD	TBD:TBD	-	6.017		-		-		-	Continuing	Continuing	Continuing
VOSS	TBD	TBD:TBD	-	-		0.600		-		0.600	Continuing	Continuing	Continuing
Multi Functional Display	TBD	TBD:TBD	-	-		-		-		-	3.045	3.045	3.045
Interface Kits	TBD	TBD:TBD	-	-		-		-		-	1.830	1.830	1.830

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>MINE NEUTRAL/DETECTION</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Homemade Explosive Standoff Detection	MIPR	SMDC, Huntsville AL:MIPR	12.155	-		-		-		-	0.000	12.155	0.000
Subtotal			206.832	48.482		53.102		-		53.102			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GSTAMIDS (GSV4)	MIPR	Various OGAs:Various OGAs	6.326	-		-		-		-	Continuing	Continuing	0.000
GSTAMIDS (GSV4) Engineering Support	MIPR	NVESD/CECOM:Fort Belvoir, VA	11.220	-		-		-		-	Continuing	Continuing	0.000
GSTAMIDS (GSV4) Support	PO	Various Contractors:Various Contractors	2.113	-		-		-		-	Continuing	Continuing	0.000
ACERTS Engineering Support	MIPR	NVESD/CECOM:Fort Belvoir, VA	8.853	-		-		-		-	Continuing	Continuing	0.000
ACERTS (Change Detection)	MIPR	NVESD/CECOM:Fort Belvoir, VA	-	-		-		-		-	Continuing	Continuing	0.000
ACERTS Support	Various	Various Contractors:Various Contractors	1.790	-		-		-		-	Continuing	Continuing	0.000
Military Working Dogs	MIPR	Various:TBD	-	0.646		-		-		-	0.000	0.646	0.000
HMDS	MIPR	NVESD/CECOM:Fort Belvoir, VA	-	2.600		15.700		-		15.700	Continuing	Continuing	0.000
AMDS	C/TBD	TBD:TBD	-	-		3.270		-		3.270	Continuing	Continuing	Continuing
EHP	C/TBD	ARDEC:Picatinny Arsenal, NJ	-	2.500		3.000		-		3.000	Continuing	Continuing	0.000
VOSS	MIPR	NVESD/CECOM:Fort Belvoir, VA	-	3.690		-		-		-	Continuing	Continuing	0.000
RCIS	MIPR	Various OGAs:Various OGAs	-	0.350		-		-		-	Continuing	Continuing	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AMPS	MIPR	Various OGAs:Various OGAs	-	0.772		-		-		-	Continuing	Continuing	0.000
MFD	TBD	Various:TBD	-	-		-		-		-	0.705	0.705	0.705
Interface Kits	TBD	Various:TBD	-	-		-		-		-	0.380	0.380	0.380
VOSS	C/TBD	TBD:TBD	-	-		1.608		-		1.608	Continuing	Continuing	Continuing
IA	C/TBD	TBD:TBD	-	-		0.600		-		0.600	Continuing	Continuing	0.000
Subtotal			30.302	10.558		24.178		-		24.178			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
GSV4 Test Support	MIPR	ATEC:Alexandria, VA	2.277	-		-		-		-	Continuing	Continuing	0.000
ACERTS	MIPR	ATEC:Alexandria, VA	5.224	-		-		-		-	0.500	5.724	0.000
MWD	MIPR	ATEC:Alexandria, VA	0.050	0.170		-		-		-	0.000	0.220	0.000
HMDS	MIPR	ATEC:Alexandria, VA	-	1.500		3.000		-		3.000	Continuing	Continuing	Continuing
EHP	MIPR	ATEC:Alexandria, VA	-	1.000		1.250		-		1.250	Continuing	Continuing	Continuing
RCIS	MIPR	ATEC:Alexandria, VA	-	0.136		-		-		-	0.000	0.136	0.000
AMDS	MIPR	ATEC:Alexandria, VA	-	-		0.850		-		0.850	Continuing	Continuing	Continuing
VOSS	C/TBD	ATEC:Alexandria, VA	-	-		3.154		-		3.154	Continuing	Continuing	Continuing
AMPS	MIPR	ATEC:Alexandria, VA	-	0.375		-		-		-	0.000	0.375	0.000
MFD	TBD	Various:TBD	-	-		-		-		-	1.620	1.620	1.620
Interface Kits	TBD	Various:TBD	-	-		-		-		-	1.675	1.675	1.675
Subtotal			7.551	3.181		8.254		-		8.254			

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		266.509	67.282		90.861	-		90.861			

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>MINE NEUTRAL/DETECTION</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
HMDS Material Development Decision (MDD)					■																							
HMDS Milestone B									■																			
HMDS Milestone C																■												
HMDS Low Rate Initial Production (LRIP)																■												
HMDS FUE																												■
HMDS Full Rate Production (FRP) Decision																				■								
EHP Roller Material Development Decision (MDD)							■																					
EHP Roller Milestone C												■																
EHP Roller Low Rate Initial Production (LRIP)												■	■	■	■	■												
EHP Roller Full Rate Production (FRP) Decision																■												
VOSS Material Development Decision (MDD)							■																					
VOSS Milestone C												■																
VOSS Low Rate Initial Production (LRIP)												■																
VOSS Full Rate Production (FRP) Decision																■												
RCIS Material Development Decision (MDD)								■																				
RCIS Milestone C												■																
RCIS Low Rate Initial Production (LRIP)												■	■	■	■	■												
RCIS Full Rate Production (FRP) Decision																				■								
RCIS FUE																												■
AMPS Milestone C												■																
AMPS Low Rate Initial Production (LRIP)																■	■	■	■	■								
AMPS Full Rate Production (FRP) Decision																				■								
MFD Prototype Development																												■

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
MFD Low Rate Intial Production (LRIP)																												
MFD Testing																												
A-Kits Prototype Development																												
A-Kits Low Rate Initial Production																												
A-Kits LRIP Testing																												
A-Kits Full Rate Production																												
AMDS Milestone B																												
AMDS Pre-EMD IPR																												
AMDS Pre-P&D IPR																												
AMDS Critical Design Review																												
AMDS Milestone C																												
MWD Milestone C																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>MINE NEUTRAL/DETECTION</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
HMDS Material Development Decision (MDD)	2	2012	2	2012
HMDS Milestone B	2	2013	2	2013
HMDS Milestone C	4	2014	4	2014
HMDS Low Rate Initial Production (LRIP)	4	2014	4	2014
HMDS FUE	4	2017	4	2017
HMDS Full Rate Production (FRP) Decision	3	2015	3	2015
EHP Roller Material Development Decision (MDD)	3	2012	3	2012
EHP Roller Milestone C	4	2013	4	2013
EHP Roller Low Rate Initial Production (LRIP)	4	2013	4	2014
EHP Roller Full Rate Production (FRP) Decision	3	2014	3	2014
VOSS Material Development Decision (MDD)	2	2012	2	2012
VOSS Milestone C	2	2013	2	2013
VOSS Low Rate Initial Production (LRIP)	2	2013	2	2013
VOSS Full Rate Production (FRP) Decision	3	2014	3	2014
RCIS Material Development Decision (MDD)	4	2012	4	2012
RCIS Milestone C	2	2013	2	2013
RCIS Low Rate Initial Production (LRIP)	4	2013	3	2014
RCIS Full Rate Production (FRP) Decision	1	2015	1	2015
RCIS FUE	4	2014	4	2014
AMPS Milestone C	4	2013	4	2013
AMPS Low Rate Initial Production (LRIP)	1	2014	2	2014
AMPS Full Rate Production (FRP) Decision	1	2015	1	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>MINE NEUTRAL/DETECTION</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
MFD Prototype Development	1	2015	4	2015
MFD Low Rate Intial Production (LRIP)	4	2015	3	2016
MFD Testing	3	2016	3	2017
A-Kits Prototype Development	1	2014	3	2015
A-Kits Low Rate Initial Production	2	2014	3	2015
A-Kits LRIP Testing	4	2014	4	2015
A-Kits Full Rate Production	2	2015	2	2016
AMDS Milestone B	2	2013	2	2013
AMDS Pre-EMD IPR	4	2012	4	2012
AMDS Pre-P&D IPR	2	2015	2	2015
AMDS Critical Design Review	2	2014	2	2014
AMDS Milestone C	4	2015	4	2015
MWD Milestone C	4	2013	4	2013

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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
434: ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)	-	8.954	14.110	-	14.110	14.751	6.816	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Spider Networked Munitions (NM) is an integrated system of effects (lethal anti-personnel (AP), anti-vehicle (AV), non-lethal), software, and communications. The Spider system is a hand emplaced, remotely controlled (Man-In-The Loop) system that provides highly responsive terrain-shaping and protection capabilities. Spider Inc 1 replaces persistent anti-personnel landmines, is compliant with US National Landmine policy, and has been fielded to Afghanistan. Spider Inc 2 will build on the existing Spider system, develop additional capabilities to enhance the Spider Remote Control Station and demonstrate the ability to employ legacy Government-Of-The-Shelf (GOTS) lethal anti-vehicle (AV) munitions. Spider Increment 2 is the recipient of the transferred AV landmine alternative mission from the Intelligent Munitions System program (Scorpion) that was closed out due to affordability. Follow-on Increments of the Spider program will leverage heavy AV/Anti-Tank (AT) munitions effects technology to close the capability gap left by the end use of persistent AP and AV/AT legacy landmines IAW National Landmine Policy.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Spider Increment 2 Development Contract</p> <p align="right">Articles:</p> <p>Description: Develop NM Increment 2 Controller and ability to employ/control AP & AV.</p> <p>FY 2012 Plans: Spider Inc. 2 EMD contract development</p> <p>FY 2013 Plans: Spider Inc. 2 EMD contract development</p>	-	4.336 0	10.511
<p>Title: Engineering Support In House</p> <p align="right">Articles:</p> <p>Description: Perform engineering support.</p> <p>FY 2012 Plans: Provide Spider NM Increment 2 engineering support to support development of Milestone Documentation for MS B, development of procurement package, source selection, and pre and post contract award technical activities.</p> <p>FY 2013 Plans:</p>	-	4.033 0	3.050

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Spider NM Increment 2 engineering support to EMD contract.			
Title: PM Management and Oversight	-	0.585	0.549
Articles:		0	
Description: Perform program management to support program executions, MS B & contract award.			
FY 2012 Plans: Program Management and support Spider NM Increment 2.			
FY 2013 Plans: Program Management and support Spider NM Increment 2.			
Accomplishments/Planned Programs Subtotals	-	8.954	14.110

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• Spider Network Munitions: PAA <i>Spider Increment 1 Program</i>	8.269	43.123	17.408		17.408					0.000	68.800
• Spider - APLA Remote Control Unit: OPA2 Spider Increments 1 & 2	6.720	36.224	34.365		34.365		14.620	6.744	6.861	0.000	117.595

D. Acquisition Strategy
The Spider program is being developed as an evolutionary acquisition, using an incremental approach. The incremental strategy will address all Spider requirements in the Requirements Document. The first increment meets US National Landmine Policy for Anti Personnel (AP) and is currently fielded in Theatre in Afghanistan. Increment 1 serves as the baseline design for the follow-on increments enabling technology development to ensure the follow-on increments requirement can be rapidly achieved at the best value to the Government. A competitive Engineering Manufacturing Development (EMD) contract with Low Rate Initial Production (LRIP) options will be utilized.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider - Program Mgmt	Various	PM-CCS:Picatinny Arsenal, NJ	-	0.585		0.549		-		0.549	Continuing	Continuing	0.000
Subtotal			-	0.585		0.549		-		0.549			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider EMD	C/CPIF	TBD:TBD	-	4.336		10.511		-		10.511	0.000	14.847	0.000
Subtotal			-	4.336		10.511		-		10.511	0.000	14.847	0.000

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Spider - Eng support	MIPR	TACOM/ARDEC:Warren, MI/Picatinny Arsenal, NJ	-	2.641		2.000		-		2.000	Continuing	Continuing	0.000
Spider - Eng support	MIPR	Various:Various	-	0.220		0.200		-		0.200	Continuing	Continuing	0.000
Mitre provide C4 Support	MIPR	Mitre McLean, VA	-	0.700		0.650		-		0.650	0.000	1.350	0.000
Spider - Eng support	Various	BRTRC, Fairfax, VA	-	0.472		0.200		-		0.200	Continuing	Continuing	0.000
Subtotal			-	4.033		3.050		-		3.050			0.000

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	8.954		14.110		-		14.110			0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Industry Day							■																					
Pre-EMD Review							■																					
RFP								■																				
Source Selection								■																				
MS B											■																	
Contract Award											■																	
Spider Increment 2 Development											■																	
Contractor / Government DT															■													
LUT															■													
MS C / LRIP Decision																			■									
PVT																							■					
Initial Operational Test																											■	
Full Rate Production Decision																												■
Initial Operational Capability																												■

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 434: <i>ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Industry Day	3	2012	3	2012
Pre-EMD Review	3	2012	3	2012
RFP	4	2012	4	2012
Source Selection	4	2012	1	2013
MS B	1	2013	1	2013
Contract Award	2	2013	2	2013
Spider Increment 2 Development	2	2013	3	2015
Contractor / Government DT	3	2014	2	2015
LUT	1	2015	1	2015
MS C / LRIP Decision	3	2015	3	2015
PVT	1	2016	1	2016
Initial Operational Test	2	2016	2	2016
Full Rate Production Decision	4	2016	4	2016
Initial Operational Capability	1	2017	1	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604814A: <i>Artillery Munitions - EMD</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	25.467	37.592	4.346	-	4.346	2.327	-	-	-	Continuing	Continuing
708: <i>XM982 PROJECTILE</i>	25.467	37.592	4.346	-	4.346	2.327	-	-	-	Continuing	Continuing

Note

FY 2012: Funds reduced by \$5.0 million by the Appropriation Conference for program growth adjustment.

A. Mission Description and Budget Item Justification

Excalibur provides improved fire support through a Precision Guided Extended Range family of munitions with greatly increased accuracy and significantly reduces collateral damage in most urban environments. The Excalibur is interoperable with the M777A2 Lightweight 155mm howitzer (LW155), the M109A6 (Paladin) howitzer, and Sweden's Archer howitzer. Excalibur will provide a 33% range increase over current Rocket Assisted Projectiles, with a 10 meter accuracy (Circular Error Probable) at all ranges. Excalibur is an international program, teamed with the Kingdom of Sweden (KoS), who contributes resources towards the development and have procured rounds in accordance with an established Project Agreement for use in their Archer howitzer.

The Excalibur program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible, and to deliver advanced capabilities at lower costs as technology matures. Increment Ia-1 has been fielded to units in Iraq and Afghanistan in response to urgent need requests in support of Operation Iraqi Freedom (as of September 2010 re-named to Operation New Dawn) and Operation Enduring Freedom. Production deliveries continue to support the Warfighters. Increment Ia-2 was fielded in early FY 2012 and greatly increases range (from 25.2km to 37.5km) to LW155 and Paladin howitzers. Increment Ib will provide further performance improvements while significantly lowering unit costs.

The Army reviewed the Excalibur program in 2010 during the Precision Fires Capability Portfolio review, a process to holistically examine, validate or modify requirements across the precision fires portfolio. At the conclusion of this review, the Army decided to significantly reduce the Excalibur program's procurement objective quantity, resulting in a Nunn-McCurdy breach for both the Average Procurement Unit Cost and Program Acquisition Unit Cost. The restructured program was certified by the Defense Acquisition Executive (DAE) on January 10, 2011. The DAE's Acquisition Decision Memorandum directed the program to fund the program to the Director, Cost Assessment and Program Evaluation (D,CAPE) approved acquisition cost estimate and funding profile. The profile procured directed procurement of 1,000 Increment Ia-2 Excalibur projectiles in fiscal year 2011 (a combined procurement with FY10 and FY11 funding) and Increment Ib projectiles in FY12-14 with the following quantity profile: 881; 2,001; and 573. The Army's FY12 President's Budget (PB) request was consistent with D,CAPE approved estimate, however a Congressional decrement has resulted in some modifications to the specific quantity profile, as indicted in the FY13 request.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	26.371	42.627	4.299	-	4.299
Current President's Budget	25.467	37.592	4.346	-	4.346
Total Adjustments	-0.904	-5.035	0.047	-	0.047
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.721	-			
• Adjustments to Budget Years	-	-5.035	0.047	-	0.047
• Other Adjustments 1	-0.183	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
708: <i>XM982 PROJECTILE</i>	25.467	37.592	4.346	-	4.346	2.327	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Excalibur provides improved fire support through a Precision Guided Extended Range family of munitions with greatly increased accuracy and significantly reduces collateral damage in most urban environments. The Excalibur is interoperable with the M777A2 Lightweight 155mm howitzer (LW155), the M109A6 (Paladin) howitzer, and Sweden's Archer howitzer. Excalibur will provide a 33% range increase over current Rocket Assisted Projectiles, with a 10 meter accuracy (Circular Error Probable) at all ranges. Excalibur is an international program, teamed with the Kingdom of Sweden (KoS), who contributes resources towards the development and have procured rounds in accordance with an established Project Agreement for use in their Archer howitzer.

The Excalibur program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible, and to deliver advanced capabilities at lower costs as technology matures. Increment Ia-1 has been fielded to units in Iraq and Afghanistan in response to urgent need requests in support of Operation Iraqi Freedom (as of September 2010 re-named to Operation New Dawn) and Operation Enduring Freedom. Production deliveries continue to support the Warfighters. Increment Ia-2 was fielded in early FY 2012 and greatly increases range (from 25.2km to 37.5km) to LW155 and Paladin howitzers. Increment Ib will provide further performance improvements while significantly lowering unit costs.

The Army reviewed the Excalibur program in 2010 during the Precision Fires Capability Portfolio review, a process to holistically examine, validate or modify requirements across the precision fires portfolio. At the conclusion of this review, the Army decided to significantly reduce the Excalibur program's procurement objective quantity, resulting in a Nunn-McCurdy breach for both the Average Procurement Unit Cost and Program Acquisition Unit Cost. The restructured program was certified by the Defense Acquisition Executive (DAE) on January 10, 2011. The DAE's Acquisition Decision Memorandum directed the program to fund the program to the Director, Cost Assessment and Program Evaluation (D,CAPE) approved acquisition cost estimate and funding profile. The profile procured directed procurement of 1,000 Increment Ia-2 Excalibur projectiles in fiscal year 2011 (a combined procurement with FY10 and FY11 funding) and Increment Ib projectiles in FY12-14 with the following quantity profile: 881; 2,001; and 573. The Army's FY12 President's Budget (PB) request was consistent with D,CAPE approved estimate, however a Congressional decrement has resulted in some modifications to the specific quantity profile, as indicated in the FY13 request.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Advanced Field Artillery Tactical Data Systems (AFATDS)	0.150	1.165	-	-	-
Articles:	0	0			
Description: Engineering support for Excalibur integration into Advanced Field Artillery Tactical Data Systems (AFATDS), and digital howitzer integration.					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<i>FY 2011 Accomplishments:</i> Advanced Field Artillery Tactical Data Systems (AFATDS)						
<i>FY 2012 Plans:</i> Advanced Field Artillery Tactical Data Systems (AFATDS)						
<i>Title:</i> Increment Ib development effort.	<i>Articles:</i>	22.486 0	27.555 0	3.300	-	3.300
<i>Description:</i> Increment Ib development effort.						
<i>FY 2011 Accomplishments:</i> Continuation of Increment Ib development effort to include detailed design, reliability growth, design refinement, perform Critical Design Review (CDR), and procuring test hardware for the developmental testing of Increment Ib.						
<i>FY 2012 Plans:</i> Continuation of Increment Ib development effort, complete detailed design, design refinement, procure test hardware for developmental testing and to complete qualification testing to support transition into production of Increment Ib.						
<i>FY 2013 Base Plans:</i> Completion of Increment Ib development that includes government support to transition into production.						
<i>Title:</i> Support and conduct developmental and qualification testing for Increment Ib.	<i>Articles:</i>	2.831 0	3.965 0	-	-	-
<i>Description:</i> Support and conduct developmental and qualification testing for Increment Ib.						
<i>FY 2011 Accomplishments:</i> Support and conduct developmental and qualification testing for Increment Ib.						
<i>FY 2012 Plans:</i> Support and conduct developmental and qualification testing for Increment Ib.						
<i>Title:</i> Integrated Developmental Testing/Operational Testing (DT/OT), Safety/Reliability testing, and operational assessment for Increment Ib.	<i>Articles:</i>	-	4.907 0	1.046	-	1.046

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Conduct Integrated Developmental Testing/Operational Testing (DT/OT) , Safety/Reliability testing, and operational assessment to support Low Rate Initial Production (LRIP) for Increment Ib.					
FY 2012 Plans: Conduct Integrated Developmental Testing/Operational Testing (DT/OT), initial safety and reliability testing for supporting Increment Ib, and to complete developmental testing.					
FY 2013 Base Plans: To conduct operational testing, safety and reliability testing, and operational assessment to support continued LRIP for Increment Ib.					
Accomplishments/Planned Programs Subtotals	25.467	37.592	4.346	-	4.346

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• Procurement Ammo:	30.527	58.074	110.329	12.300	122.629					0.000	279.126
<i>Procurement Ammunition Army:</i>											
<i>Proj 155mm Extended Range:</i>											
<i>XM982-U Excalibur: E80103</i>											

D. Acquisition Strategy

Excalibur is a family of Precision Guided Extended Range Munitions. In 1997, a competitive Engineering and Manufacturing Development (EMD) contract was awarded for the initial increment, with options for Low Rate Initial Production (LRIP) quantities. In coordination with the Army Acquisition Executive, the Army implemented an incremental development approach that provided for an early fielding capability in FY 2007 in response to an Urgent Needs Statement in support of Operation Iraqi Freedom (as of September 2010 re-named to Operation New Dawn) and Operation Enduring Freedom. Increment Ib was solicited as a full and open competition and awarded to two contractors in September 2008. Following the Increment Ib strategy, the Army conducted a demonstration phase followed by a shoot off between the two completing contractors and down selected to a single contractor for qualification and production. The shoot off was completed in July 2010 followed by the downselect decision on 25 August 2010 to support Phase II development and qualification.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Misc Support Contracts	Various	Various:Various	3.645	-		-		-		-	0.000	3.645	3.645
Platform Integration/Fire Control - AFATDS	SS/CPIF	Raytheon AFATDS:Fort Wayne, IN	5.317	0.280		-		-		-	Continuing	Continuing	Continuing
Govt Support for Paladin, LW155 Integration SW Development	MIPR	ARDEC, Software Engineering:Picatinny, NJ	6.775	0.885		-		-		-	0.000	7.660	6.775
Increment 1b Development Phase 2	C/CPIF	Raytheon Missile System:Tucson, AZ	40.339	21.524		-		-		-	Continuing	Continuing	Continuing
Increment 1b Development Phase 1	C/FFP	Alliant Techsystems:Pymouth, MN	30.773	-		-		-		-	0.000	30.773	30.773
Increment 1b Development Phase 1	C/FFP	Raytheon Missile System:Tucson, AZ	30.413	-		-		-		-	0.000	30.413	30.413
Platform Integration & EPIAFS Software Development	MIPR	Navy, Surface Warfare Center:MD	0.230	-		-		-		-	0.000	0.230	0.230
Follow on Precision Artillery risk reduction	C/CPFF	ARDEC:Picatinny, NJ	5.049	-		-		-		-	0.000	5.049	5.049
Platform Integration-Systems Contractor	MIPR	ARES:Annapolis, MD	0.840	-		-		-		-	0.000	0.840	0.840
TCM Merger Assessment	SS/FP	Bofors Defence, Karlskoga:Sweden	14.430	-		-		-		-	0.000	14.430	14.430
Fee on Excalibur Development Contract	C/CPIF	Raytheon Missile System:Tucson, AZ	35.377	-		-		-		-	0.000	35.377	35.377
Platform Integration LW155 M777A2	C/CPIF	BAE:Burlington, VT	11.989	-		-		-		-	0.000	11.989	11.989
ARDEC fuze technology maturation (DOTC)	SS/FP	ARDEC:Picatinny, NJ	3.872	-		-		-		-	0.000	3.872	3.872
SS-SFM Test Projectiles	C/FFP	Various:Varoius	10.815	-		-		-		-	0.000	10.815	10.815
Advanced Cargo Projectile Technology	MIPR	DMEA, McClellan:CA	2.390	-		-		-		-	0.000	2.390	2.390

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Platform Integration Firing Tables Development	MIPR	ARDEC, Firing Tables Branch Picatinny, NJ and:Aberdeen, MD	2.124	-		-		-		-	0.000	2.124	2.124
Excalibur Increment Ia Development	C/CPIF	Raytheon Missile System:Tucson, AZ	428.187	-		-		-		-	0.000	428.187	428.187
Subtotal			632.565	22.689		-		-		-			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	PO	PM Excalibur:Picatinny, NJ	27.082	0.751		0.300		-		0.300	Continuing	Continuing	Continuing
Government Support-Excalibur XM982	MIPR	ARDEC:Picatinny, NJ	61.249	5.000		3.000		-		3.000	Continuing	Continuing	Continuing
Government Support- Ft Sill	MIPR	Ft. Sill:OK	3.534	0.020		-		-		-	Continuing	Continuing	Continuing
Milestone Support	C/FP	Camber:Alexandria, VA	1.701	0.010		-		-		-	Continuing	Continuing	Continuing
Miscellaneous Support	Various	Various:Various	4.061	0.250		-		-		-	Continuing	Continuing	Continuing
Engineering Services Contract for Increment 1a-2	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	0.085	-		-		-		-	0.000	0.085	0.085
Paladin Platform Integration	MIPR	PM Paladin:Picatinny, NJ	0.930	-		-		-		-	0.000	0.930	0.930
Government Support - SS-SFM	MIPR	ARDEC:Picatinny, NJ	1.625	-		-		-		-	0.000	1.625	1.625
Technical Spt Contract for Platform Integration	C/FP	Camber:Dallas, TX	0.821	-		-		-		-	0.000	0.821	0.821
Fire Control development support	MIPR	Fort Monmouth, NJ and:Fort Sill, OK	1.008	-		-		-		-	0.000	1.008	1.008
Platform Integration Software Support	MIPR	Navy Surface Warfare Center:MD	0.390	-		-		-		-	0.000	0.390	0.390
Government TCM Support	MIPR	ARDEC:Picatinny, NJ	0.910	-		-		-		-	0.000	0.910	0.910

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Support-Advanced Cargo Projectile Technology	MIPR	ARDEC:Picatinny, NJ	0.353	-		-		-		-	0.000	0.353	0.353
Government Support Platform Integration	MIPR	ARDEC:Picatinny, NJ	6.241	-		-		-		-	0.000	6.241	6.241
PM CAS SS-SFM	PO	PM CAS:Picatinny, NJ	0.700	-		-		-		-	0.000	0.700	0.700
Increment Ia Engineering Services	MIPR	DMEA:McClellan, CA	5.078	-		-		-		-	0.000	5.078	5.078
Increment Ia Engineering Services	C/CPFF	DRS:Eatontown, NJ	12.850	-		-		-		-	0.000	12.850	12.850
Modeling and Structural Development	MIPR	Army Research Labs:Adelphi, MD	9.034	-		-		-		-	0.000	9.034	9.034
Government Engineering Support for Precision Artillery Risk Reduction	MIPR	ARDEC:Picatinny, NJ	2.750	-		-		-		-	0.000	2.750	2.750
Subtotal			140.402	6.031		3.300		-		3.300			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TECOM Test Range	MIPR	Yuma Proving Grounds:Yuma, AZ	21.093	4.180		0.650		-		0.650	Continuing	Continuing	Continuing
Test Instrumentation and Analysis	MIPR	Army Research Labs:Adelphi, MD	3.683	0.100		-		-		-	Continuing	Continuing	Continuing
Telemetry Support	SS/FFP	Physical Science Laboratories (PSL):Las Cruces, NM	2.946	0.200		-		-		-	Continuing	Continuing	Continuing
Telemetry Support	MIPR	ARDEC:Picatinny, NJ	17.711	0.100		-		-		-	Continuing	Continuing	Continuing
Telemetry Cryptographic Support & Anti-Jam Support	MIPR	Ft. Huachuca:AZ	0.743	0.150		-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Target Replacement, Definition, Maintenance and Repair and Threat Assessment	MIPR	Target Management Office:Huntsville, AL	1.486	-		-		-		-	Continuing	Continuing	Continuing
Operational Test Support & AEC	MIPR	ATEC:Alexandria, VA	9.113	0.200		0.100		-		0.100	Continuing	Continuing	Continuing
ARDEC Testing	MIPR	ARDEC:Picatinny, NJ	2.608	0.200		-		-		-	Continuing	Continuing	Continuing
TECOM Test Range	MIPR	White Sands Missile Range:NM	12.432	3.142		0.246		-		0.246	Continuing	Continuing	Continuing
Operational Test Support	MIPR	Ft. Sill:OK	3.244	0.100		0.050		-		0.050	Continuing	Continuing	Continuing
Test Gun Equipment	MIPR	Watervliet Arsenal:NY	3.972	-		-		-		-	0.000	3.972	3.972
Test Hardware	SS/CPFF	SAVIT:Parsippany, NJ	0.450	-		-		-		-	0.000	0.450	0.450
Live Fire Test and Evaluation	MIPR	ARL:Aberdeen, MD	0.697	0.500		-		-		-	Continuing	Continuing	Continuing
Tri-Service Software Assessment	MIPR	OSD:Washington, DC	0.061	-		-		-		-	0.000	0.061	0.061
SS-SFM Testing	MIPR	Yuma Proving Grounds:Yuma, AZ	2.300	-		-		-		-	0.000	2.300	2.300
Subtotal			82.539	8.872		1.046		-		1.046			
Project Cost Totals			855.506	37.592		4.346		-		4.346			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Increment Ia-2 Prod. Deliveries																												
Increment Ia-2 IOC																												
Increment Ib Milestone C																												
Increment Ib Production Award																												
Increment Ib Production Deliveries																												
Increment Ib First Article Testing																												
Execution of DT/OT Supporting MS-C																												
Final Safety/Reliability Tests Supporting Material Release																												
Preparation & Execution of Increment Ib IOT&E																												
Increment Ib IOC																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Increment Ia-2 Prod. Deliveries	4	2011	1	2014
Increment Ia-2 IOC	1	2012	1	2012
Increment Ib Milestone C	2	2013	2	2013
Increment Ib Production Award	2	2013	2	2013
Increment Ib Production Deliveries	2	2014	3	2016
Increment Ib First Article Testing	2	2014	2	2014
Execution of DT/OT Supporting MS-C	2	2012	4	2012
Final Safety/Reliability Tests Supporting Material Release	4	2012	4	2013
Preparation & Execution of Increment Ib IOT&E	4	2013	2	2014
Increment Ib IOC	3	2014	3	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604817A: <i>Combat Identification</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	2.893	-	-	-	-	-	-	-	-	Continuing	Continuing
482: <i>Ground Combat Identification</i>	2.893	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Combat Identification (CID) is a family of systems to maximize overall combat effectiveness by minimizing and mitigating incidents of fratricide and maximizing the situational understanding of the trigger puller across a broad spectrum of Joint and Coalition combat operations. This is accomplished by the identification of friends, enemies/foes, and neutrals in the Joint and Coalition battle space. Based on program prioritization from the Deputy Secretary of Defense and the Deputy's Advisory Working Group (DAWG), the Joint Cooperative Target Identification-Ground (JCTI-G) efforts have been refocused to address fratricide incidents involving Fires-on-Dismounts (FoD) and Air to Ground (A-G) fires. This is a Joint effort with the United States Marine Corps that will be equitably allocated in support of Fires-onDismount development. This program has been designated Special Interest by the Defense Acquisition Executive.

FY11 supports JCTI-G program efforts for FoD and A-G. These efforts assume a Materiel Development Decision (MDD) and initiation of an Analysis of Alternatives (AoA) in 2QFY10 that results in a Materiel Solution decision by the end of 4QFY10. The results of the AoA will be used to adjust the program schedule as required and inform the Army funding resource requirements for FY13. Milestone (MS) A decisions for entry into Technology Development acquisition phase for both FoD and A-G efforts are assumed to occur in 4QFY11. Efforts will focus the execution of the MS decision process to include program and acquisition document preparation. Also, efforts will include technical and acquisition planning for contract solicitation such as requirements analyses and the generation of an Acquisition Requirements Package. In addition, funding in FY11 will continue with the technical maturation efforts associated with the FoD requirement.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	29.884	-	-	-	-
Current President's Budget	2.893	-	-	-	-
Total Adjustments	-26.991	-	-	-	-
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	-	-	-	-	-
• SBIR/STTR Transfer	-	-	-	-	-
• Other Adjustments 1	-26.991	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604817A: <i>Combat Identification</i>	PROJECT 482: <i>Ground Combat Identification</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
482: <i>Ground Combat Identification</i>	2.893	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Combat Identification (CID) is a family of systems to maximize overall the combat effectiveness of forces by minimizing and mitigating incidents of fratricide and maximizing the situational understanding of the trigger puller across the broad spectrum of Joint and Coalition combat operations. This is accomplished by the identification of friends, enemies/foes and neutrals in the Joint and Coalition battle space. Based on program prioritization direction from the Deputy Secretary of Defense and the Deputy's Advisory Working Group (DAWG), the Joint Cooperative Target Identification - Ground (JCTI-G) efforts have been refocused to address fratricide incidents involving Fires-on-Dismounts (FoD) and Air to Ground (A-G) fires. The FoD is a Joint effort with the United States Marine Corps. In accordance with an Army/Marine Corps MOA, funding for FoD systems development will be equitably shared between the two services. This program has been designated Special Interest by the Defense Acquisition Executive.

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

	FY 2011	FY 2012	FY 2013
Title: Preparation for JCTI-G, Milestone (MS) A	2.893	-	-
Articles:	0		
Description: Preparation for JCTI-G, Milestone (MS) A			
FY 2011 Accomplishments: Preparation for JCTI-G, Milestone (MS) A			
Accomplishments/Planned Programs Subtotals	2.893	-	-

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604817A: <i>Combat Identification</i>	PROJECT 482: <i>Ground Combat Identification</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Program Management	Various	PM NavSys/PM TMS:various	11.352	-		-		-		-	Continuing	Continuing	Continuing	
Subtotal			11.352	-		-		-		-				

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Soldier Non Cooperative Target Identification	Various	TBD:TBD	5.384	-		-		-		-	0.000	5.384	0.000	
Fires on Dismounts Technical Maturation	Various	CERDEC:various	19.500	-		-		-		-	0.000	19.500	0.000	
Subtotal			24.884	-		-		-		-	0.000	24.884	0.000	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Matrix Support	Various	CE LCMC, I2WD:various	11.442	-		-		-		-	Continuing	Continuing	Continuing	
System Eng/Tech Assistance	Various	Lockheed Martin R4,:Eatontown, NJ	15.166	-		-		-		-	Continuing	Continuing	Continuing	
Test Planning	Various	CERDEC:Various	2.937	-		-		-		-	Continuing	Continuing	Continuing	
Technical Support	Various	Sandia National Laboratories/ IDA:Various	2.320	-		-		-		-	Continuing	Continuing	Continuing	
Subtotal			31.865	-		-		-		-				

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		68.101	-		-		-		-			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army						DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604817A: <i>Combat Identification</i>			PROJECT 482: <i>Ground Combat Identification</i>		
	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604817A: <i>Combat Identification</i>	PROJECT 482: <i>Ground Combat Identification</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
JCTI-G Request for Proposal Prep																												
JCTI-G Milestone A																												
JCTI-G Source Selection																												
JCTI-G Technology Development																												
JCTI-G Milestone B																												
JCTI-G Engineering & Manufacturing Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604817A: <i>Combat Identification</i>	PROJECT 482: <i>Ground Combat Identification</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
JCTI-G Request for Proposal Prep	3	2011	2	2012
JCTI-G Milestone A	1	2012	1	2012
JCTI-G Source Selection	2	2012	4	2012
JCTI-G Technology Development	4	2012	4	2014
JCTI-G Milestone B	1	2015	1	2015
JCTI-G Engineering & Manufacturing Development	1	2015	1	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	57.264	93.846	77.223	-	77.223	47.468	40.756	39.499	40.385	Continuing	Continuing
323: COMMON HARDWARE SYSTEMS	15.945	7.911	8.012	-	8.012	17.766	6.607	4.285	4.358	Continuing	Continuing
334: COMMON SOFTWARE	12.283	44.701	0.127	-	0.127	-	0.183	0.153	0.261	Continuing	Continuing
C29: CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)	17.150	12.885	20.579	-	20.579	11.678	15.561	15.808	16.073	Continuing	Continuing
C34: ARMY TAC C2 SYS ENG	11.886	15.179	48.505	-	48.505	18.024	18.405	19.253	19.693	Continuing	Continuing
JN1: JOINT NETWORK NODE (JNN) TESTING	-	13.170	-	-	-	-	-	-	-	Continuing	Continuing

Note
In FY2013, an adjustment was required to remove System of System Integration's (formerly PEO Intergration) funding to fulfill the following missions and requirements: Network Integration Exercise (NIE) and Network Integration Rehearsal (NIR); System of Systems Engineering Common Operating Environment (SOSE COE) line ads they moved to another PE.

A. Mission Description and Budget Item Justification
The umbrella program to exploit automation technology for the conduct of combat operations is the Army Tactical Command and Control System (ATCCS) program which is a component of the Army Battle Command System (ABCS). The ATCCS program provides automation in the five battlefield functional areas (BFAs) with the following specific systems: (1) Maneuver Control System (MCS); (2) Effects and Fires Command and Control Systems (EFCCS); (3) All Source Analysis System (ASAS) for Intelligence/Electronic Warfare; (4) Forward Area Air Defense Command, Control and Intelligence System (FAADC2I); and (5) Battle Command Sustainment Support System (BCS3). To provide an overall technically sound, cost effective, and operationally responsive approach, the design and development of ATCCS must be accomplished on a total systems basis. The Technical Management Division (TMD) effectively manages the engineering, Enterprise and Integration efforts within the Program Executive Office Command, Control, Communication and Tactical (PEO C3T) portfolio of technology and across the capability enhancement packages to deliver efficient and effective cross-domain technical solutions. TMD efforts will focus on "Systems of Systems" (SOS) engineering and integration for evolution of the network (Warfighter Information Network-Tactical, Joint Tactical Radio System) and associated services (Unified Battle Command, Joint Battle Command-Platform, Net-Enabled Command Capability, Network Service Center) with increased emphasis on immediate Warfighter needs as well as leveraging emerging technologies. TMD efforts support working Army Network Modernization strategy and implementation to include: network integration; emerging technologies; coordination of network services; current and force integrated Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance (C5ISR) network/transport architectures; integrated developmental, technical, and operational test schedules/documentation; and the tactical assessment and execution of the enterprise implementation and framework. TMD synchronizes the integration of many Headquarter, Department Of The Army (HQDA) initiatives and also oversees the the technical analysis supporting the Army Common Operating Environment (COE) Assessment and implementation; an integrated test strategy, certification process, and integration efforts across the C3T portfolio of systems; Operational implementation of enterprise framework, tactical

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>

Host Based Security System (HBSS) and Advance Development (AD) tests/implementations/integration; development of capability set SoS architectures; server consolidation; integration of transport waveforms and development of Command Post and integrated Network Architectures. This program element also includes the Central Technical Support Facility (CTSF) which is the Army's single strategic facility responsible for executing SoS Interoperability checkout, testing, physical system integration and configuration management of the Army's LandWarNet Baseline. The Common Hardware Systems (CHS) program provides state-of-the-art, fully qualified, interoperable, compatible, deployable, and survivable hardware and computer networking equipment for command, control, and communications at all echelons of command for the United States Army and other Department of Defense (DoD) services. CHS services are provided through strategically located contractor-operated Regional Support Centers (RSC) for tactical military units and management of a comprehensive 5-year warranty and 72-hour turnaround for repairs. Common Software(CS) is the program through which the Army procures, develops, integrates and tests common software products and/or components used for communication between ABCS, Joint and coalition Command and Control (C2) applications. The CS project provides state-of-the-art software technologies and functionality that is used by numerous Army Battle Command Systems (ABCS) and joint systems to eliminate the need for service independent development and duplication of effort. The CS project also manages and performs technology demonstrations of emerging technologies for future use by Army C2 systems. The CS program is a cornerstone in the Army's digitization efforts. Funding supports on-going development of common software solutions and the technical evaluation of previously developed software capabilities for integration into the computing environments of the Army COE architecture to include appropriate Mounted and Mobile Computing environments. Efforts will include assessment of software maturity and readiness, development/modification of software as necessary to integrate, integration with common computing environments, and validation. The JNN Warfighter Information Network-Tactical (WIN-T Increment 1) is intended to replace MSE while moving the Army to a unified EOIP Communications System. JNN Testing is the Increment 1b Technical Insertion to

B. Program Change Summary (\$ in Millions)	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	60.970	123.935	36.095	-	36.095
Current President's Budget	57.264	93.846	77.223	-	77.223
Total Adjustments	-3.706	-30.089	41.128	-	41.128
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	95.300	-	95.300
• Other Adjustments 1	-3.706	-30.089	-54.172	-	-54.172

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>				PROJECT 323: <i>COMMON HARDWARE SYSTEMS</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
323: <i>COMMON HARDWARE SYSTEMS</i>	15.945	7.911	8.012	-	8.012	17.766	6.607	4.285	4.358	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Common Hardware Systems (CHS) program provides state-of-the-art, fully qualified, interoperable, compatible, deployable, and survivable hardware and computer networking equipment for command, control, and communications at all echelons of command for the United States Army and other Department of Defense (DoD) services. CHS also provides worldwide repair, maintenance, logistics, and technical support through strategically located contractor-operated Regional Support Centers (RSC) for tactical military units and management of a comprehensive 5-year warranty and 72-hour turnaround for repairs.

FY 2013 funds allow CHS to continue to manage the acquisition and delivery of CHS equipment, technology insertion and common standardized testing in support of customer requirements.

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

	FY 2011	FY 2012	FY 2013
Title: Acquisition management/delivery of CHS equipment in support of customer requirements	6.595	7.111	7.212
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Continue management of the acquisition/delivery of CHS equipment in support of customer requirements			
FY 2012 Plans: Will continue the management of the acquisition/delivery of CHS equipment in support of customer requirements			
FY 2013 Plans: Will continue the management of the acquisition/delivery of CHS equipment in support of customer requirements			
Title: CHS equipment testing efforts	0.200	0.300	0.300
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Will continue to support CHS customer testing efforts			
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT 323: <i>COMMON HARDWARE SYSTEMS</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Future CHS customer testing efforts FY 2013 Plans: Will continue to support CHS customer testing efforts			
Title: CHS technology insertion Description: Funding is provided for the following effort FY 2012 Plans: Continue CHS technology insertion FY 2013 Plans: Continue CHS technology insertion	Articles: -	0.500 0	0.500
Title: Non Recurring Engineering (NRE) Costs for New CHS-4 Products Description: Funding is provided for the following effort FY 2011 Accomplishments: Continue with the design, development and testing (NRE Costs) for New CHS-4 Products	Articles: 9.150 0	-	-
Accomplishments/Planned Programs Subtotals	15.945	7.911	8.012

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

N/A

D. Acquisition Strategy

The overall goal is to improve interoperability and compatibility and lower life cycle costs by standardizing battlefield command and control automation and other warfighting systems (net centric, etc) through centralized buys of modified/ruggedized non-developmental items. This project provides a coherent migration strategy for acquisition of warfighting systems through the use of technology insertion.

CHS also conducts common environmental and developmental testing of hardware items thereby reducing the testing requirements for individual Project Managers. An Indefinite Delivery/Indefinite Quantity firm fixed priced, full and open competition contract was awarded to General Dynamics in May 2003, for ruggedization and production.

In August 2011, CHS awarded, on a best value basis, the follow-on CHS-4 contract via full and open competition. The period of performance will be for 5 years.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT 323: <i>COMMON HARDWARE SYSTEMS</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-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT 323: <i>COMMON HARDWARE SYSTEMS</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CHS-4 Contract Award	4	2011	4	2011
CHS-4 V1/V1+ Hardware Deliveries	1	2012	1	2017
CHS-4 V2/V3 Hardware Deliveries	1	2012	1	2017
CHS-5 Contract Award	2	2016	2	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT 334: <i>COMMON SOFTWARE</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
334: <i>COMMON SOFTWARE</i>	12.283	44.701	0.127	-	0.127	-	0.183	0.153	0.261	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Project 334 Common Software (CS): CS is the program through which the Army develops, integrates and tests common software products and/or components used for communication between Army Battle Command Systems (ABCS), Joint and coalition Command and Control (C2) applications. The CS project provides state-of-the-art software technologies and functionality that is used by numerous ABCS and joint systems to eliminate the need for service independent development and duplication of effort. The CS project also manages and performs technology demonstrations of emerging technologies for future use by Army C2 systems. The CS program is a cornerstone in the Army's digitization efforts.

Funding supports on-going development of common software solutions and the technical evaluation of previously developed software capabilities for integration into the computing environments of the Army Common Operating Environment (COE) architecture to include appropriate Mounted and Mobile Computing environments. Efforts will include assessment of software maturity and readiness, development/modification of software as necessary to integrate, integration with common computing environments, and validation.

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

	FY 2011	FY 2012	FY 2013
Title: ABCS common software enterprise infrastructure development in support of Army and Joint Services requirements.	8.790	8.802	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: Continuing the development, acquisition management and delivery of the ABCS common software enterprise infrastructure in support of Army and Joint Services requirements.			
FY 2012 Plans: Will continue the development, acquisition management and delivery of the ABCS common software enterprise infrastructure in support of Army and Joint Services requirements.			
Title: Joint and Coalition interoperability efforts.	1.313	1.353	0.127
Articles:	0	0	

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>		PROJECT 334: <i>COMMON SOFTWARE</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2011	FY 2012	FY 2013	
Description: Funding is provided for the following effort							
FY 2011 Accomplishments: Serving as the executive agent and providing software for interoperability of Joint and Coalition efforts.							
FY 2012 Plans: Will continue to serve as the executive agent and provide software for interoperability of Joint and Coalition efforts.							
FY 2013 Plans: Will continue to serve as the executive agent and provide software for interoperability of Joint and Coalition efforts.							
Title: Battle Command (BC) systems common architecture products.				Articles:	2.180 0	2.245 0	-
Description: Funding is provided for the following effort							
FY 2011 Accomplishments: Continuing to develop the System of System (SoS) architecture for BC systems.							
FY 2012 Plans: Will continue to develop the SoS architecture for BC systems.							
Title: Integration of previously developed mission command capabilities and common software solutions into the Army Common Operating Environment (COE).				Articles:	-	32.301 0	-
Description: Funding is provided for the following effort							
FY 2012 Plans: Technical evaluation of previously developed software capabilities for integration with the computing environments of the Army Common Operating Environment (COE) architecture to include appropriate Mounted and Mobile Computing environments. Efforts will include assessment of software maturity and readiness, development/modification of software as necessary to integrate, integration with common computing environments, and validation.							
Accomplishments/Planned Programs Subtotals				12.283	44.701	0.127	
C. Other Program Funding Summary (\$ in Millions)							
N/A							

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
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D. Acquisition Strategy

In accordance with the United States Army Training and Doctrine Command (TRADOC) requirements document approved in 2008, entitled Mission Command Essential Capability, software capability will be developed in 2-year increments as capability sets designed to Collaborate, Collapse and Converge Mission Command products in line with Common Operating Environment (COE) architecture baselines. The product development funded under this R-Form is an integral part of the ABCS, a system of systems and will be accomplished primarily under a Project Manager, Mission Command (PM MC) system of systems contract approach which consists of multiple prime contracts awarded from a single solicitation that will require each specific development task be competed among primes whenever possible. This strategy is designed to optimize opportunity for improved interoperability among the systems, to capture the benefits of competition and to ensure the rapid integration of new capability into warfighter systems. This strategy is designed to reduce the physical footprint, logistics support requirements and increase operational efficiency.

The overall acquisition goal of the CS program is the improvement of life cycle costs by providing common products that are used horizontally across programs avoiding duplication of efforts by Army and Joint programs.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT 334: <i>COMMON SOFTWARE</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Management	Various	PM Battle Command:Various	8.414	0.747		0.127		-		0.127	Continuing	Continuing	0.000
Subtotal			8.414	0.747		0.127		-		0.127			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CS Product Engineering/ Software Development	Various	Future Skies:Wall Township, NJ	115.135	7.721		-		-		-	Continuing	Continuing	0.000
ABCS/Army System Engineering & Integration	Various	CACI:Various	4.731	0.816		-		-		-	Continuing	Continuing	0.000
Battle Command System of Systems Architecture Development	Various	Various Contractors / Various Locations:Various	13.228	1.158		-		-		-	Continuing	Continuing	0.000
Evaluation, modification, validation and integration of developed SW	Various	Various:Various	-	32.301		-		-		-	Continuing	Continuing	0.000
Subtotal			133.094	41.996		-		-		-			0.000

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	Various	PM Battle Command:Various	6.939	0.567		-		-		-	Continuing	Continuing	0.000
Technical Support	Various	Various Contractors / Various Locations:Various	1.948	0.191		-		-		-	Continuing	Continuing	0.000
Subtotal			8.887	0.758		-		-		-			0.000

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT 334: <i>COMMON SOFTWARE</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Assess previously developed SW, modification, validation & integration																												
Provide software for interoperability of Joint & Coalition efforts.																												
Continue software support for interoperability of Joint & Coalition efforts.																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT 334: <i>COMMON SOFTWARE</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Assess previously developed SW, modification, validation & integration	1	2012	4	2012
Provide software for interoperability of Joint & Coalition efforts.	1	2013	4	2013
Continue software support for interoperability of Joint & Coalition efforts.	1	2015	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>	17.150	12.885	20.579	-	20.579	11.678	15.561	15.808	16.073	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Project C29 - Centralized Technical Support Facility: The Central Technical Support Facility (CTSF) located at FT Hood, Texas, is the Army's premier test, integration, and certification facility for interoperability. It is the Army's strategic facility responsible for supporting and conducting system engineering associated with integrating Army Battle Command System (ABCS) Weapon System architectures into a System of Systems, performing Army Interoperability Certification (AIC) testing and conducting configuration management for all operational and tactical level applications (individual systems, System of Systems, and families of systems) prior to fielding. The CTSF provides validated test data to the Department of the Army and Joint agencies to validate interoperability certifications. The current expansion of the distributed test environment of the CTSF will be accomplished through the Federation of Net-centric Sites (FaNS) construct. This FaNS construct addresses distributed integration development and testing using the core infrastructure of the CTSF to harness AMC, Army, and Joint expertise/resources. Through these federated resources, the CTSF will execute interoperability development and certification testing of the Warfighter and Business mission areas, to include Brigade Combat Team Modernization spin-outs, as they digitize and become part of the Army's LandWarNet. Projected relocation of CTSF to Aberdeen Proving Ground, Maryland, anticipated not later than FY 2014.

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

	FY 2011	FY 2012	FY 2013
Title: Army Interoperability Certification (AIC) Testing	2.150	6.735	10.290
Articles:	0	0	
Description: Conduct Army Interoperability Certification testing/planning/data collection/ data analysis/reporting, interoperability baseline testing, simulation/stimulation validation and distributed testing. Manage the set-up, configuration, integration, and operations and maintenance of the LandWarNet systems on the test floors as the CIO/G-6's Test Agent for Program Managers of LandWarNet systems that need to deliver software updates for fielding to the Warfighter. Report the results of Army Interoperability Certification Tests to the CIO/G-6, PM, and TRADOC to support updates to the G-3/5/7 managed baseline.			
FY 2011 Accomplishments: SWB1 was fielded in limited quantities. Continued SWB2+ Tri-Annual testing; conducted CS 11-12 Tri-Annual testing, test planning, test case development, test floor architecture set-up, test tools, and test execution; tests include the Joint Capabilities Release (JCR), Joint Battle Command Platform (JCB-P), Joint AGILE Fire and the Distributed Common Ground System-Mobile Basic and DCGS-A Cloud architecture, new systems. Coordinated with PEO C3T Tactical Network Initialization and tested the go-to-war Data Products. Incorporated Host Based Security System in the test architecture for AIC testing to meet Army tactical deployment IAW G-3 fielding. Supported CIO/G-6 and TRADOC in developing new test methodology to assess interoperability			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>as systems transition to the implementation of the Common Operating Environment (COE). Updated test tools to collect data in support of the COE. Verified and validated simulators/stimulators for use in labs to reduce costs, i.e. a satellite simulator in lieu of paying for satellite time. Served as the Army component in Joint and Coalition testing to support the Joint Interoperability Test Command in development of tactics, techniques, and procedures. Became the hub for Network Integration testing by facilitating distributed testing in a system of system architecture.</p> <p>FY 2012 Plans: Assumption: SWB1 is no longer fielded; testing of SWB1 is no longer required; SWB2 is fielded in limited quantities. Continue CS 11-12 Tri-Annual and CS 13-14/COE V1.0 baseline AIC test planning, test case development, test floor architecture set-up, test tools, and test execution; conduct CS 13-14/COE V1.0 testing/evaluation and certification. Continue JCR, JBC-P, and JT AGILE Fire tests; continue to coordinate with PEO C3T Tactical Network Initialization for baseline Data Products and to incorporate the go-to-war Data Products into AIC tests. Support CIO/G-6 and TRADOC in developing new test methodology to assess interoperability as systems transition to the implementation of the Common Operating Environment (COE). Update test tools to collect data in support of the COE. Serve as the Army component in Joint and Coalition testing to support the Joint Interoperability Test Command in development of tactics, techniques, and procedures. Become the hub for Network Integration testing by facilitating distributed testing in a system of system architecture.</p> <p>FY 2013 Plans: Continue COE V1.0 (replaces CS 13-14) test planning, test case development, test floor architecture set-up, test tools, and conduct CS 13-14/COE V1.0 testing/evaluation and certification; begin CS 15-16/COE V2.0 test planning, test case development. Continue to execute tests of Joint/Coalition and Afghanistan Mission Network (AMN)/CENTRIXS-ISAF in support of the PEOs, Joint Agencies, and JITC in the CTSF Joint Lab. Assist JITC in the development of Joint/LandWarNet TTPs. Continue to coordinate with PEO C3T Crypto Network Initialization for baseline Data Products and to incorporate the go-to-war Data Products into AIC tests.</p>				
<p>Title: System of Systems Integration(SoSI)</p> <p>Description: Continue to provide System of Systems Integration engineering support to the material developer by providing software validation/verification, network and systems engineering, integration labs and information assurance.</p> <p>FY 2011 Accomplishments: Supported material developer for CS 13-14/COE V1.0 integration. Supported backward compatibility testing between SWB2 and CS 11-12. Identified and incorporated software tools to monitor performance and assist in issue resolution. Integrated and implemented HBSS technology. Conducted integration and testing of Afghan Mission Network providing configuration, architecture design, and test case generation; extended integration and test architectures to include Program of Record (POR)</p>		<p>Articles:</p> <p>4.702 0</p>	<p>3.540 0</p>	<p>7.301</p>

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>and non-POR radio communications devices to provide Material Developer (MatDev) testing in realistic environments; provided CTSF network and systems engineering integration support to PEO-I and 2/1 AD/WSMR for sensor and platform level for validation of end-to-end communications and interoperability, platform through Army Corps to Joint/Coalition; supported Network Integration Rehearsal (NIR) and Network Integration Exercise (NIE). Provided data product and software patch validation; network support for integration and test floors; network support to fielded units upon request; systems engineering and analysis support to system of systems integration activities.</p> <p>FY 2012 Plans: Support to material developer for CS 13-14/COE V1.0 integration and testing. Support to backward compatibility testing between CS 11-12 and CS 13-14/COE V1.0. Identify and incorporate software tools to monitor performance and assist in issue resolution. Integrate and implement HBSS technology. Conduct integration and testing of Afghan Mission Network providing configuration, architecture design, and test case generation; extend integration and test architectures to include Program of Record (POR) and non-POR radio communications devices to provide MatDev testing in realistic environments; provide CTSF network and systems engineering support to System of Systems Integration Directorate (SoSID) and 2/1 AD/WSMR for sensor and platform level for validation of end-to-end communications and interoperability, platform through Army Corps to Joint/Coalition; support NIR/NIE. Provide software patch validation; network support for integration and test floors; network support to fielded units upon request; and systems engineering and analysis support to system of systems integration activities.</p> <p>FY 2013 Plans: Support material developer for CS 13-14/COE V1.0 integration. Support backward compatibility testing between CS 11-12 and CS 13-14/COE V1.0. Identify and incorporate software tools to monitor performance and assist in issue resolution. Provide software patch validation. Provide network support for integration and test floors. Provide network support to fielded units on request. Provide systems engineering and analysis support to system of systems integration activities.</p>				
<p>Title: Facilities, Site Operations and Maintenance</p> <p align="right">Articles:</p> <p>Description: Maintain 250,000 square foot facility, with 41,305 square feet dedicated to Army Interoperability Certification (AIC) testing and systems engineering.</p> <p>FY 2011 Accomplishments: Continue to provide infrastructure support for 250,000 square foot facility and 41,305 square feet dedicated to AIC testing floors and integration labs. FY12 and beyond, this effort will be apportioned and allocated to mission areas AIC Test, CM and Program Office.</p>		4.148 0	-	-
<p>Title: Management Operations/Program Office</p> <p align="right">Articles:</p>		2.029 0	1.404 0	1.561

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Description: Provide management operations consisting of programming and executing funds, personnel, contracts, and identifying reimbursable tests and allocating/collecting appropriate funds.</p> <p>FY 2011 Accomplishments: Programed and executed funds/manpower/contracting requirements; tracked testing schedules, prepared/ coordinated/tracked reimbursements for tests; SWB2 Tri-Annual testing; CS 11-12 AIC testing; CS 13-14/COE V1.0, Joint, Coalition, 2/1 AD/WSMR (NIE/NIR), SOSCOE, and future systems integration; field support coordination for unit training and exercises.</p> <p>FY 2012 Plans: Program and execute funds/manpower/contracting requirements; track testing schedule, prepare/coordinate/track reimbursements for tests; CS 11-12 Tri-Annual; CS 13-14/COE V1.0, Joint, Coalition, 2/1 AD/WSMR (NIE/NIR), SOSCOE, and future systems integration; field support coordination for unit training and exercises.</p> <p>FY 2013 Plans: Program and execute funds/manpower/contracting requirements; track testing schedule, prepare/coordinate/track reimbursements for tests. CS 13-14/COE V1.0 integration and testing, CS 11-12 Tri-Annual testing. Joint, Coalition, 2/1 AD/WSMR (NIE/NIR), SOSCOE, and future systems integration. Field Support coordination for unit training and exercises.</p>				
<p>Title: Configuration Management</p> <p align="right">Articles:</p> <p>Description: Verify configuration, prior to test, of Program/Product Manager delivered software; control configuration during Program Manager tests of approved Warfighter baselines; maintain configuration integrity of certification test environment; maintain configuration management of certification baselines for HQ/DA CIO/G6 and the LandWarNet/Battle Command baseline for HQ/DA G3/5/7; disseminate approved software to deployed/deploying units.</p> <p>FY 2011 Accomplishments: Verify software configurations prior to test, control configurations during test, and maintain baselines for HQ/DA CIO G6 and LandWarNet/BC baselines for HQ/DA G3/5/7; disseminate software to deploying/deployed units. Initiate enhancements to Configuration Management Tracking Tool Version 3 (CMTSv3) to incorporate ASA(ALT), CTSF, HQ/DA G3 baseline tracking for Army Interoperability Certification of Systems Under Test; continue updating tool for automation of Army Interoperable Fielded Baseline (CE) and Army LandWarNet/BC Baseline (OE) output reports; enhance MatDev/PM/SO output support report; continue to integrate Micro Stag Reporting Tool into CMTSv3.</p> <p>FY 2012 Plans:</p>		1.342 0	1.206 0	1.427

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Verify software configurations prior to test, control certification during test, and maintain baselines for HQ/DA CIO/G6 and LandWarNet baselines for HQ/DA G3/5/7; sustain Configuration Management Tracking Tool Version 3 (CMTSv3) to incorporate CTSF Baseline tracking for Army Interoperability Certification of Systems Under test. Begin development of CMTSv3 modules to support the AGILE Process</p> <p>FY 2013 Plans: Verify software configuration prior to test, control configuration during test, and maintain baselines for HQ/DA CIO/G6 and LandWarNet/BC baselines for HQ/DA G3/5/7; disseminate software to deployed/deploying units. Sustain Configuration Management Tracking Tool Version 3 (CMTSv3) to incorporate CTSF Baseline tracking for Army Interoperability Certification of Systems Under test. Support AGILE Process with CMTSv3.</p>				
<p>Title: Information Technology (IT) Infrastructure</p> <p>Description: Provide unique IT infrastructure networks connections to include DISN, SIPRNET, NIPRNET, GUARDNET to support internal and distributed AIC testing.</p> <p>FY 2011 Accomplishments: Provide unique network configurations and support for the CTSF COOP facility. Provide unique IT infrastructure network connections to include NIPRNET, SIPRNET, DREN, SDREN, CFBLNet, CENTRIXS and internal testing network infrastructure to support internal and external AIC, early integration testing and PM support. Provide accreditation and certification support for the testing facility in order to maintain an Authority to Connect, including CFBLNet. Continue support of DoD 8570.1-M to maintain a trained and certified workforce. Continue software development for mission applications to include Business Intelligence Tools, resource loaded scheduling, test gathering tools and Army software baseline tools. Provide data management/backup support for all core mission data. Provide life cycle management of hardware assets. Provide Information Assurance compliance for the Campus. FY12 and beyond, this effort will be apportioned and allocated to mission areas AIC Test, CM and Program Office.</p>		2.146 0	-	-
<p>Title: Logistics Support</p> <p>Description: Received/controlled/distributed/tracked Program/Product Manager (PM) test assets; maintained/repaired/replaced/upgraded test floor; procured test equipment.</p> <p>FY 2011 Accomplishments: Receive/control/distribute/track Program/Product Manager (PM) test assets; maintain/repair/replace/upgrade test floor; procure test equipment.</p>		0.633 0	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY12 and beyond, this effort will be apportioned and allocated to mission areas AIC Test, CM and Program Office.			
Accomplishments/Planned Programs Subtotals	17.150	12.885	20.579

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

N/A

D. Acquisition Strategy

Execute system of systems interoperability integration and testing through the use of Government and Systems Engineering and Technical Analysis (SETA) contract personnel experienced in product development and interoperability testing. Integration and testing occurs in a cyclical fashion, with an expectation of an annual Software Block/Capability Set test followed with cyclical test events (Tri-Annual Tests) to ensure integrity of software baselines to the Warfighter. System of Systems Integration and Validation engineering provides strategic integration of software into a system of systems/family of systems environment to support interoperability testing. Establish and maintain Configuration Management and version control of the Army's Interoperable Battle Command LandWarNet Baseline. Further expand distributed integration and testing capability using local assets and leveraging other federated test facilities to create synergy and realize efficiencies, to include system of system integration and test efforts at 2/1 AD/WSMR (NIR/NIE). Relocate to Aberdeen Proving Ground in phased, event-driven schedule to continue to provide seamless system of systems interoperability integration, test certification and configuration management capability.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CACI (JB Mgt)	C/CPAF	SoS Integration:Fort Hood, TX	5.837	-		-		-		-	0.000	5.837	0.000
CECOM/SEC Matrix	MIPR	CM and IT/IA:Fort Hood, TX	0.420	-		-		-		-	0.000	0.420	0.000
MITRE Corp	FFRDC	SoS Integration:Fort Hood, TX	13.144	1.884		1.925		-		1.925	Continuing	Continuing	Continuing
CECOM R2 3G	C/CPFF	Enterprise Integration & Validation Infrastructure:Fort Hood, TX	-	0.736		3.877		-		3.877	Continuing	Continuing	Continuing
In-House	Allot	SoS Integration:Fort Hood, TX	0.272	1.160		1.007		-		1.007	Continuing	Continuing	Continuing
Subtotal			19.673	3.780		6.809		-		6.809			

Remarks
In September 2011, the CACI(JB Mgmt) contract for System of Systems Integration transitioned to CECOM R2 3G contract vehicle.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CECOM Matrix	MIPR	Test, Configuration Management, IT Support:Fort Hood, TX/Aberdeen Proving Grounds, MD	2.862	0.311		0.311		-		0.311	Continuing	Continuing	Continuing
In-House Support	Allot	Management Operations, Logistics Support:Fort Hood, TX	4.926	1.343		1.397		-		1.397	Continuing	Continuing	Continuing
Supplies	C/UCA	Management Operations, Logistics Support:Fort Hood, TX	-	0.298		0.895		-		0.895	Continuing	Continuing	Continuing
Subtotal			7.788	1.952		2.603		-		2.603			

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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CSC (Test/System Engineering)	C/CPAF	Test:Fort Hood, TX	5.784	-		-		-		-	0.000	5.784	0.000
ELECTRONIC PROVING GROUNDS	C/CPAF	Test:Fort Hood, TX	19.654	-		-		-		-	0.000	19.654	0.000
ILEX (Test/Config Mgmt)	C/CPAF	Test, Configuration Management:Fort Hood, TX	1.734	-		-		-		-	0.000	1.734	0.000
CAMBER	C/CPAF	Test, Configuration Management, Operations:Fort Hood, TX	10.841	-		-		-		-	0.000	10.841	0.000
CSC	C/CPFF	Facilities, Site Operations, Maintenance:Fort Hood, TX	9.949	-		-		-		-	0.000	9.949	0.000
CECOM R2 3G	C/CPFF	Test, Configuration Management:Fort Hood, TX	-	1.471		4.358		-		4.358	Continuing	Continuing	Continuing
CECOM S3	C/CPFF	Facilities, Maintenance, Security:Fort Hood, TX	-	1.965		3.474		-		3.474	Continuing	Continuing	Continuing
Instrumentation	C/UCA	Test Equipment Infrastructure:Fort Hood, TX	-	0.801		0.782		-		0.782	Continuing	Continuing	Continuing
EPG Matrix	MIPR	Test:Fort Hood, TX	0.907	1.510		1.258		-		1.258	Continuing	Continuing	Continuing
ISSA	MIPR	Test:Fort Hood, TX	2.890	0.838		0.716		-		0.716	Continuing	Continuing	Continuing
In-House Support	Allot	Test:Fort Hood, TX	0.250	0.568		0.579		-		0.579	Continuing	Continuing	Continuing
Subtotal			52.009	7.153		11.167		-		11.167			

Remarks
 In September 2011, EPG/ManTech, Camber, CSC, and ILEX contracts transitioned to CECOM R2 contract and will provide Test and Configuration Management functions. Also in September 2011, CSC/ManTech contract transitioned to CECOM S3 and will provide Site Support/Facilities, Maintenance, and Security functions.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>				PROJECT C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>				
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	79.470	12.885		20.579		-		20.579			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Capability Set 11-12 Tri-Annual	[REDACTED]																											
Capability Set 13-14	[REDACTED]																											
Capability Set 13-14 Tri-Annual	[REDACTED]																											
--FBCB2 JCR 1.3	[REDACTED]																											
--JBCP 1.0	[REDACTED]																											
--WIN-T Inc 2	[REDACTED]																											
--WIN-T Inc 3	[REDACTED]																											
--WIN-T Inc 4	[REDACTED]																											
Joint AGILE Fire III, IV & V	[REDACTED]																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C29: <i>CENTRALIZED TECHNICAL SUPPORT FACILITY (CTSF)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Capability Set 11-12 Tri-Annual	2	2011	1	2015
Capability Set 13-14	3	2012	1	2017
Capability Set 13-14 Tri-Annual	3	2014	1	2017
--FBCB2 JCR 1.3	3	2011	3	2012
--JBCP 1.0	4	2011	1	2013
--WIN-T Inc 2	2	2011	3	2011
--WIN-T Inc 3	4	2012	2	2013
--WIN-T Inc 4	4	2013	2	2014
Joint AGILE Fire III, IV & V	3	2011	4	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
C34: <i>ARMY TAC C2 SYS ENG</i>	11.886	15.179	48.505	-	48.505	18.024	18.405	19.253	19.693	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Project DC34 - Army Tactical Command and Control Systems Engineering, which is also referred to as the Technical Management Division (TMD) (formerly Systems Engineering and Integration (SE&I)): Effectively manage the engineering, Enterprise and Integration efforts within the PEO C3T portfolio of technology and across the capability enhancement packages to deliver efficient and effective cross-domain technical solutions. TMD provides System Of System (SOS) test infrastructure and tools, Joint Command and Control (C2) convergence, and System Engineering (SE) documentation ensures C3T technical capabilities are defined, engineered, and integrated. Additionally, TMD synchronizes the integration of many Headquarters, Department of the Army initiatives impacting warfighters across the Army and assesses potential solutions (Program of Record (POR)/non-POR) to add more operational agility and capabilities to the war fight. In FY 2013, this effort supports the operational engagement and technical coordination between Army Expeditionary Task Force, Unit, PMs, and PEOs to field and integrate all the latest capabilities to the Brigade Combat team; the technical analysis supporting the Army's Common Operating Environment (COE) Assessment and implementation; an integrated test strategy, certification process, and integration efforts across the C3T portfolio of systems; Operational implementation of enterprise framework, tactical Host Based Security System and Advance Development (AD) tests/implementations/integration; development of capability set SoS architectures; server consolidation; integration of transport waveforms and development of Command Post (CP) and integrated Network Architectures.

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

	FY 2011	FY 2012	FY 2013
Title: Continue Army Tactical Battle Command and Network Synchronization and Integration Support	0.760	1.278	1.893
Articles:	0	0	
Description: .			
FY 2011 Accomplishments: Provided support to server infrastructure convergence; service architecture; and operating environment(s) synchronization to support efficiencies through the enterprise. Coordinated associated integrated technical support activities across the operational battlefield to support these architectures.			
FY 2012 Plans: Provide System of System (SoS) System engineering (SE) and technical support to integrate the tactical network across all PEOs in the Army. Design and integrate network integration Evaluation and network integration rehearsal activities to include technical recommendations in Network Convergence, Handheld capabilities, Enhanced Mission Command, Command Posts,			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>& network operations. Provide on-site support to troubleshoot the tactical network and work across the C5ISR community to develop courses of action in resolving communication and architectural issues.</p> <p>FY 2013 Plans: Continue the support of current force and the development of future force C5ISR across the tactical network to ensure all programs are synchronized and redundancies and overlapping capabilities are reduced across the network and in synchronization with Common Operating Environment.</p>				
<p>Title: Continue Developmental Testing & Integration Testing between PORs and platforms / CPs to execute SoS and Interoperability</p> <p align="right">Articles:</p> <p>Description: .</p> <p>FY 2011 Accomplishments: Created efficiencies in lab, certification processes, & integration efforts across the C3T portfolio of systems. Executed pre-interoperability and risk reduction testing and developed a venue for the developmental test-fix-test environment for CS 13/14 and beyond capabilities.</p> <p>FY 2012 Plans: Perform network integration efforts to ensure transport and mission command capabilities are integrated on platforms and in the command post. Develop strategies and SoS frameworks to extend the current platform capabilities to the dismounted soldier and to extend mission command applications to on-the-move platforms. Develop execution plan for the integration of future Joint/Coalition capability requirements into the common operation Environment framework. Execute ongoing PEO C3T SoS technology insertion evaluation and risk mitigation testing prior to certification and integrated test events.</p> <p>FY 2013 Plans: Continue to conduct integration testing and systems engineering for both non-program of records and program of record systems, products, technical insertions, and systems under evaluation to ensure integration of capabilities across the network. Provide collaborative developmental approach and training venue for new hire engineers.</p>		0.760 0	1.652 0	2.215
<p>Title: Manages Unit Set Fielding of ABCS</p> <p align="right">Articles:</p> <p>Description: .</p> <p>FY 2011 Accomplishments:</p>		0.916 0	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
PEO C3T RMD office plans and implements the Fielding and Training of Battle Command and Networking Capabilities to Army units in the Army Force Generation Process. C3T RMD will synchronize these efforts across the Army's tactical information technology spectrum for approximately 80-100 brigade sized elements per year through either initial training and fielding, or as an upgrade during the reset process.				
<p>Title: Continue Tactical Network Engineering</p> <p>Articles:</p> <p>Description: .</p> <p>FY 2011 Accomplishments: Led PEO C3T network capability engineering, integration, and deployment as part of C5ISR ONS implementation. Designed efficient means to consolidate tactical server infrastructure within PEO C3T and across the Ops-Intel domains. Performed initial integration of SRW-based HMS radios with JBC-P applications.</p> <p>FY 2012 Plans: Design and integrate the Network for the capstone integrated tests and evaluations; provide SE leadership for event planning and on-site support to troubleshoot Network. Lead the Initialization, Network Services, Mission Command, Logistics , NETOPS, Test, and SoS SE IPTs. Validate ability to maneuver battle command services across the Enterprise and support Army Common Operating Environment (s) framework and implementation. Engineer a baseline PRC-117G network architecture and work with CREW engineers to identify an interoperable solution.</p> <p>FY 2013 Plans: Develop effective engineering strategies to integrate tactical applications for use across the enterprise network. Continue to perform network planning and integration activities across all cross-domain systems of system future capabilities and technologies.</p>		1.000 0	1.241 0	1.497
<p>Title: Conduct and Support System Interoperability Engineering and Development of SoS Architectural Products</p> <p>Articles:</p> <p>Description: .</p> <p>FY 2011 Accomplishments: Developed Afghan Mission Network architecture, supported training events, and implemented fielding plan(s) to deploy equipment for the CX-I enclave to both units in theater and deploying. Developed and integrated transport and application capabilities in support of capability set 11/12 and ensured all capabilities on the network were interoperable.</p> <p>FY 2012 Plans:</p>		0.340 0	2.788 0	3.044

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2011	FY 2012	FY 2013
<p>Support mission thread development to achieve additional capability and gain efficiencies through a common, scalable architecture and infrastructure (hardware, services, applications) aligned with the Common Operating Environment that can be deployed at multiple echelons, in multiple Computing Environments, based on mission, across multiple security enclaves (Internet, NIPR, SIPR, JWICS, NSANet, and Coalition). Develop internal PEO C3T data collection reduction and analysis capability to assist in identifying potential network issues early in the systems development of new technologies. Develop a single documented process for SoS architectures for CS 13/14 and beyond.</p> <p>FY 2013 Plans: Continue to support the assessment of Emerging Technologies, identification of critical integrated test points, developmental testing at integration points, architectural data process/tool kits , and transition of Network capabilities to the warfighter.</p>					
<p>Title: Continue Exploring State of the Art Technology Insertion in Support of the ABCS Program and Army Networks</p> <p>Articles:</p> <p>Description: .</p> <p>FY 2011 Accomplishments: Complete development, documentation and validation of the the Proposed 1.0 Standards (the initial deployable product) and corresponding architectures and develop an execution plan for two independent implementations of the Proposed 1.0 Standards. Finalize the governance structure for VICTORY by the senior leaders and support various vehicle programs converging towards VICTORY compatibility and compliance. Continue Standards Body to further refine the proposed standards document.</p>			2.000 0	-	-
<p>Title: Continue Development and Implementation of Tactical Information Assurance</p> <p>Articles:</p> <p>Description: .</p> <p>FY 2011 Accomplishments: Managed and executed HBSS Pilot test for the Army. Developed, coordinated and executed HBSS implementation and fielding across the Army.</p> <p>FY 2012 Plans: Continue to support the Security Data and Log Management (SDLM) working group lead under the Army Office of Information Assurance, and Compliance (OIA&C) by providing requirements, architecture, and technical solutions for Army incident response, log management, security event rollup, and archiving. Aid in the documentation of future Army Security and Data Log</p>			0.320 0	0.600 0	0.673

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Management requirements. Coordinate with PM offices for the implementation of PK Enablement. Continue to implement , field, train, and test new policies and phases of HBSS. FY 2013 Plans: Continue to support CIO/G6 and CYBERCOM guidance for execution of Information Assurance policies and procedures at the tactical level. Continue to plan and design security measures and IA requirements across the tactical network for future capabilities.				
Title: Continue System of Systems Development		3.000	4.963	5.613
		Articles: 0	0	
Description: .				
FY 2011 Accomplishments: Verified and validated CS 11/12 architecture components across the army wrt to interoperability and system and system development planning. Resolved network integration and platform at multiple echelons across multiple non-POR capabilities .				
FY 2012 Plans: Assure the PEO C3T SoS technical capabilities delivered in support of the Army Capability Set Management Process and in support of current operations (OEF-focused) are defined, engineered, and integrated within the PEO and across the Army Enterprise. Provide Army SoS engineering on major HQDA capability initiatives that impact the tactical warfighter. Assess potential C3 solutions to break down functional stove-pipes, accommodate non-POR opportunities, and add a new level of operational agility in support of the warfighter. Deliberate SoS Engineering and Integration; Current Ops SoS Engineering and Integration; Enterprise SoS Engineering; Rapid Technology Insertion; PEO C3T Strategic Initiatives.				
FY 2013 Plans: Continue to effectively manage overall Systems of Systems (SoS) Engineering, Enterprise, and Integration efforts for the PEO C3T portfolio of technology and capability enhancement programs.				
Title: System of Systems Engineering and Integration Evolution of the Network		2.790	2.657	2.911
		Articles: 0	0	
Description: .				
FY 2011 Accomplishments:				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Engage and influence G3 on CS development, G6 on Line Of Efforts, ASAALT SoS SE on cross-Army capability engineering, and PEO Integration on formation-specific technical integration. Based on CS 11/12 lessons learned, revise and implement cross-PEO SoS Engineering and Integration processes for CS 13/14 to assure successful development, integration, test, and fielding. FY 2012 Plans: Develop streamlined processes to support ASA(ALT) SoS SE group, VE, and Lean Six Sigma across all PEO C3T capabilities to include Joint/Coalition partners and the current fight. FY 2013 Plans: Continue to develop streamlined processes to support ASA(ALT) SoS SE group, VE and Lean Six Sigma across all PEO C3T capabilities to include the Joint Coalition partners. Also to continue to implement cross PEO SoS Engineering and Intergration processes to to ensure sucessful development Engineering and Testing.				
Title: Supports Network Intialization and enabling digital communication engineering support. Description: . FY 2013 Plans: In support of the dynamic initialization development, providing warfighters with a transparent means of network initialization and enabling digital communication. The value added of this capability will provide the combatant commander with the long-awaited, operational flexibility of modifying his/her organization, while maintaining constant command and control, in order to adapt to the dynamic changes dictated by Mission, Enemy, Terrain, Troops & Time Available (METT_T). Additionally, this capability will benefit the taxpayer by significantly reducing the number of Field Service Representatives needed to support a static initialization capability, as well as, reducing the data product production staff needed to produce a static initialization product for every specific unit. This capability will shift the Project Directorate's focus from initialization data and data propagation to initialization standardization.		-	-	2.460
Title: Enterprise Architecture Description: Funding is provided for the following effort: To provide architecture products which serve as input to the Army's Agile Process and the Joint Capabilities Integration Development System (JCIDS). They answer Senior leader questions and provide the basis for more extensive architecture required to conduct actual field testing by Army organizations within the Network Integration Evaluation (NIE) process. FY 2013 Plans: Support Army Senior Leader Decision Making: Provide Executive Views of baseline architecture and alternative courses of action which support quick turn analysis and provide essential detail for Senior Army Leaders.		-	-	28.199

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>Centralized Repository of Enterprise Architecture: Maintain a centralized authoritative repository of Enterprise Architecture Data that supports development and reuse of integrated Army architecture products. Provide a standard suite of architecture development tools, workspace for the development of architecture, and is federated with the architecture repositories of DOD, the Air Force, Navy, and USMC.</p> <p>Operational Support: Develop Army, Joint, and Coalition mission threads for the functional mission areas (Mission Command, Network, Fires, Logistics, Intelligence, Personnel, etc). The resulting products will be used to develop and modify the Force Structure, Generating Force and Network design and determine if functional mission area capabilities meets the operational demands. The products will also be directly correlated to the Software Architectures employed to develop code under the Common Operating Environment (COE)</p> <p>Organizationally Based Architecture: Develop organization based architectures that set the foundation for representing the Army plan and will enable analysis of adjustments (quantity and type) of systems or other architecture elements. This task includes operational, systems and technical architecture verification, validation, certification, and approval.</p> <p>Intelligence Surveillance and Radar: (ISR) Maintain the Intelligence Surveillance and Radar (ISR) baseline architecture to ensure access to authoritative data source in support of the Operating Force and capability set development.</p> <p>Serves as the software engineering agent for the Army COE. Establish and maintain a software support repository for configuration control and re-distribution of the Tactical COE and COE-based Applications. Establish a federation of software SILs across the AMC SW Support Centers to leverage the capabilities of all the centers in support of COE prototyping, assessment and deployment. Chair the design forum across the affected PEOs and Software Centers needed to establish the architectural design rules which enable proper convergence on a COE across the Army Enterprise. Evaluate existing software components from both DOD and Industry for use in a Tactical COE for all computing environments. Provide help desk and integration support to COE application developers across PEOs, reducing overall integration time and cost to implement. Conduct rapid prototyping and integration of capabilities across legacy and emerging systems to demonstrate military utility in the BCT Integration Events and other appropriate venues. Establish design leadership within the AMC Software Centers for the COE and Army Networking by shifting this work from the contractor base into the Army, organic staff and organizations. Define and govern COE standards and policies to ensure information sharing between tactical systems across the Army Network.</p>			
Accomplishments/Planned Programs Subtotals	11.886	15.179	48.505

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

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C34: <i>ARMY TAC C2 SYS ENG</i>

D. Acquisition Strategy

This project provides the technical and programmatic disciplines required for systems engineering and integration, experimentation, acquisition management, testing, interoperability, support to fielding and sustainment to ensure an interoperable and affordable Army Tactical Command and Control Systems (ATCCS). It will focus on SOS SE and Integration for the tactical network with increased emphasis on immediate Warfighter needs as well as leveraging emerging technologies, through the G3 LandWarNet Capability Set Development and Integration. Fiscal Year 2012 will focus on working the Army Network Modernization strategy and implementation to include: emerging technologies; coordination of network services; current and force integrated C5ISR network/transport architectures; integrated developmental, technical, and operational test schedules/documentation; and the tactical assessment and execution of the enterprise framework. Fiscal Year 2013 will focus on the continued development, implementation and integration of the C5ISR network architectures to improve the tactical assessment and execution of the Enterprise framework. The NIE will also continue to evolve to become the Army's premiere tactical network and continue to be a key element of the Army's emerging Network Strategy.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C34: <i>ARMY TAC C2 SYS ENG</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Emerging Technologies	SS/FP	Northrop Grumman:Fort Monmouth, NJ/Fort Hood, TX	20.038	0.797		1.398		-		1.398	Continuing	Continuing	Continuing
System Of System Engineering and Integration, Current amd Strategic Initiatives	SS/FFP	CSC Aberdeen Proving Ground /Fort Hood, TX:APG	48.613	1.252		4.731		-		4.731	Continuing	Continuing	Continuing
Architecture Integration	C/FP	CSC:various	4.792	1.850		4.629		-		4.629	Continuing	Continuing	Continuing
Systems Engineering Support	SS/FP	LOCKHEED MARTIN:Eatontown, NJ	7.627	0.284		0.473		-		0.473	Continuing	Continuing	Continuing
MITRE Contractor Engineering Support	SS/FP	Aberdeen Proving Grounds, MD/Ft Monmouth, NJ/ Eatontown, NJ:APG	70.764	5.560		6.615		-		6.615	Continuing	Continuing	Continuing
Tactical Network Initialization	SS/FP	TBD:tdb	-	-		2.460		-		2.460	Continuing	Continuing	Continuing
Subtotal			151.834	9.743		20.306		-		20.306			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IN-HOUSE SUPPORT	SS/FP	PEO C3T:APG, MD/Ft. Monmouth, NJ	23.937	4.661		-		-		-	Continuing	Continuing	Continuing
MATRIX	SS/FP	CECOM:Fort Monmouth, NJ/Fort Hood, TX	9.955	0.175		-		-		-	Continuing	Continuing	Continuing
OTHER GOVERNMENT SUPPORT	Various	Various:Various	6.658	0.600		-		-		-	Continuing	Continuing	Continuing
BES Architecture	SS/FFP/LOE	NIE:FTB/WSMR	-	-		28.199		-		28.199	0.000	28.199	0.000
Subtotal			40.550	5.436		28.199		-		28.199			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>			PROJECT C34: <i>ARMY TAC C2 SYS ENG</i>					
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	192.384	15.179		48.505		-		48.505			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C34: <i>ARMY TAC C2 SYS ENG</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Network Load Exercise 13.1									■																			
Communication Exercise 13.1									■																			
Pilot 13.1									■																			
Network Load Exercise 13.2											■																	
Communication Exercise 13.2											■																	
Network Pilot 13.2											■																	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT C34: <i>ARMY TAC C2 SYS ENG</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Network Load Exercise 13.1	1	2013	1	2013
Communication Exercise 13.1	1	2013	1	2013
Pilot 13.1	1	2013	1	2013
Network Load Exercise 13.2	2	2013	2	2013
Communication Exercise 13.2	3	2013	3	2013
Network Pilot 13.2	3	2013	3	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT JN1: <i>JOINT NETWORK NODE (JNN) TESTING</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
JN1: <i>JOINT NETWORK NODE (JNN) TESTING</i>	-	13.170	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

WIN-T Inc 1 is key to the Army's Network Modernization program. As the emerging major component of the Army Bridge to Future Networks, Warfighter Information Network - Tactical (WIN-T) Increment 1, formerly the Joint Network Node (JNN) Network is intended to replace legacy Mobile Subscriber Equipment (MSE) while moving the Army to a unified Everything Over Internet Protocol (EOIP) Communications System. Increment 1: Networking at-the-Halt-the network is capable of passing unclassified and classified traffic levels, throughout its entire structure, from Home Station Operations center to the furthest forward Battalion Elements. Designed to meet modularity and rapid deployment mandate, the network is also intended to support Joint Communications Requirements and internet applications from Coalition partners and from approved Federal Agencies such as the Federal Emergency Management Agency and Department of Homeland Security.

FY 2012: Funding will be used for Operational Test of the Inc 1b technical insertion scheduled to be conducted 3rd quarter FY 2012 in conjunction with Inc 2 Initial Operational Test and Evaluation (IOT&E).

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

	FY 2011	FY 2012	FY 2013
Title: Operational Testing Event	-	13.170	-
Description: Funding is provided for the following effort		0	
FY 2012 Plans: Operational Testing Event			
Accomplishments/Planned Programs Subtotals	-	13.170	-

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

N/A

D. Acquisition Strategy

Joint Network Node (JNN) Network has previously been acquired in substantial quantities as urgent Army directive procurement. The JNN program attained Milestone C on 14 May 2007. The product manager was given verbal approval to proceed, in addition to instruction to await an Acquisition Decision memorandum (ADM) that was to follow finalization of the Warfighter Information Network - Tactical (WIN-T) Nunn-McCurdy hearings. The ADM was issued 5 June 2007 implementing the expected merger of JNN and WIN-T, laying the foundation for the restructured WIN-T program, and directing a number of actions to start the way ahead for the

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	JN1: <i>JOINT NETWORK NODE (JNN)</i> <i>TESTING</i>

combined program. The WIN-T ACAT 1D program now consist of four separately reporting Increments, with JNN re-designated as WIN-T Increment 1. RDT&E funding will be used to test the output of the production.

FY 2012: Funding will be used for Operational Test of the Inc 1b technical insertion scheduled to be conducted 3rd quarter FY 2012 in conjunction with Inc 2 Initial Operational Test and Evaluation (IOT&E).

E. Performance Metrics

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

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT JN1: <i>JOINT NETWORK NODE (JNN)</i> TESTING
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FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Operational Test	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> <td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td><td style="width: 4%;"> </td> </tr> </table>																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT JN1: <i>JOINT NETWORK NODE (JNN)</i> TESTING
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Operational Test	3	2012	3	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	2.885	3.486	-	3.486	1.966	1.948	2.972	3.022	Continuing	Continuing
E10: <i>SENTINEL</i>	-	2.885	3.486	-	3.486	1.966	1.948	2.972	3.022	Continuing	Continuing

A. Mission Description and Budget Item Justification

This system is a supporting program of the overall Air and Missile Defense (AMD) architecture and will provide for an incrementally fielded Integrated Air and Missile Defense Fire Control System/capability for the composite Army Air and Missile Defense Brigades. The Improved Sentinel system is used with the Forward Area Air Defense Command and Control (FAAD C2) element and is a key component to the Integrated Air and Missile Defense architecture via the Integrated Air and Missile Defense Battle Command System (IBCS) to provide critical air surveillance of the forward areas.

Improved Sentinel (AN/MPQ-64A1) consists of a radar-based sensor with its prime mover/power, Identification Friend or Foe (IFF), and Forward Area Air Defense (FAAD) Command, Control and Intelligence (C2I) interfaces. The radar is deployed in both an air defense role and a force protection role for Counter-Rocket, Artillery, and Mortar (C-RAM) missions. The sensor is an advanced three-dimensional battlefield X-Band air defense phased-array radar with an instrumented range of 75 km. The Improved Sentinel is capable of operating day or night, in adverse weather conditions, in the battlefield environments of dust, smoke, aerosols and enemy countermeasures. It provides 360-degree azimuth coverage for acquisition tracking. The Improved Sentinel contributes to the digital battlefield by automatically detecting, classifying, identifying and reporting targets (cruise missiles, unmanned aerial vehicles, rotary wing and fixed wing aircraft). Improved Sentinel acquires targets sufficiently forward of the battle area to allow weapons reaction time and engagement at optimum ranges. The Improved Sentinel's integrated IFF reduces the potential for fratricide of US and Coalition aircraft.

The Research and Development funding supports Sentinel modernization/upgrades, hardware/software issue resolution, resolution of obsolescence issues, engineering studies, and cost reduction initiatives. The funding for FY 2012 through FY 2017 development activities addresses the following obsolescence issues and Sentinel system capability gaps identified by the User: 1) Target Detection gap; 2) Target Tracking gap; 3) Net Readiness; and 4) Electronic Counter Measures (ECM) gap.

Battle Space Improvement addresses the Target Detection gap that currently exists with the Sentinel system. This development effort modifies the radar signal processor algorithms to reduce system processing losses. The modified algorithms will increase target acquisition and tracking range capability by a minimum of 12 percent against the threat set within the instrumented range band. This effort also develops modifications to the radar hardware by adding a common signal processing card to the radar signal processor to provide a common hardware and software processing configuration across the Sentinel radar fleet.

Stop, Stare and Track addresses the Target Tracking gap. This development effort provides direct Fire Control Radar (FCR) support to a suitable Unmanned Aerial System (UAS) and/or Rockets, Artillery and Mortars (RAM) capability such as the Tamir missile. In addition this provides significantly improved Non-Cooperative Target Recognition (NCTR) timeline and performance against all targets. It also enables rapid classification of cued RAM, as well as very accurate Point of Origin (POO) and Point of Impact (POI), and enables a robust Kill Assessment capability of engaged targets.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>
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Cross Domain Solution (CDS) Network Interface addresses net readiness and system security concerns. This effort develops a CDS interface to isolate the Improved Sentinel from connected networks of lower classification levels.

Electronic Counter Counter Measures (ECCM) addresses the ECM gap. This effort conducts additional testing to verify initial ECCM results and updates the database with more extensive ECCM signatures of evolving threats.

Signal Data Processor (SDP)/North Finding Module (NFM) addresses the Target Detection, Target Tracking, and ECM capability gaps and funds the mitigation of the SDP and NFM obsolescence issues. SDP cards are estimated to go obsolete every four to six years.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	2.890	3.449	-	3.449
Current President's Budget	-	2.885	3.486	-	3.486
Total Adjustments	-	-0.005	0.037	-	0.037
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-0.005	0.037	-	0.037

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
E10: <i>SENTINEL</i>	-	2.885	3.486	-	3.486	1.966	1.948	2.972	3.022	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This system is a supporting program of the overall Air and Missile Defense (AMD) architecture and will provide for an incrementally fielded Integrated Air and Missile Defense Fire Control System/capability for the composite Army Air and Missile Defense Brigades. The Improved Sentinel system is used with the Forward Area Air Defense Command and Control (FAAD C2) element and is a key component to the Integrated Air and Missile Defense architecture via the Integrated Air and Missile Defense Battle Command System (IBCS) to provide critical air surveillance of the forward areas.

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The Research and Development funding supports Sentinel modernization/upgrades, hardware/software issue resolution, resolution of obsolescence issues, engineering studies, and cost reduction initiatives. The funding for FY 2012 through FY 2017 development activities addresses the following obsolescence issues and Sentinel system capability gaps identified by the User: 1) Target Detection gap; 2) Target Tracking gap; 3) Net Readiness; and 4) Electronic Counter Measures (ECM) gap.

Battle Space Improvement addresses the Target Detection gap that currently exists with the Sentinel system. This development effort modifies the radar signal processor algorithms to reduce system processing losses. The modified algorithms will increase target acquisition and tracking range capability by a minimum of 12 percent against the threat set within the instrumented range band. This effort also develops modifications to the radar hardware by adding a common signal processing card to the radar signal processor to provide a common hardware and software processing configuration across the Sentinel radar fleet.

Stop, Stare and Track addresses the Target Tracking gap. This development effort provides direct Fire Control Radar (FCR) support to a suitable Unmanned Aerial System (UAS) and/or Rockets, Artillery and Mortars (RAM) capability such as the Tamir missile. In addition this provides significantly improved Non-Cooperative Target Recognition (NCTR) timeline and performance against all targets. It also enables rapid classification of cued RAM, as well as very accurate Point of Origin (POO) and Point of Impact (POI), and enables a robust Kill Assessment capability of engaged targets.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>
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Cross Domain Solution (CDS) Network Interface addresses net readiness and system security concerns. This effort develops a CDS interface to isolate the Improved Sentinel from connected networks of lower classification levels.

Electronic Counter Counter Measures (ECCM) addresses the ECM gap. This effort conducts additional testing to verify initial ECCM results and updates the database with more extensive ECCM signatures of evolving threats.

Signal Data Processor (SDP)/North Finding Module (NFM) addresses the Target Detection, Target Tracking, and ECM capability gaps and funds the mitigation of the SDP and NFM obsolescence issues. SDP cards are estimated to go obsolete every four to six years.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Product Development</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following efforts:</p> <p>FY 2012 Plans: Define requirements and functionality for battle space improvement and stop, stare and track capability. Develop new software code and/or modify radar signal processor algorithms. Add common signal processing card to radar signal processor. Perform technical assessments, concept studies, cost reduction, risk reduction, threat analysis, and required documentation.</p> <p>FY 2013 Plans: Integrate firmware, software and hardware. Build prototype subsystems/components for testing. Complete software code coding and modification of the system search and track logic, clutter mapping, and waveforms. Characterize performance, design & replace firmware, software and hardware. Perform technical assessments, concept studies, cost reduction, risk reduction, threat analysis, and required documentation.</p>	-	2.472 0	2.553
<p>Title: Test & Evaluation</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following efforts:</p> <p>FY 2012 Plans: Plan and test new and modified radar signal processor algorithms.</p> <p>FY 2013 Plans: Conduct software qualification test and hardware verification testing, field testing against representative targets. Prepare Logistics products and required documentation for material release of software and hardware upgrades.</p>	-	0.172 0	0.658
<p>Title: Management Support</p>	-	0.241	0.275

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>Articles:</p> <p>Description: Funding is provided for the following efforts:</p> <p>FY 2012 Plans: Provides business management, contract management, financial management, and security management for active development projects in FY 2012.</p> <p>FY 2013 Plans: Provides business management, contract management, financial management, and security management for active development projects in FY 2013.</p>		0	
Accomplishments/Planned Programs Subtotals	-	2.885	3.486

C. Other Program Funding Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0604869A: <i>Proj M06, Patriot/MEADS Combined Aggregate Program (CAP)</i>	450.584	389.630	400.861		400.861					Continuing	Continuing
• PE 0605456A: <i>Proj PA3, PAC-3/MSE MISSILE</i>	121.475	88.909	69.029		69.029		130.348	63.975	65.771	Continuing	Continuing
• SSN C53101: <i>MSE Missile</i>		74.953	12.850		12.850		505.084	596.387	566.757	Continuing	Continuing
• PE 0102419A: <i>Proj E55, JLENS</i>	399.477	327.338	190.422		190.422		32.480	24.130	24.612	Continuing	Continuing
• PE 0605455A: <i>Proj S35, SLAMRAAM</i>	18.358	1.529								Continuing	Continuing
• SSN C81002: <i>SLAMRAAM Launcher</i>	2.355									Continuing	Continuing
• PE 0604319A: <i>Proj DU3, IFPC2 (FY 2011 /2012 PE0603305A IFPC II- Intercept)</i>	4.143	9.269	76.039		76.039		122.355	146.463	151.769	Continuing	Continuing
• SSN WK5053: <i>FAAD GBS</i>	258.413	3.958	7.980		7.980					Continuing	Continuing
• PE 0605457A: <i>Proj S40, Army Integrated Air and Missile Defense (AIAMD)</i>	246.691	270.180	262.211		262.211		394.260	210.580	135.072	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• SSN BZ5075: <i>Army IAMD Battle Command System (IBCS)</i>							103.051	281.828	426.582	Continuing	Continuing
• PE 0208053: <i>Proj 635, JOINT TACT GRD STATION-P3I (MIP)</i>	12.005	27.586	31.738		31.738		8.006	8.134	8.314	Continuing	Continuing
• SSN BZ8401: <i>Joint Tactical Ground Station (JTAGS)</i>	9.227	1.199	2.680		2.680		4.432	4.496	4.768	Continuing	Continuing
• PE 0604820A: <i>Proj E10, SENTINEL</i>		2.885	3.486		3.486		1.948	2.972	3.022	Continuing	Continuing

D. Acquisition Strategy

Battle Space Improvement: The Sentinel Product Office will contract with Thales Raytheon Systems (TRS) to update and modify the radar signal processor algorithms. The updated software will be tested, documented and released for installation.

Stop, Stare and Track: The Sentinel Product Office will contract with Thales Raytheon Systems (TRS) to develop new and/or modify existing Sentinel software. The updated software will be tested, documented and released for installation.

Cross Domain Solution Interface: The Sentinel Product Office will contract with Thales Raytheon Systems (TRS) to develop an interface solution to isolate Improved Sentinel transmission from connected networks of lower classifications. The updated software will be tested, documented and released for installation in the field.

Electronic Counter Counter Measures (ECCM): The Sentinel Product Office will contract with Thales Raytheon Systems (TRS) to verify the initial ECCM Database and update the database with more extensive ECCM signatures of evolving threats. The updated database will be tested, documented and released for installation.

Signal Data Processor (SDP)/North Finding Module (NFM): The Sentinel Product Office will contract with Thales Raytheon Systems (TRS) to mitigate the Signal Data Processor and North Finding Module obsolescence. The updated SDP and NFM hardware will be tested, documented and released for installation in the field.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Improved Sentinel Development	SS/CPFF	Thales Raytheon:Fullerton, CA	11.398	-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon:Fullerton, CA	1.169	-		-		-		-	Continuing	Continuing	0.000
Battle Space Improvement	SS/CPFF	Thales Raytheon & Government:Fullerton, CA / Huntsville, AL	-	0.079		0.088		-		0.088	0.000	0.167	0.000
Stop, Stare and Track	SS/CPFF	Thales Raytheon:Fullerton, CA	-	0.162		0.187		-		0.187	0.000	0.349	0.000
Subtotal			12.567	0.241		0.275		-		0.275			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Improved Sentinel Development	SS/CPFF	Thales Raytheon:Fullerton, CA	102.729	-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon:Fullerton, CA	20.820	-		-		-		-	Continuing	Continuing	0.000
Battle Space Improvement	SS/CPFF	Thales Raytheon & Government:Fullerton,CA / Huntsville, AL	-	0.725		0.827		-		0.827	0.000	1.552	0.000
Stop, Stare, and Track	SS/CPFF	Thales Raytheon & Government:Fullerton, CA / Huntsville, AL	-	1.747		1.726		-		1.726	0.000	3.473	0.000
Subtotal			123.549	2.472		2.553		-		2.553			0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Improved Sentinel Development	SS/CPFF	Thales Raytheon:Fullerton, CA	16.930	-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon:Fullerton, CA	0.352	-		-		-		-	Continuing	Continuing	0.000
Subtotal			17.282	-		-		-		-			0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Improved Sentinel Mod Development	SS/CPFF	Thales Raytheon:Fullerton CA	34.599	-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon:Fullerton, CA	2.331	-		-		-		-	Continuing	Continuing	0.000
Battle Space Improvement	SS/CPFF	Thales Raytheon & Government:Fullerton, CA / Huntsville, AL	-	0.086		0.086		-		0.086	0.000	0.172	0.000
Stop, Stare and Track	SS/CPFF	Thales Raytheon:Fullerton, CA	-	0.086		0.572		-		0.572	0.000	0.658	0.000
Subtotal			36.930	0.172		0.658		-		0.658			0.000

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		190.328	2.885	3.486	-		3.486	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Battle Space Improvement																												
Stop, Stare and Track																												
Cross Domain Solution (CDS) Network Interface																												
Electronic Counter Counter Measures (ECCM)																												
Signal Data Processor (SDP) / North Finding Module (NFM)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Battle Space Improvement	3	2012	4	2013
Stop, Stare and Track	3	2012	4	2013
Cross Domain Solution (CDS) Network Interface	2	2014	4	2015
Electronic Counter Counter Measures (ECCM)	2	2014	4	2017
Signal Data Processor (SDP) / North Finding Module (NFM)	2	2014	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604822A: <i>General Fund Enterprise Business System (GFEBS)</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	13.094	0.793	9.963	-	9.963	-	-	-	-	Continuing	Continuing
DV6: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM SENSITIVE</i>	-	-	9.963	-	9.963	-	-	-	-	Continuing	Continuing
GF5: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)</i>	13.094	0.793	-	-	-	-	-	-	-	Continuing	Continuing

Note

\$9.963 million is required in FY 2013 for the Sensitive Activities (SA) program. Sensitive Activities provides a classified version of the GFEBS program. Sensitive Activities allows processing of data in a secure environment to protect and manage classified data without causing risk to our national security.

A. Mission Description and Budget Item Justification

The General Fund Business Enterprise System (GFEBS) is a Major Automated Information System (MAIS) program and completing the developmental phase. It will follow the DoD Business Enterprise Architecture which is aligned to the mandated Federal Enterprise Architecture. GFEBS was implemented to fulfill the needs and comply with the Federal Financial Management Improvement Act (FFMIA), The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Clinger-Cohen Act of 1996 and to fulfill the stated mission of the Assistant Secretary of the Army for Financial Management and Comptroller (ASA(FM&C)). GFEBS will replace financial systems operating in excess of 30 years including the Standard Finance Systems (STANFINS) and other costly feeder systems which do not allow the Department of Defense (DoD) or the U.S. government to achieve an unqualified opinion on its financial statements. GFEBS will become the Department of the Army's new core financial management system for administering its General Fund. GFEBS was developed using a commercial off-the-shelf (COTS) Enterprise Resource Planning (ERP) system that is certified by the Chief, Financial Officer Council (CFOC) and provides the six core financial functions. GFEBS will allow tactical commanders to make informed decisions on a virtually real time system.

On 1 October 2008, GFEBS deployed to Wave 1 end users at Fort Jackson Garrison, Defense Finance Accounting Service (DFAS) Indianapolis, Indiana and several other organizations. On 1 April 2009, GFEBS deployed to Wave 2 users at Fort Benning, Fort Stewart, DFAS Rome and several other organizations. Wave 3 deployed in October FY10, Wave 4 in January of FY11, Wave 5 in April 2011 and Wave 6 in July 2011. GFEBS is currently fielded to approximately 38,000 trained end users and the last development software release, Release 1.4.4, was fielded to all users in December 2011. Each fielded release subsumes the previous release keeping all deployed sites executing under the same GFEBS release. The Full Deployment Decision was received by the Milestone Decision Authority on 24 June 2011. In FY12 GFEBS is scheduled to deploy the remaining waves, 7-8, which encompass the remainder of the Active Army, Army Reserves, Army National Guard and select defense agencies.

Sensitive Activities provides a classified version of the GFEBS program. Sensitive Activities allows processing of data in a secure environment to protect and manage classified data without causing risk to our national security.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604822A: <i>General Fund Enterprise Business System (GFEBS)</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	13.576	0.794	0.808	-	0.808
Current President's Budget	13.094	0.793	9.963	-	9.963
Total Adjustments	-0.482	-0.001	9.155	-	9.155
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-0.482	-0.001	9.155	-	9.155

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604822A: <i>General Fund Enterprise Business System (GFEBs)</i>	PROJECT DV6: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM SENSITIVE</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
DV6: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM SENSITIVE</i>	-	-	9.963	-	9.963	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The General Fund Enterprise Business System (GFEBs) is a Major Automated Information System (MAIS)(ACAT-1AM) project that replaces 30+-year-old financial systems including the Standard Finance Systems (STANFINS), Standard Operations and Maintenance, Army R&D System (SOMARDS), and Database Commitment Accounting System (DbCAS/WebCas. GFEBs will become the Dept of the Army's new core financial and asset management system for administering its general fund, improving performance, standardizing processes and ensuring future needs are met. GFEBs is a commercial off-the-shelf (COTS) Enterprise Resource Planning (ERP) System certified by the Chief Financial Officers Council (CFOC).GFEBs will train and support nearly 54,000 users at over 200 installations worldwide and is the Army's solution to the current capability gap in accounting and financial management. This new capability will provide improved functionality in general fund core financial functions including: general ledger management; financial reporting; real property, plant, and equipment accountability; reimbursables, revenue, and accounts receivable; cost management; funds control and budgetary accounting; accounts payable; and audit trails and system controls and meets legislative mandates to develop an auditable financial system. Presently, none of these functional areas are adequately addressed with existing processes and capabilities. The primary objectives for the GFEBs financial management system are to improve performance, standardize business processes, ensure capability exists to meet future needs, and provide Army's decision makers with relevant, reliable, and timely information.

On 1 October 2008, GFEBs deployed to Wave 1 end users at Fort Jackson Garrison, Defense Finance Accounting Service (DFAS) Indianapolis, Indiana and several other organizations. On 1 April 2009, GFEBs deployed to Wave 2 users at Fort Benning, Fort Stewart, DFAS Rome and several other organizations. Wave 3 deployed in October FY10, Wave 4 in January of FY11, Wave 5 in April 2011 and Wave 6 in July 2011. GFEBs is currently fielded to approximately 38,000 trained end users and the last development software release, Release 1.4.4, was fielded to all users in December 2011. Each fielded release subsumes the previous release keeping all deployed sites executing under the same GFEBs release. The Full Deployment Decision was received by the Milestone Decision Authority on 24 June 2011. In FY12 GFEBs is scheduled to deploy the remaining waves, 7-8, which encompass the remainder of the Active Army, Army Reserves, Army National Guard and select defense agencies.

Funds are for the Sensitive Activities (SA) increment of the GFEBs program developed to process data in a secure environment to protect and manage classified data. Without the SA increment, GFEBs will be unable to achieve an unliquidated audit opinion and, as all other activities of the Army convert to GFEBs, the SA activities will be exposed unless they, too, convert to GFEBs functionality. Funds are required to execute the System Integrator contract to develop and test the SA solution.

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

	FY 2011	FY 2012	FY 2013
Title: Product Development	-	-	9.963

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604822A: <i>General Fund Enterprise Business System (GFEBS)</i>	PROJECT DV6: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM SENSITIVE</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012	FY 2013
Description: Funding is for the following activities: FY 2013 Plans: Execution of System Integrator contract to develop and test functional, technical and configuration designs for secure solution of GFEBS.			
Accomplishments/Planned Programs Subtotals	-	-	9.963

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA: OPA			4.968		4.968					0.000	18.918

D. Acquisition Strategy
Plan, develop, and manage GFEBS-SA as separate increment from GFEBS base program.
Evolutionary delivery of capabilities.

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604822A: <i>General Fund Enterprise Business System (GFEBs)</i>				PROJECT GF5: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBs)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
GF5: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBs)</i>	13.094	0.793	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The General Fund Business Enterprise System (GFEBs) is a Major Automated Information System (MAIS) program and completing the developmental phase. It will follow the DoD Business Enterprise Architecture which is aligned to the mandated Federal Enterprise Architecture. GFEBs was implemented to fulfill the needs and comply with the Federal Financial Management Improvement Act (FFMIA), The Chief Financial Officers Act of 1990, the Government Performance and Results Act of 1993, the Government Management Reform Act of 1994, and the Clinger-Cohen Act of 1996 and to fulfill the stated mission of the Assistant Secretary of the Army for Financial Management and Comptroller (ASA(FM&C)). GFEBs will replace financial systems operating in excess of 30 years including the Standard Finance Systems (STANFINS) and other costly feeder systems which do not allow the Department of Defense (DoD) or the U.S. government to achieve an unqualified opinion on its financial statements. GFEBs will become the Department of the Army's new core financial management system for administering its General Fund. GFEBs was developed using a commercial off-the-shelf (COTS) Enterprise Resource Planning (ERP) system that is certified by the Chief, Financial Officer Council (CFOC) and provides the six core financial functions. GFEBs will allow tactical commanders to make informed decisions on a virtually real time system.

On 1 October 2008, GFEBs deployed to Wave 1 end users at Fort Jackson Garrison, Defense Finance Accounting Service (DFAS) Indianapolis, Indiana and several other organizations. On 1 April 2009, GFEBs deployed to Wave 2 users at Fort Benning, Fort Stewart, DFAS Rome and several other organizations. Wave 3 deployed in October FY10, Wave 4 in January of FY11, Wave 5 in April 2011 and Wave 6 in July 2011. GFEBs is currently fielded to approximately 38,000 trained end users and the last development software release, Release 1.4.4, was fielded to all users in December 2011. Each fielded release subsumes the previous release keeping all deployed sites executing under the same GFEBs release. The Full Deployment Decision was received by the Milestone Decision Authority on 24 June 2011. In FY12 GFEBs is scheduled to deploy the remaining waves, 7-8, which encompass the remainder of the Active Army, Army Reserves, Army National Guard and select defense agencies.

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

	FY 2011	FY 2012	FY 2013
Title: Product Development	13.094	0.793	-
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604822A: <i>General Fund Enterprise Business System (GFEBS)</i>	PROJECT GF5: <i>GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
finalize development of Release 1.4 Reports, Interfaces, Conversions, Extensions (RICE) objects for Debt Management, Federated, Foreign Military Sales (FMS), Logistics Modernization Program (LMP) and Global Command and Control Systems, Army (GCSS,A).			
FY 2012 Plans: continue initiatives for interface partners			
Accomplishments/Planned Programs Subtotals	13.094	0.793	-

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA: <i>OPA,</i>	97.858	25.459	4.216		4.216		2.692	14.111	2.752	0.000	153.402
• OMA: <i>OMA,</i>	73.248	60.753	59.113		59.113		52.155	49.928	50.736	0.000	402.640

D. Acquisition Strategy

GFEBs is being procured as a performance-based acquisition to encourage innovative and creative solutions and to avoid hampering, dictating, or prescribing how the work must be performed. Therefore, the focus of the Statement of Objectives (SOO) was on "what" the Army is trying to achieve instead of "how" it must be achieved. The use of an SOO is an emerging method that transforms the acquisition process by requiring each of the competing contractors to develop their unique proposed technical approach, work breakdown schedule, project plan and schedule, schedule of deliverable items, performance metrics, performance measurement plan, and quality assurance plan. To achieve its GFEBs project objectives, the Army used an existing Blanket Purchase Agreement (BPA) to select a System Integrator (SI). The contract period of performance is 1 base year with 9 option years. DoD through the Department of the Navy has established enterprise agreements for ERP System Integration Services with five qualified SI(s) that are General Services Administration (GSA) Federal Supply Service (FSS) Schedule holders under the Enterprise Software Initiative (ESI). The Army has selected the SI; all contractor work will be performed under the selected SI's ESI-SI BPA through the award of one task order with several options. Multiple options are anticipated to support each project objective. The products and services described in task orders will be grouped and referenced as Contract Line Item Numbers (CLIN). All CLINs will be awarded on a Fixed Price basis with performance based incentives and disincentives. The task order and all options exercised will be performance based, containing financial incentive and disincentive provisions. Offerors were provided performance based metrics and were required to propose performance incentive and disincentive provisions by CLIN in their Quality Assurance Surveillance Plan (QASP) submitted in response to the Request for Quote (RFQ). The QASP elements were evaluated as part of the evaluation of the Offerors' proposals.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604822A: General Fund Enterprise Business System (GFEBS)				PROJECT GF5: GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)					
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development	Various	Accenture:Kingstowne VA 22305	120.181	0.793		-		-		-	0.000	120.974	0.000
Subtotal			120.181	0.793		-		-		-	0.000	120.974	0.000
Project Cost Totals			120.181	0.793		-		-		-	0.000	120.974	0.000

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	22.455	10.348	20.517	-	20.517	47.221	42.204	-	-	Continuing	Continuing
L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>	5.836	6.968	3.176	-	3.176	-	-	-	-	Continuing	Continuing
L87: <i>LONG RANGE COUNTERFIRE RADAR</i>	-	-	-	-	-	-	-	-	-	Continuing	Continuing
L88: <i>ENHANCED AN/TPQ 36</i>	16.619	3.380	17.341	-	17.341	47.221	42.204	-	-	Continuing	Continuing

Note

FY 2013 funding supports EQ-36 and LCMR development efforts.

A. Mission Description and Budget Item Justification

This Program funds design, development and test of primary target acquisition and counterfire radars to automatically detect, locate and classify hostile indirect fire weapons (mortars, artillery, and rockets). This PE directly supports the prioritization, tracking, and locating of targets, and dissemination of that information for simultaneous attack of multiple threats. It provides the Warfighter with continuous and responsive counterfire target acquisition systems for all types and phases of military operations. Project L86, Lightweight Counter Mortar Radar, Version AN/TPQ-50 provides 360 degree coverage and is used to detect, locate and report hostile locations of enemy indirect firing systems. Project L88, Enhanced AN/TPQ-36 (EQ-36), is a highly mobile radar system that will leverage the latest in technology design to accelerate technology infusion and increase range while improving False Alarm Rate, reducing obsolescence and increasing reliability. EQ-36 will provide 90 degree coverage and extended range, with an incremental development to increase detection capability to 360 degrees.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	24.736	10.358	30.977	-	30.977
Current President's Budget	22.455	10.348	20.517	-	20.517
Total Adjustments	-2.281	-0.010	-10.460	-	-10.460
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.737	-			
• Adjustments to Budget Years	-	-	-10.460	-	-10.460
• Other Adjustments 2	-1.544	-0.010	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>	5.836	6.968	3.176	-	3.176	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The AN/TPQ-50 (formerly known as AN/TPQ-48(V)3) Lightweight Counter Mortar Radar (LCMR) is a digitally connected, day/night mortar, cannon, and rocket locating system. It is used to detect, locate, track, and report enemy indirect firing systems and also provides observed fires from friendly units. The AN/TPQ-50 is capable of being deployed in two configurations, standalone or vehicle mounted. It can be set up and operational in 20 minutes and disassembled in 10 minutes. AN/TPQ-50 will also be deployed as part of a System of Systems for the Counter-Rocket, Artillery, and Mortar (C-RAM) construct. It provides data to the Forward Area Air Defense Command and Control (FAADC2) node for the sense and warn force protection capability at fixed and semi-fixed sites. It provides 360 degrees of azimuth coverage and covers a range of 500 meters to 10 kilometers. The AN/TPQ-50 doubles the detection range and targeting accuracy of the existing AN/TPQ-48(V)2 Quick Reaction Capability (QRC) currently fielded in support of Operation Enduring Freedom (OEF) and other contingency operations, and also provides self-location which significantly improves force protection by reducing operator exposure to enemy fire.

FY 2013 Base funds support the integration of Common Front End (CFE) software as a Pre-Planned Product Improvement (P3I). CFE provides a common Graphics User Interface (GUI) to the warfighter that reduces operator training time and cost. CFE will make the GUI of the LCMR common with the GUI of the Enhanced AN/TPQ-36 (EQ-36), AN/TPQ-36, and AN/TPQ-37.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: AN/TPQ-50 Development	3.281	4.110	-	-	-
Articles:	0	0			
Description: Funding is provided for the following effort					
FY 2011 Accomplishments: Development of the AN/TPQ-50 Program of Record and the refurbishment of prototypes to include associated Program Management Office (PMO) costs					
FY 2012 Plans: Development of the AN/TPQ-50 Program of Record and the refurbishment of prototypes to include associated Program Management Office (PMO) costs					
Title: Test Support	2.555	2.858	-	-	-
Articles:	0	0			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Funding is provided for the following effort					
FY 2011 Accomplishments: Test activities to support Initial Operational Test & Evaluation (IOT&E) and associated PMO support costs.					
FY 2012 Plans: Development Testing, Initial Operational Test & Evaluation (IOT&E) and associated PMO support costs.					
Title: Common Front End (CFE)	-	-	3.176	-	3.176
Description: Funding is provided for the following effort					
FY 2013 Base Plans: Integration of CFE Software and associated PMO support costs.					
Accomplishments/Planned Programs Subtotals	5.836	6.968	3.176	-	3.176

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• B05201: SSN: B05201 <i>Lightweight Counter Mortar Radar</i>	9.631	87.910	72.594	27.646	100.240		60.305	50.937	51.819	Continuing	Continuing

D. Acquisition Strategy

The AN/TPQ-50 Lightweight Counter Mortar Radar (LCMR) is being developed to meet Training and Doctrine Command (TRADOC) Capabilities Production Document (CPD) requirements. Acquisition Strategy approval was originally obtained in May 2006. In September 2006, a sole source development contract was awarded to SRCTec, the developer and producer of the AN/TPQ-48(V)2 Quick Reaction Capability (QRC) LCMR. A Business Case Analysis (BCA) was completed in June 2010 which resulted in a Sole Source Acquisition Strategy decision for production. Government development testing (DT) and the Limited User Test (LUT) accomplished in FY 2010 identified limitations in the system that require re-work and additional testing in FY 2011 and FY 2012 to prepare for the Initial Operational Test and Evaluation (IOT&E) now scheduled for 3rd quarter FY 2012. FY 2013 Base funds support the integration of Common Front End (CFE) software as a Pre-Planned Product Improvement (P3I).

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management (Contractor)	Various	Various:Various	3.348	-		0.112		-		0.112	0.000	3.460	3.460
Program Management	Various	PM Radars:Fort Monmouth NJ/ APG MD	0.911	-		0.112		-		0.112	0.000	1.023	1.023
Program Management (Government Matrix)	Various	Various:Various	1.155	-		0.113		-		0.113	0.000	1.268	1.268
Subtotal			5.414	-		0.337		-		0.337	0.000	5.751	5.751

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Common Front End (CFE) Software	Various	SRCTec, North:Syracuse, NY	-	-		2.839		-		2.839	0.000	2.839	2.839
Primary Hardware Development	Various	SRCTec, North:Syracuse, NY	40.978	4.110		-		-		-	0.000	45.088	45.088
Systems Engineering	SS/TBD	CERDEC:Fort Monmouth, NJ	2.964	-		-		-		-	0.000	2.964	2.964
Systems Engineering Contractor	SS/TBD	Various:Various	4.613	-		-		-		-	0.000	4.613	4.613
Radar Environmental Simulators (RES)	SS/TBD	Oakridge National Labs:Oakridge, TN	0.250	-		-		-		-	0.000	0.250	0.250
Subtotal			48.805	4.110		2.839		-		2.839	0.000	55.754	55.754

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support (Government)	Various	Various:Various	0.774	-		-		-		-	0.000	0.774	0.774
Subtotal			0.774	-		-		-		-	0.000	0.774	0.774

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>					PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR</i> RADAR (LCMR)				

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support (Contractor)	SS/TBD	SRCTec:Syracuse, NY	0.309	-		-		-		-	0.000	0.309	0.309
Limited User Test	Various	YUMA/WSMR:Arizona/ New Mexico	1.246	-		-		-		-	0.000	1.246	1.246
Follow-On Test Event (FOTE)	Various	YUMA/WSMR:Arizona/ New Mexico	0.690	-		-		-		-	0.000	0.690	0.690
Developmental Test Operational Test (DT/OT)	Various	Yuma/WSMR:Arizona/ New Mexico	3.663	0.565		-		-		-	0.000	4.228	4.228
Initial Operational Test & Evaluation	Various	YUMA/WSMR:Arizona/ New Mexico	-	2.293		-		-		-	0.000	2.293	2.293
Test Support (Government)	Various	Various:Various	2.542	-		-		-		-	0.000	2.542	2.542
Subtotal			8.450	2.858		-		-		-	0.000	11.308	11.308

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			63.443	6.968		3.176		-		3.176	0.000	73.587	73.587

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
First Unit Equipped (FUE) (AN/TPQ-50)				■																								
Milestone C							■																					
Initial Operational Test & Evaluation (IOT&E)							■																					
Full Rate Production (FRP) Decision											■																	
Common Front End (CFE) Pre-Planned Product Improvement (P3I)											■	■																

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
First Unit Equipped (FUE) (AN/TPQ-50)	4	2011	4	2011
Milestone C	2	2012	2	2012
Initial Operational Test & Evaluation (IOT&E)	3	2012	3	2012
Full Rate Production (FRP) Decision	2	2013	2	2013
Common Front End (CFE) Pre-Planned Product Improvement (P3I)	2	2013	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>				PROJECT L87: <i>LONG RANGE COUNTERFIRE RADAR</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L87: <i>LONG RANGE COUNTERFIRE RADAR</i>	-	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

No work is being done under this Project. The FY11 funding will be reprogrammed to another project within this PE.

The FY13 RDTE OCO of \$14.600 million is an error. No OCO funds were requested for this project.

A. Mission Description and Budget Item Justification

No work is being done under this project. FY11 funding will be reprogrammed to another project within this Program Element (PE).

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

N/A

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L88: <i>ENHANCED AN/TPQ 36</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
L88: <i>ENHANCED AN/TPQ 36</i>	16.619	3.380	17.341	-	17.341	47.221	42.204	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Enhanced AN/TPQ-36 (EQ-36) Counterfire Target Acquisition Radar System Capability Production Document (CPD) was approved on 29 September 2010. The EQ-36 System is a highly mobile radar set that automatically detects, classifies, tracks, and locates the point of origin of projectiles fired from mortar, artillery, and rocket systems with sufficient accuracy for first round fire for effect. It mitigates close combat radar coverage gaps and will ultimately replace the current AN/TPQ-36 and AN/TPQ-37 Firefinder Radars; fully supporting Brigade Combat Teams (BCTs) and Fires Brigades operations. The EQ-36 System will interoperate with future Battle Command Systems (BCSs) to provide the maneuver commander increased counterfire radar flexibility. The EQ-36 System will be capable of being deployed as part of the Indirect Fire Protection Capability (IFPC) System of Systems (SoS) to provide a sense and warn capability for fixed and semi-fixed sites. The EQ-36 System will provide a system with increased range and accuracy throughout a 90 degree search sector (stare mode) as well as 360 degree coverage (rotating) for locating mortar, artillery and rocket firing positions.

FY 2013 funds will initiate development and testing of the Pre-Planned Product Improvements (P3I) for High Clutter Environment and Low Quadrant Elevation efforts.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Supportability</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort:</p> <p>FY 2011 Accomplishments: Supportability for Non-Recurring Engineering (NRE) systems, maintenance training and associated Program Management Office (PMO) Costs.</p>	10.815 0	-	-	-	-
<p>Title: Test Support</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Test activities to include Limited User Test (LUT)/Development Test (DT) and associated PMO support costs.</p> <p>FY 2012 Plans:</p>	5.804 0	3.380 0	9.921	-	9.921

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>		PROJECT L88: <i>ENHANCED AN/TPQ 36</i>	

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Test activities to include Limited User Test (LUT)/Development Test (DT) and associated PMO support costs. FY 2013 Base Plans: Test activities to include Logistics/Maintenance Demo, Cold Regions Test Center (CRTC), Initial Operational Test and Evaluation (IOT&E), required ammunition and associated PMO support costs.					
Title: Low Quadrant Elevation (QE) Shots Description: Funding is provided for the following effort FY 2013 Base Plans: Initiate efforts to develop algorithms to detect Low QE shots; this includes associated PMO support costs.	-	-	1.790	-	1.790
Title: High Clutter Environment Description: Funding is provided for the following effort FY 2013 Base Plans: Initiate development efforts to track projectiles through a high clutter environment; this includes associated PMO support costs.	-	-	5.630	-	5.630
Accomplishments/Planned Programs Subtotals	16.619	3.380	17.341	-	17.341

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• Enhanced AN/TPQ-36: <i>Enhanced AN/TPQ-36</i>	285.867	338.177	244.409	54.585	298.994		348.173	124.362	152.792	0.000	1,861.092

D. Acquisition Strategy

The Enhanced AN/TPQ-36 (EQ-36) leverages technology developed in the Multi-Mission Radar Advanced Technology Objective (ATO) program incorporating the latest antenna technology into the EQ-36. In order to field the EQ-36 capability to the Warfighter in the most expeditious manner with the least amount of risk, the EQ-36 will be produced in two increments based on two tiers of technical threshold requirements. Increment 1 capabilities are planned to be fielded as a replacement to the AN/TPQ-36 and AN/TPQ-37 radar systems. Increment 2 capabilities will provide increased performance over Increment 1 and will meet all of the user's threshold requirements. A contract was awarded in the fourth quarter of FY 2006 based on full and open competition. A Limited Procurement Milestone C approval was received in July 2008 which supported use of Overseas Contingency Operations (OCO) and Base budget funds to meet urgent operational requirements. An option for initial production units was exercised in July 08 in order to support an Operational Needs Statement (ONS). Additional systems were procured in FY 2010 to

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0604823A: <i>FIREFINDER</i>	L88: <i>ENHANCED AN/TPQ 36</i>

support additional theater requirements. Milestone C Update Approval and follow-on production contract will be competitively awarded in FY 2012 instead of FY 2011 as a result of the source selection process. The system will eventually replace all of the AN/TPQ-36 and AN/TPQ-37 legacy systems in the fleet. FY 2013 funding will initiate development for Pre-Planned Product Improvements (P3I) for High Clutter Environment and Low Quadrant Elevation efforts.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L88: <i>ENHANCED AN/TPQ 36</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management (Contractor)	TBD	Various:Various	3.482	-		0.301		-		0.301	Continuing	Continuing	Continuing
Program Management (Government)	TBD	Various:Various	0.702	0.272		0.279		-		0.279	Continuing	Continuing	Continuing
Program Management	TBD	PM RADARS:Aberdeen Proving Ground, MD	2.633	-		-		-		-	0.000	2.633	2.633
Subtotal			6.817	0.272		0.580		-		0.580			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Primary Hardware Development, Ancillary Equipment, and Radar Environmental Simulators (RES)	SS/FP	Lockheed Martin:Syracuse, NY	176.660	-		-		-		-	0.000	176.660	176.660
Non-Recurring Engineering (NRE) Supportability	SS/CPFF	Lockheed Martin:Syracuse, NY	4.485	-		-		-		-	0.000	4.485	4.485
Non-Recurring Engineering (NRE)Supportability	SS/CPFF	Lockheed Martin:Syracuse, NY	1.682	-		-		-		-	0.000	1.682	1.682
Low Quadrant Elevation (QE) Shots	SS/FP	TBD:TBD	-	-		1.500		-		1.500	Continuing	Continuing	Continuing
Maintenance Training	SS/CPFF	Lockheed Martin:Syracuse, NY	2.222	-		-		-		-	0.000	2.222	2.222
High Clutter Environment	SS/FP	TBD:TBD	-	-		5.340		-		5.340	Continuing	Continuing	Continuing
Systems Engineering (Contractor)	Various	Various:Various	5.531	-		-		-		-	0.000	5.531	5.531
Systems Engineering (Government)	Various	Various:Various	1.997	-		-		-		-	0.000	1.997	1.997
Subtotal			192.577	-		6.840		-		6.840			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L88: <i>ENHANCED AN/TPQ 36</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Support (Government)	Various	Various:various	4.334	-		-		-		-	0.000	4.334	4.334
Development Support (Contractor)	Various	Various:various	2.111	-		-		-		-	0.000	2.111	2.111
Subtotal			6.445	-		-		-		-	0.000	6.445	6.445

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	Various	YUMA/WSMR:Arizona, NM	17.228	3.108		9.921		-		9.921	Continuing	Continuing	Continuing
Subtotal			17.228	3.108		9.921		-		9.921			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			223.067	3.380		17.341		-		17.341			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L88: <i>ENHANCED AN/TPQ 36</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Limited User Test (LUT)																												
Milestone C Update																												
Competitive Production Efforts																												
Conduct Initial Operational Test and Evaluation (IOT&E)																												
Low Quadrant Elevation (QE) Shots																												
High Clutter Environment																												
Future Radar Development Efforts																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L88: <i>ENHANCED AN/TPQ 36</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Limited User Test (LUT)	3	2012	4	2012
Milestone C Update	2	2012	2	2012
Competitive Production Efforts	2	2012	4	2017
Conduct Initial Operational Test and Evaluation (IOT&E)	4	2013	1	2014
Low Quadrant Elevation (QE) Shots	1	2013	4	2015
High Clutter Environment	1	2013	4	2014
Future Radar Development Efforts	1	2014	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	20.122	61.350	51.851	-	51.851	56.695	15.716	16.976	18.402	Continuing	Continuing
S56: <i>MOUNTED SOLDIER</i>	20.122	22.803	-	-	-	-	-	-	-	Continuing	Continuing
S65: <i>SOLDIER POWER</i>	-	-	5.054	-	5.054	9.914	-	-	-	Continuing	Continuing
S75: <i>GROUND SOLDIER ENSEMBLE</i>	-	38.547	46.797	-	46.797	46.781	15.716	16.976	18.402	Continuing	Continuing

Note
Fiscal Year 2012 - Program Increase of \$13.041 million to Project S75 for Nett Warrior transition from 0603827A Soldier Systems Advanced Development to 0604827A Soldier Systems Warrior Demonstation/Validation.

Fiscal Year 2013 - Program Decrease of \$15.374 million to Project S56 for termination of the Mounted Soldier program. Program increase of \$5.054 million to Project S65 for Soldier Power development efforts. Program increase of \$2.168 million to Project S75 for Nett Warrior development efforts.

A. Mission Description and Budget Item Justification
This program element contains three projects: Project S56 for Mounted Soldier System (MSS), Project S65 for Soldier Power and Project S75 for Nett Warrior (NW), [named in honor of Medal of Honor recipient COL Robert Nett], previously known as Ground Soldier System (GSS). MSS provides an integrated suite of enhancements to the combat vehicle crew member and commander to address identifiable capability gaps in their ability to fight, communicate, and maneuver across the full spectrum of operations. MSS consists of lightweight, modular, and mission tailorable equipment and Command, Control, Communications and Computer (C4) devices worn, carried, or used by mounted crew members in performance of their missions. Congressionally added funding in FY10 for Soldier Power efforts has been applied to the Soldier Power project line. NW provides unparalleled situational awareness and understanding to the dismounted leader allowing for faster and more accurate decisions in the tactical fight. This translates into Soldiers being at the right place, at the right time, with the right equipment making them more effective, more lethal, and more survivable in the execution of their combat mission.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
2040: <i>Research, Development, Test & Evaluation, Army</i>	PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>
BA 5: <i>Development & Demonstration (SDD)</i>	

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	20.886	48.309	60.003	-	60.003
Current President's Budget	20.122	61.350	51.851	-	51.851
Total Adjustments	-0.764	13.041	-8.152	-	-8.152
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.620	-			
• Adjustments to Budget Years	-0.144	-	-	-	-
• Other Adjustments 1	-	13.041	-8.152	-	-8.152

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
S56: <i>MOUNTED SOLDIER</i>	20.122	22.803	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Program slated for termination December 2012.

A. Mission Description and Budget Item Justification

Mounted Soldier System (MSS) provides an integrated suite of critical mission enhancing capabilities to the combat vehicle crew member and commander to address identified capability gaps in their ability to fight, communicate, and maneuver across the full spectrum of operations. The MSS consists of lightweight, modular, and mission tailorable equipment and Command, Control, Communications and Computer (C4) devices worn, carried, or used by mounted crew members in performance of their missions. Major components include a helmet mounted display mounted on the Combat Vehicle Crewmember Helmet (CVCH), an untethered (wireless) communications system, and a microclimate cooling system. Other integral components include a Mounted Soldier over-garment and cold weather gloves, Chemical/Biological/Radiological/Nuclear (CBRN) protection, multi-threat eye protection, ballistic protection, flash/flare protection, and individual weapon holsters. The MSS increases mission effectiveness by improving Command and Control and Situational Awareness while increasing crewmember survivability, endurance, and comfort. MSS enables Mounted Crewman to utilize existing platform sensor, situational awareness, and C4 capabilities in and around their platform, therefore increasing combat effectiveness.

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

	FY 2011	FY 2012	FY 2013
Title: Mounted Soldier System (MSS).	15.533	22.803	-
Articles:	0	0	
Description: Developmental Engineering, Prototyping, Systems Engineering and Program Management Support.			
FY 2011 Accomplishments: Integrated MSS on M2A2 Operation Desert Storm, Bradley fire support vehicle and M1064 mortar carrier. Conducted developmental testing on M1A2 System Enhancement Program, M2A3 and M3A3 Bradley fighting vehicles. Through a Research, Development, Test and Evaluation Small Business Inovative Research effort, developed prototypes and conducted user evaluation of maxillofacial protection prototype. Conducted compatibility integration of MSS microclimate cooling subsystem with Joint Service Lightweight Integrated Suit Technology (JSLIST) Chemical/Biological Coverall for Combat Vehicle Crewmen protective overgarment.			
Conduct provisioning activities to assign NSNs and technical documentation to transition MSS Hardware to PEO GCS.			
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
\$17.8M adjustment funded another program. Remaining \$5M will prepare program for orderly shutdown, transition of select components to PEO GCS and termination.			
<p>Title: Governmental Tests and Evaluation (T&E) Activities</p> <p style="text-align: right;">Articles:</p>	3.942 0	-	-
<p>Description: Funding is provided for the following efforts:</p> <p>FY 2011 Accomplishments: Conducted limited user test (LUT) on HBCT and SBCT platforms.</p> <p>Conduct limited DT/OT to verify deficiencies identified during the LUT are corrected prior to transition to PEO GCS.</p>			
<p>Title: Small Business Innovative Research/Small Business Technology Transfer Programs</p> <p style="text-align: right;">Articles:</p>	0.647 0	-	-
<p>Description: Funding is provided for the following efforts:</p> <p>FY 2011 Accomplishments: .</p>			
Accomplishments/Planned Programs Subtotals	20.122	22.803	-

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPA 3: <i>OPA 3 Mounted Soldier</i>	38.863	5.000								0.000	43.863

D. Acquisition Strategy
MSS as a Program of record is being terminated. Select components are being transitioned to PEO GCS.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PM Soldier Warrior Management/Support of MSS program	MIPR	PM Soldier Warrior;:Ft. Belvoir, VA	19.215	-		-		-		-	0.000	19.215	0.000
SBIR/SBTR	TBD	N/A:N/A	2.000	-		-		-		-	0.000	2.000	0.000
Subtotal			21.215	-		-		-		-	0.000	21.215	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Develop and Engineer Mounted Soldier System Wireless Comms	C/FFP	Thales Communications, Inc.:Clarksburg, MD	4.206	-		-		-		-	0.000	4.206	0.000
Develop and Engineer Mounted Soldier System Microclimate Cooling	C/FFP	Carleton Technologies, Inc.:Orchard Park, NY	0.826	-		-		-		-	0.000	0.826	0.000
Develop and Engineer Mounted Soldier System Display	C/FFP	Rockwell Collins:Carlsbad, CA	1.531	-		-		-		-	0.000	1.531	0.000
Develop and Engineer Mounted Soldier System	MIPR	Various:Various	24.009	22.803		-		-		-	0.000	46.812	0.000
Subtotal			30.572	22.803		-		-		-	0.000	53.375	0.000

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Mounted Soldier Platform Integration	MIPR	PM HBCT, PM SBCT, and others;:Various	8.584	-		-		-		-	0.000	8.584	0.000
Subtotal			8.584	-		-		-		-	0.000	8.584	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/</i> <i>Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Testing Organizations	MIPR	ATEC, TTC/YPG/ DTC/EPG/ARL-SLAD, etc.;;Various	10.318	-		-		-		-	0.000	10.318	0.000
Subtotal			10.318	-		-		-		-	0.000	10.318	0.000
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			70.689	22.803		-		-		-	0.000	93.492	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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

Termination complete	■
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Termination complete	1	2013	1	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S65: <i>SOLDIER POWER</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
S65: <i>SOLDIER POWER</i>	-	-	5.054	-	5.054	9.914	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Individual Soldier Power Systems (SPSs) enable dismounted Soldiers and squads to execute their missions with significantly less battery weight and enable longer missions without a daily unit re-supply of batteries. These improved systems enable the warfighter to sustain themselves for extended mission duration. An advanced, integrated Soldier power system provides the Soldier with a worn power capability that is significantly more efficient and lighter than carrying separate batteries for each device. Soldier Power Systems address the power and energy gap created by the increase in mission essential, Soldier portable power consumers, such as Situational Awareness (SA) (Displays), Global Positioning System (GPS) Navigation, Weapon Sensors, and Radio Command and Control Communications. This effort began as a Congressional plus up for development and system improvements to the M-25 fuel cell and Acid Alkaline (AA) batteries, and continues to develop a line of power sources and solutions suited for not only the individual Soldier, but for the Team and Squad. These power solutions include, but are not limited to individual Soldier worn systems, integrated power vests, wireless power technology, and small unit charger/power supplies; all intended for use in the most austere operating environments. A Portable Power System will equip the Squad with power to the forward edge. Soldier portable power platforms reduce the weight and logistical risk and burden associated with moving fuel and primary (disposable) batteries. It enables Infantry Squads to operate independently for longer durations without being tethered to a large generator, vehicle, or supply train. This effort is in support of the March 2011 Soldier Protection Capability Development Document (CDD), the December 2011 Operational Energy Initial Capabilities Document (ICD), the Army Chief of Staff's Squad: Foundation of the Decisive Force initiative, and the December 2011 Operation Enduring Freedom (OEF) Operational Energy directives specified by GEN Allen.

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

	FY 2011	FY 2012	FY 2013
Title: Individual Soldier Power	-	-	3.404
Description: Funding is provided for the following effort:			
FY 2013 Plans: Will mature: 1) a safe, high energy, lightweight, Soldier-wearable battery that conforms to the body armor and improved outer tactical vest; and 2) a cabling/wiring solution that is integrated into a textile that is suitable for combat environments and capable of supporting the exchange of power and data. Will develop a Soldier wearable power system that includes a conformal battery, smart textiles, and power management integrated into the existing body armor and improved outer tactical vest. Will mature: 1) an integrated, ergonomic, Soldier worn, bionic energy harvester capable of providing power for Soldier worn power systems; 2) a light weight, high power, Soldier worn fuel cell capable of providing power to all devices worn by the warfighter while reducing			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S65: <i>SOLDIER POWER</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2011	FY 2012	FY 2013
the logistics burden; and 3) Soldier carried power management devices that are capable of harvesting remaining energy from any available power sources and manages/distributes worn or carried power.				
<p>Title: Squad Soldier Power</p> <p>Description: Funding is provided for the following effort:</p> <p>FY 2013 Plans: Will continue development of Soldier portable, renewable/ replenishable energy solutions that have the power capacity to sustain Expeditionary Austere Operations for 72 hours, while decreasing dependence on packaged fuel and combat logistics through the use of fuels cells and hybridized technology. Will continue development of light weight, Soldier portable chargers capable of supporting the variety of batteries used in the conventional IBCT formation.</p>		-	-	0.968
<p>Title: Soldier Power Test and Evaluation</p> <p>Description: Funding is provided for the following effort:</p> <p>FY 2013 Plans: Will conduct annual test and evaluation at the Network Integration Evaluation, Ft. Bliss, TX. Will conduct integration testing on power components at the Army Expeditionary Warrior Experiment, Ft. Benning, GA.</p>		-	-	0.682
Accomplishments/Planned Programs Subtotals		-	-	5.054
C. Other Program Funding Summary (\$ in Millions)				
N/A				
D. Acquisition Strategy				
Pursue a variety of Soldier power initiatives under full and open competition. These initiatives range from Commercial-Off-The-Shelf (COTS) solutions to developmental efforts. The type of solicitation (Broad Agency Announcement (BAA) or Request for Proposal (RFP)) depends on the maturity of the technology. The power initiatives will be evaluated through the scheduled Network Integrated Evaluation (NIE) events, and if successful, selected for procuring and subsequent fielding and sustainment.				
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 2013 Army											DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				PE 0604827A: Soldier Systems - Warrior Dem/ Val				S65: SOLDIER POWER					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PM oversight	MIPR	Various:Various	-	-		0.386		-		0.386	Continuing	Continuing	Continuing
Subtotal			-	-		0.386		-		0.386			
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Power Development and Integration	TBD	TBD:TBD	5.648	-		3.552		-		3.552	Continuing	Continuing	Continuing
Subtotal			5.648	-		3.552		-		3.552			
Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Martix Support	MIPR	ARL, CERDEC, Various:Various	0.732	-		0.434		-		0.434	Continuing	Continuing	Continuing
Subtotal			0.732	-		0.434		-		0.434			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Testing Organizations	MIPR	Various:Various	-	-		0.682		-		0.682	Continuing	Continuing	Continuing
Subtotal			-	-		0.682		-		0.682			
Project Cost Totals			6.380	-		5.054		-		5.054			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S65: <i>SOLDIER POWER</i>
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	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S65: <i>SOLDIER POWER</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Soldier Power Field Evaluation/Feedback																												
Individual Soldier Power Maturation/Integration																												
Individual Soldier Power Evaluation (NIE 13.2)																												
Squad Soldier Power Maturation/Integration																												
Squad Soldier Power Evaluation (NIE 13.2)																												
Individual Soldier Power Evaluation (NIE 14.2)																												
Squad Soldier Power Evaluation (NIE 4.2)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S65: <i>SOLDIER POWER</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Soldier Power Field Evaluation/Feedback	3	2011	4	2012
Individual Soldier Power Maturation/Integration	1	2013	4	2014
Individual Soldier Power Evaluation (NIE 13.2)	2	2013	3	2013
Squad Soldier Power Maturation/Integration	1	2013	4	2014
Squad Soldier Power Evaluation (NIE 13.2)	2	2013	3	2013
Individual Soldier Power Evaluation (NIE 14.2)	2	2014	3	2014
Squad Soldier Power Evaluation (NIE 4.2)	2	2014	3	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>GROUND SOLDIER ENSEMBLE</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
S75: <i>GROUND SOLDIER ENSEMBLE</i>	-	38.547	46.797	-	46.797	46.781	15.716	16.976	18.402	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Previously funded in 0603827A - Soldier Systems Advanced Development - S49 Ground Soldier System.

A. Mission Description and Budget Item Justification

The Nett Warrior (NW) program [named in honor of Medal of Honor recipient COL Robert Nett], previously known as Ground Soldier System (GSS) program, leverages commercial smart devices to provide an integrated dismounted leader Mission Command (MC) and Situational Awareness (SA) system for use during combat operations. The system provides unparalleled situational awareness and understanding to the dismounted leader allowing for faster and more accurate decisions in the tactical fight. This translates into Soldiers being at the right place, at the right time, with the right information making them more effective, more lethal, and more survivable in the execution of their combat mission. The NW program focuses on the integration and evaluation of commercial smart devices for the MC/SA system, improved navigation, and reduced fratricide through the visualization of friendly forces. The development and integration process employs combat veteran for Soldier integration and feedback enhancing the human factors and fightability. NW also develops supporting power systems aimed at achieving NET ZERO power balance in the expeditionary environment. This project funds the following: 1) the yearly developmental and operational test of the NW with continually advancing commercial smart device technology inserted, (2) the software development for planned updates, 3) integration with Joint Tactical Radio System (JTRS), including vehicle power integration, 4) and government led integration and system engineering and program management. Note this is the continuation of work performed in Program Element (PE) 0603827A/S49.

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

	FY 2011	FY 2012	FY 2013
Title: Test and Evaluation and Network Integration Evaluation (NIE)	-	11.676	14.174
Articles:		0	
Description: Funding is provided for the following effort			
FY 2012 Plans: Conduct Nett Warrior (NW) test and evaluation to include semi-annual operational assessments at Network Integration Exercise (NIE) events at Ft. Bliss, TX., supporting objective of full Army network integration from dismounted Soldier level. Conduct component and system, and operational level developmental testing to support production decision of NW.			
FY 2013 Plans: Will conduct NW test and evaluation for technical verification at developmental events and user verification through operational testing at semi-annual NIE events. Test events will include: Brigade level support, equipping, training, test costs, and spares for			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>GROUND SOLDIER ENSEMBLE</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
NW Initial Operational Test; Evaluation at NIE to support a full rate production decision; Logistics Demonstration; safety testing; airborne; air-worthiness; Army Interoperability Certification; environmental testing; electronic warfare testing; and Information Assurance penetration prevention testing.				
<p>Title: Hardware and Software for Integration and Evaluation</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Plans: Acquire, integrate and evaluate Brigade sized quantities of commercial smart devices, cables, and other hardware for potential integration into the NW system of proven and mature capability during the semi-annual NIE events. Integrate 3rd party software combat applications. This allows NW to keep pace with emerging technology and informs the acquisition decision process as to yearly Army Capability Set insertion.</p> <p>FY 2013 Plans: Will continue to acquire, integrate and evaluate Brigade sized quantities of commercial smart devices, cables, and other hardware for potential integration into the NW system of proven and mature capability during the semi-annual NIE events. Will integrate 3rd party software combat applications. This allows NW to keep pace with emerging technology and informs the acquisition decision process as to yearly Army Capability Set insertion.</p>		-	14.789 0	17.954
<p>Title: Software Development</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Plans: Develop and integrate software based on the Army's Joint Battle Command Platform software development kit for commercial smart device hardware for potential integration into the NW system to provide the most current capability into production on a semi-annual basis. Maintain software updates and changes for NW program to keep pace with Army software blocking updates, maintain information assurance accreditation, and retain interoperability certification for Army Capability Sets.</p> <p>FY 2013 Plans: Will continue to develop software based on the Army's Joint Battle Command Platform software development kit for commercial smart device hardware for potential integration into the NW system to provide the most current capability into production on a</p>		-	5.253 0	6.377

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>GROUND SOLDIER ENSEMBLE</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
semi-annual basis. Will maintain software updates and changes for NW program to keep pace with Army software blocking updates, maintain information assurance accreditation, and retain interoperability certification for Army Capability Sets.				
<p>Title: Integration with Joint Tactical Radio System (JTRS) and Interface, Vehicle Power and Integration</p> <p>Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Plans: Integrate JTRS Rifleman Radio running Soldier Radio Wave form into NW system. Develop austere power recharging solutions and integrate power recharging systems for Infantry, Stryker and Heavy Brigade Combat Team vehicles with development, testing and verification of 4 types of vehicle integration kits to support NW and the radio batteries.</p> <p>FY 2013 Plans: Will integrate and verify modified JTRS Rifleman Radio running Soldier Radio Wave form and cross domain guards into NW system. Will continue to develop austere power recharging solutions and integrate power recharging systems for Infantry, Stryker and Heavy Brigade Combat Team vehicles with development, testing and verification of 4 types of vehicle integration kits to support NW and the radio batteries.</p>		-	4.800 0	5.828
<p>Title: Conduct Systems Engineering and Program Management Support to Nett Warrior</p> <p>Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Plans: Conduct government systems engineering, assessment and program management support for NW program. Integrate evolving commercial smart devices and technology for test and evaluation. Collect input from Soldiers at semi-annual NIE events to improve NW size, weight, power, fightability, safety and effectiveness via surveys and electronic data monitoring from Developmental and Operational Testing events. Conduct surveys and technical analysis of austere power generation capability at Developmental and Operational testing at NIE at Ft. Bliss to improve power generation process.</p> <p>FY 2013 Plans: Will continue to conduct government systems engineering, assessment and program management support for NW program. Will integrate evolving commercial smart devices, software applications and technology for test and evaluation. Will collect input from Soldiers at semi-annual NIE events to improve NW size, weight, power, fightability, safety and effectiveness via surveys</p>		-	2.029 0	2.464

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
and electronic data monitoring from Developmental and Operational Testing (DT/OT) events. Will conduct surveys and technical analysis of austere power generation capability at DT/OT at NIE at Ft. Bliss to improve power generation process.			
Accomplishments/Planned Programs Subtotals	-	38.547	46.797

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPA 3, R80501: <i>OPA 3, R80501, Ground Soldier System</i>	1.685	63.500	103.317		103.317		200.855	203.547	225.251	Continuing	Continuing
• RDT&E, PE 0603827A S49: <i>RDT&E, PE 0603827A S49 - Ground Soldier System (GSS)</i>	34.819	0.020								0.000	34.839

D. Acquisition Strategy

The Nett Warrior (NW) program provides unparalleled situational awareness and battle command to dismounted combat leaders through an integrated computer, display, power source and radio. The NW program executed a MS A in FY09 and began three competing TD phase contracts leading to developmental and operational testing FY10-11. The NW MS C is executed in 2QFY12 followed by a low rate Capability Set (CS) 14 production award. Conduct Developmental Test and Evaluation planned for 4QFY12-1QFY13, followed by 1QFY13 Initial Operational Test & Evaluation (IOT&E) as well as hardware, software, integration and program management. The Developmental and Operational tests are validation of the system utility, supportability, and austere-environment power production and regeneration strategy-leading to a production decision in the 2QFY13 to procure the CS14 quantity of NW systems and support. NW also continues to reduce size, weight and power through a semi-annual integration and evaluation and test of commercial smart device technologies which evolve continuously.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>GROUND SOLDIER ENSEMBLE</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Soldier Warrior hardware and software integration and evaluation	MIPR	Various:Various	-	14.789		17.954		-		17.954	Continuing	Continuing	Continuing
PM Soldier Warrior Systems Engineering and program management support	Various	Various:Various	-	2.029		2.464		-		2.464	Continuing	Continuing	Continuing
Subtotal			-	16.818		20.418		-		20.418			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JTRS integration and interface, vehicle power integration	MIPR	Various:Various	-	4.800		5.828		-		5.828	Continuing	Continuing	Continuing
Subtotal			-	4.800		5.828		-		5.828			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software development	MIPR	Various:Various	-	5.253		6.377		-		6.377	Continuing	Continuing	Continuing
Subtotal			-	5.253		6.377		-		6.377			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Testing Organizations	MIPR	Various:Various	-	11.676		14.174		-		14.174	Continuing	Continuing	Continuing
Subtotal			-	11.676		14.174		-		14.174			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>				PROJECT S75: <i>GROUND SOLDIER ENSEMBLE</i>				
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	38.547		46.797		-		46.797			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>GROUND SOLDIER ENSEMBLE</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Army Configuration Steering Board (CSB)				■																								
Network Integration Evaluation (NIE 12.1)					■																							
NW Milestone C Decision						■																						
Low Rate Initial Production (LRIP) Contract Award							■																					
NW Low Rate Initial Production (LRIP)							■	■																				
Network Integration Evaluation (NIE 12.2)						■																						
NW Developmental Test (DT)								■																				
Initial Operational Test and Evaluation (IOTE)/ NIE 13.1										■																		
NW First Unit Equipment (FUE)										■																		
NW Initial Operating Capability (IOC)										■																		
Network Integration Evaluation (NIE 13.2)											■																	
CS14 Contract Award											■																	
CS14 Production											■	■																
CS14 Fielding											■	■																
Network Integration Evaluation (NIE 14.1)												■																
Network Integration Evaluation (NIE 14.2)														■														
CS15 Contract Award														■														
CS15 Production														■	■													
CS15 Fielding														■	■													
Network Integration Evaluation (NIE 15.1)															■													
Network Integration Evaluation (NIE 15.2)																			■									
CS16 Contract Award																			■									
CS16 Production																			■	■								

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>GROUND SOLDIER ENSEMBLE</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
CS16 Fielding																												
Network Integration Evaluation (NIE 16.1)																												
Network Integration Evaluation (NIE 16.2)																												
CS17 Contract Award																												
CS17 Production																												
CS17 Fielding																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>GROUND SOLDIER ENSEMBLE</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Army Configuration Steering Board (CSB)	4	2011	4	2011
Network Integration Evaluation (NIE 12.1)	1	2012	1	2012
NW Milestone C Decision	2	2012	2	2012
Low Rate Initial Production (LRIP) Contract Award	3	2012	3	2012
NW Low Rate Initial Production (LRIP)	3	2012	2	2013
Network Integration Evaluation (NIE 12.2)	3	2012	3	2012
NW Developmental Test (DT)	4	2012	1	2013
Initial Operational Test and Evaluation (IOTE)/NIE 13.1	1	2013	1	2013
NW First Unit Equipment (FUE)	2	2013	2	2013
NW Initial Operating Capability (IOC)	2	2013	2	2013
Network Integration Evaluation (NIE 13.2)	3	2013	3	2013
CS14 Contract Award	3	2013	3	2013
CS14 Production	3	2013	2	2014
CS14 Fielding	4	2013	4	2014
Network Integration Evaluation (NIE 14.1)	1	2014	1	2014
Network Integration Evaluation (NIE 14.2)	3	2014	3	2014
CS15 Contract Award	3	2014	3	2014
CS15 Production	3	2014	2	2015
CS15 Fielding	4	2014	4	2015
Network Integration Evaluation (NIE 15.1)	1	2015	1	2015
Network Integration Evaluation (NIE 15.2)	3	2015	3	2015
CS16 Contract Award	3	2015	3	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>GROUND SOLDIER ENSEMBLE</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
CS16 Production	3	2015	2	2016
CS16 Fielding	4	2015	4	2016
Network Integration Evaluation (NIE 16.1)	1	2016	1	2016
Network Integration Evaluation (NIE 16.2)	3	2016	3	2016
CS17 Contract Award	3	2016	3	2016
CS17 Production	3	2016	2	2017
CS17 Fielding	4	2016	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	99.937	120.032	167.797	-	167.797	121.344	68.405	114.512	28.638	Continuing	Continuing
516: <i>PALADIN/FAASV</i>	99.937	120.032	167.797	-	167.797	121.344	68.405	114.512	28.638	Continuing	Continuing

Note

Change Summary Explanation:

FY 2011: Funding increase to support the Paladin/FAASV program.

FY 2013: Funding increase to support Paladin program requirements: Developmental and Live Fire Test Management; Development of Software Phase II, Logistics Development, Low Rate Initial Production (LRIP) planning, execute Milestone C (June 2013) and Limited User Test (LUT), establish training teams to support fielding, and Technical Data Package updates.

A. Mission Description and Budget Item Justification

This program element supports the Joint Light Weight 155mm Howitzer (LW155) and the Paladin/FAASV Improvement programs. Beginning in FY11, only the Paladin/FAASV Improvement program has RDTE funding in this program element.

The Paladin/Field Artillery Ammunition Support Vehicle (FAASV) Integrated Management (PIM) process will provide for the procurement of the approved obsolescence and sustainment modifications to the 155MM Self-Propelled Howitzer and FAASV, increase reliability and maneuverability as well as reduce life cycle costs. These will include leveraging Bradley common components, integrating the engine, transmission, final drives, and suspension. It will also replace obsolete components such as the Dynamic Reference Unit-Hybrid (DRU-H), hydraulics, fatigued hull structures as well as focus on powertrain, power management and electronic sub-systems.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	53.624	120.146	82.995	-	82.995
Current President's Budget	99.937	120.032	167.797	-	167.797
Total Adjustments	46.313	-0.114	84.802	-	84.802
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.083	-			
• Other Adjustments 1	49.396	-0.114	84.802	-	84.802

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>	PROJECT 516: <i>PALADIN/FAASV</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
516: <i>PALADIN/FAASV</i>	99.937	120.032	167.797	-	167.797	121.344	68.405	114.512	28.638	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The M109 Family of Vehicles (FOV) (Paladin/FAASV Integrated Management (PIM) Program provides for the procurement of sustainment and obsolescence modifications to the 155MM Self-Propelled Howitzer and FAASV. These modifications reside in the area of force protection, survivability, maneuverability, and commonality. The overall intent is to reduce life cycle costs and extend the platforms useful life through 2050. The modernization aspect of the program leverages Bradley common components, integrating the engine, transmission, final drives, and suspension as well as a new power management and electronic sub-systems. It will also replace obsolete components such as the Dynamic Reference Unit-Hybrid (DRU-H), Paladin Digital Fire Control System - Replacement (PDFCS-R), hydraulics, and fatigued hull structures.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Paladin/FAASV Integrated Management (PIM) Development</p> <p style="text-align: right;">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Paladin Integrated Management (PIM) Development for integration of common components into prototype vehicles for testing to increase the reliability and maneuverability as well as reduce life cycle costs.</p> <p>FY 2012 Plans: Manage Program and Design Reviews, Program Baseline, Test (Developmental Test and Live Fire Test) Management; Development of Software Phase II, Logistics Development, Low Rate Initial Production (LRIP) planning, develop and sustain program documentation.</p> <p>FY 2013 Plans: Program Review to include test (Developmental Test and Live Fire Test) Management; Development of Software Phase II, Logistics Development, and Low Rate Initial Production (LRIP) planning, execute Milestone C (June 13), Limited User Test (LUT), develop and sustain program documentation.</p>	87.836 0	80.950 0	122.395
<p>Title: Test and Evaluation</p> <p style="text-align: right;">Articles:</p> <p>Description: Funding is provided for the following effort</p>	1.525 0	12.000 0	15.296

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>	PROJECT 516: <i>PALADIN/FAASV</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p><i>FY 2011 Accomplishments:</i> Test and Evaluation to include contractor testing, government development test, and live-fire testing.</p> <p><i>FY 2012 Plans:</i> Execute developmental testing that includes qualification of subsystems, system safety, performance testing, live fire exploitation testing and logistics demonstration.</p> <p><i>FY 2013 Plans:</i> Execute developmental testing that includes performance testing, live fire exploitation testing, logistics demonstration, and Limited User Test (LUT).</p>				
<p><i>Title:</i> Program management</p> <p><i>Description:</i> Program management</p> <p><i>FY 2011 Accomplishments:</i> Program management</p> <p><i>FY 2012 Plans:</i> Program management</p> <p><i>FY 2013 Plans:</i> Program management</p>		10.576 0	27.082 0	16.890
<p><i>Title:</i> Training</p> <p><i>Description:</i> Training</p> <p><i>FY 2013 Plans:</i> Training Development of PIM Program in order to establish New Requirement Training (NET) Teams to support fielding.</p>		-	-	6.428
<p><i>Title:</i> Data</p> <p><i>Description:</i> Data Rights</p> <p><i>FY 2013 Plans:</i> Contractor Technical Data Package Updates and Technical Publications (in Training Estimate)</p>		-	-	6.788
Accomplishments/Planned Programs Subtotals		99.937	120.032	167.797

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>	PROJECT 516: <i>PALADIN/FAASV</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• <i>Paladin/FAASV: Paladin/FAASV Mod & PIM Mod in Service</i>	5.244	46.876	216.442		216.442		311.924	303.114	471.658	3,566.716	5,191.766

D. Acquisition Strategy

The PIM Program was initiated on 16 August 07 under the BAE Systems, Inc., System Technical Support (STS) Contract W56HZV-07-C-0096. The work directive was awarded to initiate PIM development and provide Government Furnished Equipment and Materials to the contractor for build of the Independent Research and Development (IRAD) vehicle. Subsequent work directives were awarded under BAE STS contract W56HZV-07-C-0256 to further define the configuration of the PIM vehicles. On 14 August 2009, a Research, Development, Test and Evaluation (RDT&E) Contract W56HZV-09-C-0550 was awarded to BAE Systems Inc. for the Prototype Development and Fabrication of 7 prototype vehicles (5 PIM Self Propelled Howitzer Systems (SPHS) and 2 PIM Carrier Ammunition Tracked (CAT) vehicles). A Comprehensive Contract Modification (CCM) award to the RDT&E contract was accomplished on 6 Jan 2012. This modification allows for the completion of the Engineering and Manufacturing Development (EMD) Phase and transfers the system responsibility for the program from the Government to BAE Systems Inc.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>	PROJECT 516: <i>PALADIN/FAASV</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO Support	MIPR	PM Paladin/ FAASV:Picatinny, NJ/ TACOM	41.016	20.023		16.890		-		16.890	Continuing	Continuing	Continuing
Subtotal			41.016	20.023		16.890		-		16.890			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Training	SS/CPIF	BAE Systems:York, PA	-	-		6.428		-		6.428	Continuing	Continuing	Continuing
Data	SS/CPIF	BAE:York, PA	-	-		6.788		-		6.788	Continuing	Continuing	Continuing
Small Business Innovative Research/Small Business Technology Transfer Program	Various	TACOM:Warren, MI	3.668	-		-		-		-	Continuing	Continuing	Continuing
PIM Development	SS/CPIF	BAE, Systems:York, PA	313.537	88.009		122.395		-		122.395	0.000	523.941	0.000
Subtotal			317.205	88.009		135.611		-		135.611			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Level Testing	Various	Various OGAs:Various	29.017	12.000		15.296		-		15.296	Continuing	Continuing	Continuing
Subtotal			29.017	12.000		15.296		-		15.296			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			387.238	120.032		167.797		-		167.797			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>	PROJECT 516: <i>PALADIN/FAASV</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Delta Critical Design Review																												
Government Development Test																												
Milestone C																												
Low Rate Initial Production Contract																												
Low Rate Initial Production Deliveries																												
Full Up System Live Fire Test																												
IOTE																												
Full Rate Production Decision																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>	PROJECT 516: <i>PALADIN/FAASV</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Delta Critical Design Review	3	2012	3	2012
Government Development Test	3	2011	2	2015
Milestone C	3	2013	3	2013
Low Rate Initial Production Contract	3	2013	2	2017
Low Rate Initial Production Deliveries	3	2015	4	2017
Full Up System Live Fire Test	4	2015	4	2016
IOTE	3	2016	4	2016
Full Rate Production Decision	2	2017	2	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	450.584	389.630	400.861	-	400.861	-	-	-	-	Continuing	Continuing
M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>	450.584	389.630	400.861	-	400.861	-	-	-	-	Continuing	Continuing

Note

FY 2011 - Congressional Reduction
 FY 2012 - Congressional Reduction
 FY 2013 - Congressional adjustment

A. Mission Description and Budget Item Justification

Medium Extended Air Defense System (MEADS) provides joint and coalition forces critical asset and defended area protection against multiple and simultaneous attacks by short-to-medium range ballistic missiles, cruise missiles, manned and unmanned aerial systems, and tactical air-to-surface missiles. This system leverages current technology for an Integrated Air and Missile Defense Fire Control System/capability.

MEADS is a tri-national co-development program among the United States, Germany, and Italy to replace the PATRIOT and HAWK systems in Germany, and NIKE Hercules systems in Italy. The NATO MEADS Management Agency (NAMEADSMA) is the North Atlantic Treaty Organization (NATO) contracting authority providing management of the MEADS program on behalf of the participating nations and is responsible for managing the system acquisition. The U.S. and Italy signed the Design and Development (D&D) MOU on September 24, 2004, and September 27, 2004, respectively. The NAMEADSMA awarded the MEADS D&D letter contract to MEADS International Inc. on September 28, 2004, initiating the MEADS D&D phase. The MOU was amended in March 2005 by the U.S. and Italy to allow the German Parliament additional time for their signature decision and on April 22, 2005 Germany signed the MOU. NAMEADSMA awarded a \$3.4 billion D&D definitized contract to MEADS International Inc. on May 31, 2005.

MEADS is designed to provide joint and coalition forces, critical asset and defended area protection against multiple and simultaneous attacks by short to medium range ballistic missiles, cruise missiles, manned and unmanned aerial systems and tactical air-to-surface missiles. MEADS is being developed to have a netted and distributed architecture with modular components to increase survivability and flexibility of employment in a number of operational configurations. The objective MEADS Fire Unit, designed to be scalable and tailorable to operational requirements, will consist of: two Battle Management Command, Control, Communication, Computers and Intelligence (BMC4I) tactical operations center (TOC), enabling distributed system operations and Beyond-Line-of-Site (BLOS) engagements for maximum protection of supported forces by engaging at longer ranges; six near-vertical launchers capable of transporting and launching up to eight missiles; three launcher reloaders; the PAC-3 Missile Segment Enhancement (MSE)interceptor; an ultra-high frequency (UHF) Surveillance Radar (SR) that provides 360-degree coverage and near-range to long-range detection of low radar cross-section targets; and two X-band Multifunction Fire Control Radars (MFCR) that provide 360-degree coverage and are designed for high-precision handover to the in-flight missile, discrimination capabilities, and short-range target detection and horizon search.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>
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The U.S. rendered a MEADS program decision in Feb 2011 to continue the D&D phase focusing remaining activities to implement a "demonstration of capabilities" through 2013 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, NAMEADSMA developed a new D&D detailed program schedule and the Board of Directors (BoD) approved it via a signed contract amendment on 31 October 2011.

The PAC-3 system is continuously being improved via hardware and software changes. The latest missile improvement is the MSE and has been accepted as the baseline missile for MEADS. It is being developed by the U.S. for PATRIOT to meet U.S. operational requirements. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded guidance software, and insensitive munitions improvements. PAC-3 is reported under Program Element 0605456A.

B. Program Change Summary (\$ in Millions)	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	467.139	406.605	397.053	-	397.053
Current President's Budget	450.584	389.630	400.861	-	400.861
Total Adjustments	-16.555	-16.975	3.808	-	3.808
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-13.778	-			
• Adjustments to Budget Years	-	-	3.808	-	3.808
• Other Adjustments 1	-2.777	-16.975	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	PROJECT M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>	450.584	389.630	400.861	-	400.861	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

MEADS provides joint and coalition forces critical asset and defended area protection against multiple and simultaneous attacks by short-to-medium range ballistic missiles, cruise missiles, manned and unmanned aerial systems, and tactical air-to-surface missiles. This system leverages current technology for an Integrated Air and Missile Defense Fire Control System/capability.

Medium Extended Air Defense System (MEADS) is a tri-national co-development program among the United States, Germany, and Italy to replace the PATRIOT and HAWK systems in Germany, and NIKE Hercules systems in Italy. The NATO MEADS Management Agency (NAMEADSMA) is the North Atlantic Treaty Organization (NATO) contracting authority providing management of the MEADS program on behalf of the participating nations and is responsible for managing the system acquisition. The U.S. and Italy signed the Design and Development (D&D) MOU on September 24, 2004, and September 27, 2004, respectively. The NAMEADSMA awarded the MEADS D&D letter contract to MEADS International Inc. on September 28, 2004, initiating the MEADS D&D phase. The MOU was amended in March 2005 by the U.S. and Italy to allow the German Parliament additional time for their signature decision and on April 22, 2005 Germany signed the MOU. NAMEADSMA awarded a \$3.4 billion D&D definitized contract to MEADS International Inc. on May 31, 2005.

MEADS is designed to provide joint and coalition forces, critical asset and defended area protection against multiple and simultaneous attacks by short to medium range ballistic missiles, cruise missiles, manned and unmanned aerial systems and tactical air-to-surface missiles. MEADS is being developed to have a netted and distributed architecture with modular components to increase survivability and flexibility of employment in a number of operational configurations. The objective MEADS Fire Unit, designed to be scalable and tailorable to operational requirements, will consist of: two Battle Management Command, Control, Communication, Computers and Intelligence (BMC4I) tactical operations center (TOC), enabling distributed system operations and Beyond-Line-of-Site (BLOS) engagements for maximum protection of supported forces by engaging at longer ranges; six near-vertical launchers capable of transporting and launching up to eight missiles; three launcher reloaders; the PAC-3 Missile Segment Enhancement (MSE)interceptor; an ultra-high frequency (UHF) Surveillance Radar (SR) that provides 360-degree coverage and near-range to long-range detection of low radar cross-section targets; and two X-band Multifunction Fire Control Radars (MFCR) that provide 360-degree coverage and are designed for high-precision handover to the in-flight missile, discrimination capabilities, and short-range target detection and horizon search.

The U.S. rendered a MEADS program decision in Feb 2011 to continue the D&D phase focusing remaining activities to implement a "demonstration of capabilities" through 2013 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, NAMEADSMA developed a new D&D detailed program schedule and the Board of Directors (BoD) approved it via a signed contract amendment on 31 October 2011.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	PROJECT M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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The PAC-3 system is continuously being improved via hardware and software changes. The latest missile improvement is the MSE and has been accepted as the baseline missile for MEADS. It is being developed by the U.S. for PATRIOT to meet U.S. operational requirements. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded guidance software, and insensitive munitions improvements. PAC-3 is reported under Program Element 0605456A.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Medium Extended Air Defense Missile System (MEADS) Design and Development (D&D)</p> <p align="right">Articles:</p> <p>Description: U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&D) Phase Contract.</p> <p>FY 2011 Accomplishments: U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&D) Phase Contract to implement a demonstration of capabilities effort.</p> <p>FY 2012 Plans: Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&D) Phase Contract to implement a demonstration of capabilities effort.</p> <p>FY 2013 Plans: Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&D) Phase Contract to implement a demonstration of capabilities effort.</p>	<p>393.542</p> <p>0</p>	<p>340.500</p> <p>0</p>	<p>328.200</p>
<p>Title: MEADS Design and Development Program Integration</p> <p align="right">Articles:</p> <p>Description: Implement program integration efforts focusing the remaining activities on a demonstration of capabilities effort.</p> <p>FY 2011 Accomplishments: Implement program integration efforts focusing on activities to implement a demonstration of capabilities effort.</p> <p>FY 2012 Plans:</p>	<p>30.954</p> <p>0</p>	<p>25.536</p> <p>0</p>	<p>46.387</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	PROJECT M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Continue to implement program integration efforts focusing on activities to implement a demonstration of capabilities effort. FY 2013 Plans: Continue to implement program integration efforts focusing on activities to implement a demonstration of capabilities effort.				
Title: National and International Program Office Support		8.588	12.808	14.749
		Articles: 0	0	
Description: Management, support and salaries for the MEADS National and International program offices. FY 2011 Accomplishments: Management, support and salaries for the MEADS National and International program offices, focusing on Design and Development (D&D) activities to implement a demonstration of capabilities effort. FY 2012 Plans: Continue Management, support and salaries for the MEADS National and International program offices, focusing on Design and Development (D&D) activities to implement a demonstration of capabilities effort. FY 2013 Plans: Continue Management, support and salaries for the MEADS National and International program offices, focusing on Design and Development (D&D) activities to implement a demonstration of capabilities effort.				
Title: MEADS US Only Efforts		17.500	10.786	11.525
		Articles: 0	0	
Description: US only efforts to support Exciter and Exportable Missile Model FY 2011 Accomplishments: Support for the U.S.-developed and technology-restricted Exciter and Exportable Missile Model. FY 2012 Plans: Continue support for the U.S.-developed and technology-restricted Exciter and Exportable Missile Model. FY 2013 Plans: Continue support for the U.S.-developed and technology-restricted Exciter and Exportable Missile Model.				
Accomplishments/Planned Programs Subtotals		450.584	389.630	400.861

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	PROJECT M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0605456A: <i>Proj PA3, PAC-3/MSE Missile</i>	121.475	88.909	69.209		69.209		130.348	63.975	65.771	Continuing	Continuing
• SSN C53101: <i>MSE Missile</i>		74.953	12.850		12.850		505.084	596.387	566.757	Continuing	Continuing
• PE 0102419A: <i>Proj E55, JLENS</i>	399.477	327.338	190.422		190.422		32.480	24.130	24.612	Continuing	Continuing
• PE 0605455A: <i>Proj S35 SLAMRAAM</i>	18.358	1.529								Continuing	Continuing
• SSN C81002: <i>SLAMRAAM Launcher</i>	2.355									Continuing	Continuing
• PE 0603305A: <i>Proj TR7, Protection Capability II - Intercept</i>	4.143	9.269	76.039		76.039		122.355	146.463	151.769	Continuing	Continuing
• SSN WK5053: <i>FAAD GBS</i>	258.413	3.958	7.980		7.980					Continuing	Continuing
• PE 0605457A: <i>PE 0605457A Proj S40, Army Integrated Air and Missile Defense (AIAMD)</i>	246.691	270.180	262.211		262.211		394.260	210.580	135.072	Continuing	Continuing
• SSN BZ5075: <i>Army IAMD Battle Command System (IBCS)</i>							103.453	281.828	426.582	Continuing	Continuing
• PE 0208053: <i>Proj 635, JOINT TACT GRD STATION-P31 (MIP)</i>	12.005	27.586	31.738		31.738		8.006	8.134	8.314	Continuing	Continuing
• SSN BZ8401: <i>Joint Tactical Ground Station (JTAGS)</i>	9.227	1.199	2.680		2.680		4.432	4.496	4.768	Continuing	Continuing
• PE 0604820A: <i>Proj E10, SENTINEL</i>		2.885	3.486		3.486		1.948	2.972	3.022	Continuing	Continuing
• PE 654741: <i>Project Numbers 126, 146 and 149</i>	34.209	83.010	72.611		72.611		18.246	18.456	20.049	Continuing	Continuing

D. Acquisition Strategy

On 1 July 2004, the Defense Acquisition Board approved the Acquisition Strategy (AS) for the PATRIOT/MEADS CAP Milestone B. On 6 April 2006, the Lower Tier Project Manager submitted a Program Deviation Report (PDR) to notify the Under Secretary of Defense for Acquisition, Technology, and Logistics, of changes affecting the 6 August 2004, approved PATRIOT/MEADS CAP Acquisition Program Baseline (APB). On 9 February 2006, the Army System Acquisition Review Council (ASARC) approved establishment of the Integrated Air and Missile Defense (IAMD) Project Office (PO) to lead development efforts for the Army IAMD. On 8 May 2006, the Army established the IAMD PO which will manage the U.S. Army's initiatives to implement the user's operational concept from a System-Centric focus to a Network-Centric, Component-Based (Plug and Fight) architecture. The PATRIOT/MEADS CAP Acquisition Program Baseline and Acquisition Strategy will be modified

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>

to reflect these changes. The U.S. rendered a MEADS program decision on 11 Feb 2011 to continue the D&D phase focusing remaining activities to implement a "demonstration of capabilities" through 2013 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, NAMEADSMA developed a new D&D detailed program schedule and the Board of Directors (BoD) approved it via a signed contract on 31 October 2011.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	PROJECT M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
International Operating	Various	NAMEADSMA:Huntsville, AL	38.991	2.102		9.000		-		9.000	0.000	50.093	0.000
Gov't Program Services/Mgmt	Various	Lower Tier Project Office:Huntsville, AL	3.000	1.500		1.500		-		1.500	0.000	6.000	0.000
Subtotal			41.991	3.602		10.500		-		10.500	0.000	56.093	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Design and Development	Various	NAMEADSMA:Huntsville, AL	1,544.000	340.500		328.200		-		328.200	0.000	2,212.700	0.000
Program Integration	Various	Various:Huntsville, AL	143.890	13.361		27.698		-		27.698	0.000	184.949	0.000
Product Development Support	Various	Program Office:Huntsville, AL	51.082	6.406		6.400		-		6.400	0.000	63.888	0.000
U.S. Only Security / Exciter	SS/CPFF	Lockheed Martin:Syracuse, NY; Dallas, TX & Orlando, FL	73.035	7.500		7.276		-		7.276	0.000	87.811	0.000
U. S. Other Government Agencies (OGA's)	Various	Various:Huntsville, AL	42.120	5.132		5.972		-		5.972	0.000	53.224	0.000
International Program Office	Various	NAMEADSMA:Huntsville, AL	23.042	4.729		5.500		-		5.500	0.000	33.271	0.000
Systems Engineering	Various	AMRDEC:Huntsville, AL	30.667	3.200		3.600		-		3.600	0.000	37.467	0.000
U.S. Contracts	Various	Various:Huntsville, AL	61.947	5.200		5.715		-		5.715	0.000	72.862	0.000
Subtotal			1,969.783	386.028		390.361		-		390.361	0.000	2,746.172	0.000

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		2,011.774	389.630		400.861		-	400.861	0.000	2,802.265	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604869A: Patriot/MEADS Combined Aggregate Program (CAP)	PROJECT M06: PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)						
Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks								

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			PE 0604870A: <i>Nuclear Arms Control Monitoring Sensor Network</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	7.017	7.391	7.922	-	7.922	7.806	7.790	8.059	8.371	Continuing	Continuing
SE1: <i>NACT SENSOR ENGINEERING</i>	7.017	7.391	7.922	-	7.922	7.806	7.790	8.059	8.371	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project provides Research, Development, Testing & Evaluation (RDTE) to meet technology requirements in support of implementation, compliance, monitoring and inspection for existing and emerging nuclear arms control activities and dual use technology for missile defense integration activities. The project addresses requirements validated by the Office of the Under Secretary of Defense, Acquisition, Technology & Logistics (OUSD AT&L). This project conforms to the administration's research and development priorities as related to Weapons of Mass Destruction (WMD) arms control and disarmament. Technical assessments are made to provide the basis for sound project development, evaluate existing programs and provide the data required to make compliance judgments and support US policy, decision-makers and negotiating teams. Technology developments and system improvement projects are conducted to ensure that capabilities for monitoring systems are available when required.

Primary emphasis is on improved sensor capabilities and improved detection and assessment capabilities against a wide range of threat origins.

The program includes development of equipment and procedures for data exchanges, inspections and monitoring capability and analysis. The technologies and procedures developed in the arms control technology program provide an invaluable source of information on equipment and procedures that is extensively used by US and international agencies. This project also supports the warfighting capability area of combating Weapons of Mass Destruction (WMD).

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	7.276	7.398	7.837	-	7.837
Current President's Budget	7.017	7.391	7.922	-	7.922
Total Adjustments	-0.259	-0.007	0.085	-	0.085
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.217	-			
• Adjustments to Budget Years	-	-0.007	0.085	-	0.085
• Other Adjustments 1	-0.037	-	-	-	-
• Other Adjustments 2	-0.005	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604870A: <i>Nuclear Arms Control</i> <i>Monitoring Sensor Network</i>				PROJECT SE1: <i>NACT SENSOR ENGINEERING</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
SE1: <i>NACT SENSOR ENGINEERING</i>	7.017	7.391	7.922	-	7.922	7.806	7.790	8.059	8.371	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project provides Research, Development, Testing & Evaluation (RDTE) to meet technology requirements in support of implementation, compliance, monitoring and inspection for existing and emerging nuclear arms control activities and dual use technology for missile defense integration activities. The project addresses requirements validated by the Office of the Under Secretary of Defense, Acquisition, Technology & Logistics (OUSD AT&L). This project conforms to the administration's research and development priorities as related to Weapons of Mass Destruction (WMD) arms control and disarmament. Technical assessments are made to provide the basis for sound project development, evaluate existing programs and provide the data required to make compliance judgments and support US policy, decision-makers and negotiating teams. Technology developments and system improvement projects are conducted to ensure that capabilities for monitoring systems are available when required.

Primary emphasis is on improved sensor capabilities and improved detection and assessment capabilities against a wide range of threat origins.

The program includes development of equipment and procedures for data exchanges, inspections and monitoring capability and analysis. The technologies and procedures developed in the arms control technology program provide an invaluable source of information on equipment and procedures that is extensively used by US and international agencies. This project also supports the warfighting capability area of combating Weapons of Mass Destruction (WMD).

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

	FY 2011	FY 2012	FY 2013
Title: Support OSD Treaty Manager	0.476	0.566	0.667
Articles:	0	0	
Description: .			
FY 2011 Accomplishments:			
Participated and supported the joint U.S. / Provisional Technical Secretariat (PTS) technology conferences / exchanges (i.e. Workshop on Medical Isotope Production (WOSMIP) II, PTS / U.S. Technology Working Group 2nd Annual Conference; PTS Public Key Infrastructure (PKI) / Command & Control experiment; U.S. / Great Britain technology / operations interchange meetings). Provided technical and operational support for the PTS / U.S. sponsored monitoring technology developments, standard reliability and operations / maintenance profile conference. Prepared / Supported International Monitoring System (IMS)			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604870A: <i>Nuclear Arms Control</i> <i>Monitoring Sensor Network</i>	PROJECT SE1: <i>NACT SENSOR ENGINEERING</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>technology overview briefings (Deputy Assistant Secretary of Defense (DASD) Threat Reduction & Arms Control (TRAC)) in preparation for interagency meetings.</p> <p>FY 2012 Plans: Plan / Support joint U.S. / PTS technology conferences / exchanges (i.e. Workshop on Medical Isotope Production (WOSMIP) III, PTS / U.S. Technology Working Group 3rd Annual Conference; PTS PKI / Command & Control experiment; U.S. / Great Britain technology / operations interchange meetings). Provide technical and operational support for the PTS/U.S. sponsored monitoring technology developments, standard reliability and operations /maintenance profile conference. Prepare / Support IMS technology DASD (TRAC) overview briefings in preparation for interagency meetings.</p> <p>FY 2013 Plans: Plan / Support joint U.S. / PTS technology conferences / exchanges (i.e. Workshop on Medical Isotope Production (WOSMIP) IV, PTS / U.S. Technology Working Group 4th Annual Conference; PTS PKI / Command & Control experiment; U.S. / Great Britain technology / operations interchange meetings). Provide technical and operational support for the PTS/U.S. sponsored monitoring technology developments, standard reliability and operations / maintenance profile conference. Prepare / Support DASD (TRAC) IMS technology overview briefings in preparation for interagency meetings.</p>				
<p>Title: Prototype Sensor Development</p> <p>Description: .</p> <p>FY 2011 Accomplishments: Deployed next generation infrasound sensors for field and operational testing within the PTS sponsored Sayarim infrasound experiment. Coordinated the event with the government of Israel and the PTS to gather propagation model data for the Middle East region and to evaluate scaling laws for validation against the existing Sayarim summer 2009 event data. Deployed next generation sensors for dynamic operational performance testing at the Utah Test and Training Range (UTTR) ordinance disposal site. Deployed the next generation infrasound sensors to the PTS Conrad Site for dynamic performance testing against the Comprehensive Nuclear-Test-Ban Treaty (CTBT) performance and acceptance requirements. Completed the Transportable Xenon Laboratory (TXL) site survey in Jakarta, Indonesia for a potential location for moving the TXL for the purpose of conducting International Xenon background measurements efforts.</p> <p>FY 2012 Plans: Work continues on insuring the deployability of the Transportable Xenon Laboratory (TXL) to Jakarta, Indonesia with specific focus on improvements in satellite data communication capabilities and ruggedizing the Swedish Automated Unit for Noble Gas Analysis (SAUNA) systems installation. Operations and maintenance perform in advance of the TXL/SAUNA foreign deployment will be performed to establish an operations baseline for the SAUNA and provide additional opportunity to diagnose and resolve</p>		<p>Articles:</p> <p>1.141 0</p>	<p>1.445 0</p>	<p>1.500</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604870A: <i>Nuclear Arms Control</i> <i>Monitoring Sensor Network</i>		PROJECT SE1: <i>NACT SENSOR ENGINEERING</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
any remaining operational concerns with TXL and/or the installed SAUNA. Continue to deploy next generation infrasound sensors for dynamic operational performance testing at the UTTR ordinance disposal site. Continue testing of deployed next generation sensors to the PTS Conrad Site for dynamic performance measurements against the CTBT performance and acceptance requirements. FY 2013 Plans: Continue station calibration & metrology planning. Continue development of station array element calibration with focus on in-situ array calibration systems and array performance measurements. Plan and carry-out signal capture & identification efforts to include signal clutter source studies, noise source studies, participate in exercises to collect field source data, develop field clutter rejection methodology / algorithms, and False Alarm Rejection Methodology and continue analysis. Initiate planning to evaluate options for performing an experiment to evaluate measurement performance of IMS stations from a planned underground or under water detonation. The explosion will be non-nuclear in nature and will be configured to include the release of radioactive noble gasses in concentrations acceptable to environmental regulations and of a nature suitable to challenge IMS measurement technology.				
Title: Radionuclide Particulate / Xenon Gas Sensor System Development		0.400	0.397	0.465
Description: .	Articles:	0	0	
FY 2011 Accomplishments: Deployed and field tested the field portable Xenon gas system within the European Union (EU) project for global Xenon background characterization. Continued acceptance / operational performance testing for the next generation radionuclide particulate system's detector / cryogenic cooler replacement system. Continued developing single-isotope Xenon calibration standards production methods (i.e. Xenon detection system calibration standards). Defined Xenon gas detection analysis and characterization algorithms				
FY 2012 Plans: Deploy and field test the field portable Xenon gas system within the EU project for Global Xenon background characterization. Continue acceptance / operational performance testing and deploy the next generation particulate system's detector / cryogenic cooler replacement system. Continue developing single-isotope Xenon calibration standards production methods (i.e. Xenon detection system calibration standards). Plan and develop methods for measurements to better determine the world-wide concentration of radioxenon. These measurements are necessary to design and test a Xenon spectrum categorization scheme that is applicable to U.S. and other monitoring stations. The measurements will better enable IMS stations to remove the influence of background Xenon concentrations not associated with nuclear explosions.				
FY 2013 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604870A: <i>Nuclear Arms Control Monitoring Sensor Network</i>	PROJECT SE1: <i>NACT SENSOR ENGINEERING</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Continue Xenon gas systems research. Study and evaluate Xenon backgrounds & transport - Xenon categorization, data analysis & interpretation & Xenon transport from underground/underwater. Implement a study of past detection schemes and compare current and future detections options with a focus on best pathways to improve sensitivity, selectivity (radon daughters vs. fission products), and reliability. The study will pay close attention to timeline and feasibility of implementation of detection alternatives.				
Title: Information Management Systems Enhancements				
Articles:		1.500	1.496	1.525
Description: .		0	0	
FY 2011 Accomplishments: Implemented extended infrasound propagation models including the Naval Research Laboratory's (NRL) atmospheric propagation models.				
FY 2012 Plans: Continue development of Infrasound propagation models to improve detection, identification, and location of sources of interest. Conduct field experiments to collect and provide data to constrain and refine the models. Develop Portable Infrasound Calibrator.				
FY 2013 Plans: Continue Infrasound propagation models development for purposes to improve detection, identification, and location of sources of interest. Continue field experiments to collect data to constrain and refine models. To make contact with the data, models will include fine-scale atmospheric conditions, topography, 3D winds and effects of non-linear propagation. Plan development of a portable / rapid deployable infrasound array and standard sound source for calibrating Infrasound stations / arrays.				
Title: Continue Research & Development support system				
Articles:		0.900	0.897	0.950
Description: .		0	0	
FY 2011 Accomplishments: Conducted radionuclide technology development projects. Projects focused on: improving International Monitoring System (IMS) Xenon samplers' detection systems, improved information on the background levels of fission products in the atmosphere, and technology to decrease the effluent from medical isotope production plants that cause large backgrounds of radionuclides for IMS samplers. Conducted measurements using a Radionuclide Aerosol Sampler-Analyzer (RASA) and a Swedish Automatic Unattended Noble gas Analyzer (SAUNA) located in the Eastern Washington and at locations in the U.S. and globally to monitor for nuclear releases from the damaged Fukushima nuclear station for the purpose of understanding the network capabilities and limitations based on a real world nuclear event. Continued waveform (infrasound / seismic) development program focused on				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604870A: <i>Nuclear Arms Control Monitoring Sensor Network</i>	PROJECT SE1: <i>NACT SENSOR ENGINEERING</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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<p>infrasound sensor / station calibration and metrology, on digital infrasound sensor development and on infrasound data collection and analysis.</p> <p>FY 2012 Plans: Continue radionuclide technology development projects focused on: improving International Monitoring System (IMS) Xenon samplers' detection systems, improved information on the background levels of fission products in the atmosphere, and technology to decrease the effluent from medical isotope production plants that cause large backgrounds of radionuclides for IMS samplers. Continue waveform (infrasound / seismic) development program focused on infrasound sensor / station calibration and metrology, on infrasound sensor development and on data collection and analysis.</p> <p>FY 2013 Plans: Plans are to collect and prioritize requirements from Station Operators and design-build-test highest priority upgrades. Focus areas are nuclear detector (including cooling); filtration medium and sample head; and electronic controls.</p>			
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Title: Continue "On-Location" Infrasound Event Calibration Research	Articles:	0.500 0	0.497 0	0.605
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<p>Description: .</p> <p>FY 2011 Accomplishments: Continued calibration and metrology research and development (R&D) at established engineering and development test centers (EDTC) - Operations & Maintenance at Sandia National Laboratory (SNL) O&M test bed; Research & Development at Pennsylvania State University (PSU) R&D test bed; U.S. IMS state-of-health (SOH) performance and data quality metrics at the University of Alaska-Fairbanks (UAF), Pennsylvania State University (PSU), and University of Mississippi (UM). Deployed / implemented the U.S. developed infrasound array.</p> <p>FY 2012 Plans: Continue calibration and metrology research and development (R&D) at established engineering and development test centers (EDTC) - Operations & Maintenance at Sandia National Laboratory (SNL) O&M test bed; Research & Development at Pennsylvania State University (PSU) R&D test bed; U.S. IMS state-of-health (SOH) performance and data quality metrics at the University of Alaska-Fairbanks (UAF), Pennsylvania State University (PSU), and University of Mississippi (UM). Deployed / implement the U.S. developed infrasound array.</p> <p>FY 2013 Plans:</p>			
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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604870A: <i>Nuclear Arms Control</i> <i>Monitoring Sensor Network</i>	PROJECT SE1: <i>NACT SENSOR ENGINEERING</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Continue planning and developing the EDTC. The test beds will be utilized for research, testing and evaluations relevant to station shut downs; configuration changes; and invasive procedures. These test beds will allow for evaluation of R&D primary array developments of new technologies and their associated field testing.				
<p>Title: Continue U.S. IMS Sensor Event Signal Identification Technique Development</p> <p>Articles:</p> <p>Description: .</p> <p>FY 2011 Accomplishments: Planned / supported / participated in the Israeli wintertime Sayarim infrasound experiment. Implemented / validated the enhanced infrasound propagation models (Sayarim; UTTR). NACT Program deployed the next generation infrasound sensor at UTTR for purposes of (data collection; source location; event analysis; performance, validation, and reliability testing). Conducted clutter, false alarms and noise mitigation analysis (USArray studies; catalogue persistent sources; noise studies; wind noise physics; false alarm rejection). Conducted joint U.S./Commissariat a l'Energie Atomique (CEA) / Département Analyse, Surveillance, Environnement of the Direction des Applications Militaires (DASE) collaboration (test against US and European network).</p> <p>FY 2012 Plans: Continue efforts for deploying the Transportable Xenon Laboratory (TXL) to Jakarta, Indonesia with specific focus on improvements in satellite data communication capabilities and ruggedizing the SAUNA installation. Deploy next generation digital infrasound sensor at UTTR (data collection; source location; event analysis; performance, validation, reliability testing). Continue clutter, false alarms and noise mitigation analysis (US Array studies; catalogue persistent sources; noise studies; wind noise physics; false alarm rejection). Continue joint U.S./CEA (DASE) collaboration (test against US and European network).</p> <p>FY 2013 Plans: Continue operating the TXL and SAUNA systems in advance of deployment. Operations and maintenance performed in advance of the TXL/SAUNA foreign deployment will establish an operations baseline for the SAUNA and provide additional opportunity to diagnose and resolve any remaining operational concerns. Continue evaluating the memory effect that occur when highly polarizable Xenon atoms attach to surfaces used in beta-gamma detection systems, or diffuse into the plastic cell wall. Continue infrasound event signal clutter, false alarms and noise mitigation analysis (U.S. Array studies; catalogue persistent sources; noise studies; wind noise physics; false alarm rejection).</p>		1.300 0	1.296 0	1.360
<p>Title: Continue U.S. IMS Radionuclide Detection & Measurement Development</p> <p>Articles:</p> <p>Description: .</p> <p>FY 2011 Accomplishments:</p>		0.800 0	0.797 0	0.850

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604870A: <i>Nuclear Arms Control</i> <i>Monitoring Sensor Network</i>	PROJECT SE1: <i>NACT SENSOR ENGINEERING</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>Advanced Xenon separation modeling and simulation methods development continued for next generation Xenon detection and monitoring systems (i.e. life cycle and obsolescence management planning). The Transportable Xenon Laboratory (TXL) was deployed to Argentina for the International Xenon Inventory Measurements (IXIM) campaign (Q4CY10). Conducted RL-16 laboratory gas analysis system performance and validation testing for use as a secondary, laboratory-based radioxenon spectrometer.</p> <p>FY 2012 Plans: Continue advanced Xenon separation modeling and simulation methods development for next generation Xenon detection and monitoring systems (i.e. life cycle and obsolescence management planning). Deploy Transportable Xenon Laboratory (TXL) to Argentina for the International Xenon Inventory Measurements (IXIM) campaign (Q4CY10). Continue U.S. IMS Radionuclide Laboratory (RL-16), laboratory gas analysis system performance and validation testing for use as a secondary, laboratory-based radioxenon spectrometer. Continue evaluating detector performance.</p> <p>FY 2013 Plans: Continue Xenon gas systems research. Evaluate gas yield and detection limits. PTS requirements indicate that the RL-16 gas system requires additional capability to meet the requirements. Develop test methods to increase yield and to improve detection efficiency. The processing train will be updated to improve transfer efficiency and to reduce dead volumes. To assure the RL-16 gas system is making a high precision measurement, the samples will be sent to a certified laboratory for part of the calibration. Development of a robust, high precision method to calibrate the nuclear detectors effectively is needed. This is a complex problem that requires expertise in gas handling, radionuclide quantification, beta-gamma detector theory of operation and analysis software development. Task will develop the calibration methods to obtain the absolute calibration of the nuclear detector.</p>			
Accomplishments/Planned Programs Subtotals	7.017	7.391	7.922

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

D. Acquisition Strategy
Not applicable for this item.

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604870A: <i>Nuclear Arms Control Monitoring Sensor Network</i>	PROJECT SE1: <i>NACT SENSOR ENGINEERING</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SMDC Support	SS/CPFF	Various:Various	2.366	0.566		0.667		-		0.667	Continuing	Continuing	Continuing
Subtotal			2.366	0.566		0.667		-		0.667			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development Program	SS/CPFF	UM, MS, PNNL, WA:Various	19.039	4.832		5.125		-		5.125	0.000	28.996	0.000
Subtotal			19.039	4.832		5.125		-		5.125	0.000	28.996	0.000

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SMDC Support	SS/CPFF	SMDC:AL, DC	5.762	1.496		1.525		-		1.525	Continuing	Continuing	Continuing
Subtotal			5.762	1.496		1.525		-		1.525			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	SS/CPFF	Various:Various	2.102	0.497		0.605		-		0.605	Continuing	Continuing	Continuing
Subtotal			2.102	0.497		0.605		-		0.605			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			29.269	7.391		7.922		-		7.922			

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	50.054	32.065	51.463	-	51.463	48.172	44.506	43.899	36.978	Continuing	Continuing
087: <i>Distributed Learning System (DLS)</i>	0.334	-	-	-	-	-	-	-	-	Continuing	Continuing
099: <i>Army Human Resource System (AHR)</i>	1.227	2.360	0.705	-	0.705	0.687	0.696	0.692	0.692	Continuing	Continuing
184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>	2.218	2.297	2.096	-	2.096	2.034	2.071	2.090	2.054	Continuing	Continuing
193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>	4.203	6.571	4.285	-	4.285	4.266	4.270	4.445	4.557	Continuing	Continuing
474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>	2.622	4.692	2.506	-	2.506	2.333	2.163	2.226	2.238	Continuing	Continuing
738: <i>AcqBiz</i>	5.892	9.389	14.837	-	14.837	12.485	12.266	10.962	3.842	Continuing	Continuing
AE5: <i>HEADQUARTERS ARMY ENVIRONMENTAL SYSTEM (HQAES)</i>	24.243	-	-	-	-	-	-	-	-	Continuing	Continuing
M05: <i>Enterprise Army Workload & Performance Sys (eAWPS)</i>	2.916	-	0.817	-	0.817	0.822	0.777	0.747	0.759	Continuing	Continuing
T04: <i>USMEPCOM TRANSFORMATION - IT MODERNIZATION</i>	0.563	0.663	-	-	-	-	-	-	-	Continuing	Continuing
T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>	5.836	6.093	26.217	-	26.217	25.545	22.263	22.737	22.836	Continuing	Continuing

Note

Increase of \$18.614M supports deployment and final fielding of the enterprise-level PPB BOS application throughout HQDA and the transfer of budget data to the Army's financial enterprise resource system, the General Fund Enterprise Business System.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>
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A. Mission Description and Budget Item Justification

Supports efforts to plan, design, develop, and test information technology solutions to fulfill the Army's Warfighter Support Mission and accommodate changing Army requirements while fulfilling future Army needs. Provides for development and acquisition of Combat Service Support (CSS) and business information technology solutions to help arm, sustain, fix, move, train and man the force. Completed development/acquisition efforts will also enhance sustaining base functions and power projection capabilities and facilitate global messaging and electronic data interchange (EDI). Ongoing development efforts support multiple functional areas including logistics, personnel, transportation, training, medical/health protection, and sustaining base.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	23.957	37.098	32.849	-	32.849
Current President's Budget	50.054	32.065	51.463	-	51.463
Total Adjustments	26.097	-5.033	18.614	-	18.614
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	18.614	-	18.614
• Other Adjustments 1	26.097	-5.033	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>				PROJECT 087: <i>Distributed Learning System (DLS)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
087: <i>Distributed Learning System (DLS)</i>	0.334	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Distributed Learning System (DLS) is an Army Acquisition Category III (ACAT III) automated information system that modernizes electronically exportable training delivery in the Army training and education system by leveraging information technology (IT). DLS acquires, deploys and maintains a worldwide distributed learning system to ensure our nation's Soldiers receive critical training for mission success. DLS benefits all Soldiers and DA Civilians. DLS is a key enabler for Army training transformation by improving unit readiness and significantly reducing costs. DLS enables the Army to properly train all components to a single Army standard. DLS supports readiness by enhancing institutional and individual training in all Army components (Active, National Guard, Reserve, and Department of the Army Civilians (DAC)). DLS provides both near and long-term information technology training infrastructure to enhance training, particularly in the areas of Military Occupational Skill Qualification (MOSQ) and reclassification. It also provides a highly effective means to deliver training and education to deployed forces. The overall goal for DLS is to leverage technology and to provide just-in-time training to each service member regardless of location. DLS supports the E-Government strategy by using the Web to provide training materials, by enabling the intra-agency sharing of training data, and by adopting commercial practices and products to reduce operating costs. DLS supports the President's Management Agenda by making use of e-Learning to leverage scarce training funds and to provide greater agency access to training materials. DLS goals also include reducing training delivery and training support costs; improving service member morale by allowing members to obtain increased amounts of required training without leaving their home station; improving efficiency and effectiveness of Army instructors by allowing each instructor to train more students in a shorter period of time; and, improving unit readiness due to the reduction in personnel turbulence resulting from long term absence for resident institutional training. DLS Increment 1 fielded electronic classrooms known as Digital Training Facilities (DTFs) comprised of student work stations, servers and room based video equipment. DLS currently operates and sustains 222 DTFs (118 DTFs at the Active Component (AC) and 104 DTFs at the United States Army Reserve (USAR)). DLS Increment 2 fielded the DLS Enterprise Management Center (EMC) that networked all of the global DTFs. DLS Increment 3, Army Learning Management System (ALMS) provides a web-based learning management system which Soldiers can use to enroll, take training and record training results. DLS Increment 4, Deployed Digital Training Campus (DDTC), approved for Full Deployment Decision Review (FDDR) in January 2010, will have fielded a total of 42 of 50 DDTC systems by end of FY 2013. The DDTC is a mobile electronic training platform which will enable deployed Soldiers to take training.

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

	FY 2011	FY 2012	FY 2013
Title: Planned Program: Increment 3 (ALMS) - Engineering Change Proposals (ECP) Operational Test & Evaluation (OT&E) Articles:	0.334 0	-	-
Description: Planned Program: Increment 3 (ALMS) - Engineering Change Proposals (ECP) Operational Test & Evaluation (OT&E) [FY2011 Core]			
FY 2011 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 087: <i>Distributed Learning System (DLS)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY2011 Core dollars of \$346 thousand procured continuous test & evaluation of DLS Increment 4, Deployed Digital Training Campus (DDTC) as required by the Army Test and Evaluation Command (ATEC). DDTC employs a Very Small Aperture Terminal (VSAT) to enable satellite communications (SATCOM). SATCOM services for the DDTC require testing before acceptance into the government inventory.			
Accomplishments/Planned Programs Subtotals	0.334	-	-

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 432612000, 432615000: <i>OMA APEs</i>	43.635	41.642	34.634		34.634		39.380	41.610	39.696	Continuing	Continuing
• BE4173: <i>Distributed Learning System (DLS)</i>	9.801	7.876	6.163		6.163		7.821	6.988	4.910	Continuing	Continuing

D. Acquisition Strategy

N/A

E. Performance Metrics

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 099: <i>Army Human Resource System (AHR)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
099: <i>Army Human Resource System (AHR)</i>	1.227	2.360	0.705	-	0.705	0.687	0.696	0.692	0.692	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Army Human Resource System (AHR) is the Army's system of systems that provides commanders the necessary personnel information to make informed decisions on mobilized military personnel resources (both Active Duty and Reserve Component). The implementation of AHR requires the development of an authoritative Army Corporate database to support the eventual migration to Integrated Personnel and Payroll System-Army (IPPS-A). However, major elements of AHR are not planned to be subsumed into IPPS-A. AHR consists of three major components:

- Electronic Military Personnel Office (eMILPO) provides the U.S. Army with a reliable, timely, and efficient mechanism for performing Army personnel actions and managing strength accountability. The application provides visibility of the location, status, and skills of Soldiers both from a high level (top of the system) and a unit level (bottom of the system). eMILPO delivers enhanced performance to the Soldier, providing superior data accuracy, and a more intuitive web-based approach resulting in increased productivity, quality, timeliness, security, and user satisfaction. It re-hosted the USC Title 10 functionality, formerly resident in the Standard Installation Division Personnel System-3 (SIDPERS) application, for migration to IPPS-A. Selected elements of eMILPO will need to be operated in parallel with IPPS-A until/unless IPPS-A is able to absorb all eMILPO functionality.
- Deployed Theater Accountability System (DTAS) is a personnel accountability system that enables the Combatant Commanders (COCOM) to meet Title 10 personnel accountability responsibilities. DTAS is residing on the Secret Internet Router Network (SIPRnet) and accounts for military and civilian personnel in a deployed theater by unit, day and location supporting force tracking and deployed Operations Tempo (OPTEMP) tracking. DTAS is a persistent system and will continue to exist Integrated Personnel and Pay System - Army (IPPS-A) migration.
- The Tactical Personnel System (TPS) is a stand-alone system that supports personnel accountability for task organization/manifests and jump manifests used by tactical units. The system interfaces with DTAS, allowing Soldiers to be loaded into DTAS in mass upon arrival in theater. TPS will continue to exist Integrated Personnel and Pay System - Army (IPPS-A) migration.
- Personnel Transformation (PT)- Enterprise Service Bus (ESB)- The Army's Enterprise Service Bus (ESB) provides a data integration service in which data can be extracted from the legacy human resource systems and transferred to DIMHRS. The ESB will be a middleware application which will provide a single interface to and from DIMHRS from the Army Legacy Systems. The ESB will provide the infrastructure for the integration of new and existing applications by allowing systems and applications to easily exchange information across different environments and platforms. It will also form the information bridge between DIMHRS, the Army Legacy Systems, and external systems to create more streamlined systems in support of the military mission and personnel transformation goals.

FY 2013 funding procures configuration management software, test and evaluation software, life cycle replacement of legacy equipment and Continuity of Operations (COOP) equipment and software to support Engineering Change Packages (ECPs)/System Change Packages (SCPs)/Interim Change Packages (ICPs) in support of eMILPO and DTAS.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 099: <i>Army Human Resource System (AHR)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: AHR Description: Funding will support Post Deployment Software Support (PDSS) FY 2011 Accomplishments: Engineering Change Packages (ECPs)/System Change Packages (SCPs) Interim Change Packages (ICPs) in support of eMILPO and DTAS FY 2012 Plans: Engineering Change Packages (ECPs)/System Change Packages (SCPs) Interim Change Packages (ICPs) in support of eMILPO and DTAS FY 2013 Plans: Engineering Change Packages (ECPs)/System Change Packages (SCPs) Interim Change Packages (ICPs) in support of eMILPO and DTAS	1.227 0	2.360 0	0.705
Articles:			
Accomplishments/Planned Programs Subtotals	1.227	2.360	0.705

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• STACOMP: <i>STACOMP</i>	28.849	143.122	123.657		123.657		81.506	82.052		Continuing	Continuing
• AHR: <i>AHR</i>	13.524	12.185								Continuing	Continuing

D. Acquisition Strategy

Army Human Resource System (AHR)- The program manager makes extensive use of Integrated Product Teams (IPTs). Sub-elements of the acquisition (engineering and design, logistics planning, testing, etc.) are intensively managed by integrated teams of government and contractor personnel. Task performance is tracked against the Work Breakdown Structure (WBS) and resources allocated to each task are adjusted based on performance against the WBS. AHR contractual efforts are acquired on a firm fixed price basis through GSA schedule and existing contractual vehicles. The Title 10 functionality has transferred to AHR.

-Personnel Transformation - The Enterprise Service Bus (ESB) program management approach is a middleware application which will provide a single interface to and from DIMHR from the Army Legacy Systems. The ESB will provide the infrastructure for the integration of new and existing applications by allowing systems and applications to easily exchange information across different environments and platforms. It will also form the information bridge between DIMHR, the Army Legacy Systems, and external systems. Contractor selection will be accomplished through open competition, administered by a federal certified contracting agency. Program Management is accomplished by combining a "best practices" approach coupled with standard tools.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 099: <i>Army Human Resource System (AHR)</i>

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 099: <i>Army Human Resource System (AHRS)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
AHRS - ECPs/SCPs/ICPs	C/FFP	Hewlit Packard:various	88.051	1.272		0.400		-		0.400	Continuing	Continuing	Continuing
AHRS - Software Development	C/FFP	Hewlit Packard:various	50.635	1.088		0.305		-		0.305	Continuing	Continuing	Continuing
Subtotal			138.686	2.360		0.705		-		0.705			
Project Cost Totals			138.686	2.360		0.705		-		0.705			

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>	2.218	2.297	2.096	-	2.096	2.034	2.071	2.090	2.054	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Installation Support Modules (ISM), deployed to Army sites worldwide, is software applications developed and standardized to perform business functions related to Army Force Generation (ARFORGEN) at the Installation level used by the combatant command and installation staffs. The ISM system is a web environment that utilizes a single, centralized, replicated database to store logistical and personnel readiness data for the entire Army. The requested funds continue migration of the fielded ISM software (Disk Operating System character based) applications to a more modern graphical user interface in a web based environment allowing the combat soldier as well as the field commander access to records impacting soldier readiness. Functionality fielded in FY11 and FY12 includes web server architecture that supports a graphical user interface, web-based user access, and a consolidated infrastructure in accordance with the Army Knowledge Management Strategic Plan. This modernized system enables the Army Installation Management community to provide simple web-enabled software applications for soldier processing; ready and relevant information to the commander; while transparently integrating multiple complex processes for soldiers, commanders, and Army executives. ISM consists of five discrete modules focusing on ARFORGEN activities including in/out processing of soldiers, personnel locator services, soldier transition processing, management of soldier educational records, and management of Organizational Clothing and Individual Equipment (OCIE). The Network Operations and Security Center, Ft. Huachuca, AZ manages the ISM network, provides general system configuration control, operates a 24/7 Helpdesk, provides user account management, and performs automated backups for ISM devices located at Army sites worldwide.

Coalition Warfighter Interoperability Demonstration (CWID) is a mandated Joint program that requires participation by the US Army to explore near-term technologies that support Joint and Coalition Warfare Interoperability. Funding is to facilitate Coalition Force interoperability research and development and to comply with CJCSI 6230.2 date 30 April 05. Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicides attempts are collected and stored in a in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service.

ISM Core funding is essential for supporting demands to research and develop improved systems to provide for soldier safety and inventory reduction without risking readiness. Supports research and development to comply with Dept of Defense Instruction 8320.4 Serialized Item Management. Applications to use commercial off the shelf e-Signature systems to reduce soldier wait time for signature verification from 30 minutes per transaction to less than one minute.

Funding for CWID will continue to facilitate Coalition Force interoperability research and development. Funding for ABHIDE will continue development of the system.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Title: Independent Verification and Validation (IV&V) Testing</p> <p>Description: Independent Verification and Validation (IV&V) Testing</p> <p>FY 2011 Accomplishments: Required Independent Verification and Validation (IV&V) Testing</p> <p>FY 2012 Plans: Required Independent Verification and Validation (IV&V) Testing</p> <p>FY 2013 Plans: Required Independent Verification and Validation (IV&V) Testing.</p>		0.062 0	0.063 0	0.064
<p>Title: Post-Deployment Software Support (PDSS) - Engineering Change Packages (ECPs)/System Change Packages (SCPs)</p> <p>Description: Post-Deployment Software Support (PDSS) - Engineering Change Packages (ECPs)/System Change Packages (SCPs): Develop or enhance software to meet the requirements of the soldier and installation.</p> <p>FY 2011 Accomplishments: Accomplished: COTs extension of bar coding to meet DoD requirements for Individual Unit Identification (IUID) and tracking of OCIE in the CIF module to insure soldiers get the right equipment they need to execute their assigned mission as they progress through ARFORGEN cycles. IUID ensures the best stocks are issued to achieve an equipping balance based on CSA guidance to build enduring readiness while providing the soldier with the safest equipment possible. Specifically will expand Automated Identification Technology to the CIF application to comply with DoD IUID policy; continue to add self service functions to the CIF through Army Knowledge on Line; improve compliance with personal privacy safeguards to mask social security numbers and other personal information; add OCIE logistical data from National Guard systems and create a common data base to reduce duplicate ordering and increase utilization of existing stocks; improves asset visibility; and add automation of soldier test scoring when taking the Armed Forces Classification Test.</p> <p>FY 2012 Plans: Planned: Continue with COTs extension of bar coding to meet DoD requirements for Individual Unit Identification (IUID) and tracking of OCIE in the CIF module to insure soldiers get the right equipment they need to execute their assigned mission as they progress through ARFORGEN cycles. IUID ensures the best stocks are issued to achieve an equipping balance based on CSA guidance to build enduring readiness while providing the soldier with the safest equipment possible. Specifically will expand Automated Identification Technology to the CIF application to comply with DoD IUID policy; continue to add self service</p>		0.354 0	0.385 0	0.321

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>functions to the CIF through Army Knowledge on Line; improve compliance with personal privacy safeguards to mask social security numbers and other personal information; add OCIE logistical data from National Guard systems and create a common data base to reduce duplicate ordering and increase utilization of existing stocks; improves asset visibility; and add automation of soldier test scoring when taking the Armed Forces Classification Test.</p> <p>FY 2013 Plans: Planned: apply commercial off the shelf e-Signature software to existing applications to reduce soldier wait time for processing signatures from 30 minutes per transaction to under one minute. Funds are also intended to upgrade core systems hardware to improve overall efficiency. Current equipment was installed in 2002 and is inadequate for forecasted workloads.</p>				
<p>Title: Coalition Warfighter Interoperability Demonstration (CWID)</p> <p>Description: Coalition Warfighter Interoperability Demonstration (CWID)</p> <p>FY 2011 Accomplishments: Coalition Warfighter Interoperability Demonstration (CWID) is a mandated Joint program that requires participation by the US Army to explore near-term technologies that support Joint and Coalition Warfare Interoperability. Funding is to facilitate Coalition Force interoperability research and development and to comply with CJCSI 6230.2 date 30 April 05.</p> <p>FY 2012 Plans: Coalition Warfighter Interoperability Demonstration (CWID) is a mandated Joint program that requires participation by the US Army to explore near-term technologies that support Joint and Coalition Warfare Interoperability. Funding is to facilitate Coalition Force interoperability research and development and to comply with CJCSI 6230.2 date 30 April 05.</p>		0.296 Articles: 0	0.291 0	-
<p>Title: Army Behavioral Health Integrated Data Environment</p> <p>Description: Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry.</p> <p>FY 2011 Accomplishments: Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicides attempts are collected and stored in a in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify</p>		1.506 Articles: 0	1.558 0	1.711

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 184: <i>INSTALLATION SUPPORT MODULES (ISM)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service. FY 2012 Plans: Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicides attempts are collected and stored in a in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service. FY 2013 Plans: Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicides attempts are collected and stored in a in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service.			
Accomplishments/Planned Programs Subtotals	2.218	2.297	2.096

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u> <u>Continuing</u>
• BE4162: <i>MACOM AUTOMATION SYSTEMS</i>	108.194	71.591	56.990		56.990		74.357	105.973		Continuing	Continuing

D. Acquisition Strategy
Installation Support Modules is in Post Deployment Software Support (PDSS). The present concept calls for the use of full and open competition to implement enhancements as defined by the Functional Proponent, Army Chief Information Officer (CIO)/G-6.

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>				PROJECT 193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>	4.203	6.571	4.285	-	4.285	4.266	4.270	4.445	4.557	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Medical Communications for Combat Casualty Care (MC4) System provides multipliers to the medical force structure through the acquisition of information technology solutions for the deployable medical forces. The MC4 System will also fulfill the requirements highlighted in United States Code: Title 10, Subtitle A, Part II, Chapter 55, Section 1074f, mandating the proper documentation of deployed service members' medical treatment to include pre- and post-deployment screening and its associated medical surveillance. The MC4 System will interface Force Health Protection and medical surveillance information with Army Battle Command and Combat Service Support information technology systems as they evolve to support the Army Transformation. The MC4 System also indirectly supports other soldier protection initiatives such as analysis of injury data collected from the MC4 systems, which is used to support the identification and development of other critical soldier support systems such as body armor, improved helmets, traumatic brain injury protection and trauma reduction. Current MC4 Program efforts are focused on system engineering, testing and integration, and fielding automation infrastructure for Army users of the Joint Theater Medical Information Program (TMIP-J) suite of software. Funding provides support system engineering, integration and developmental testing of information management/information technology to better support Force Health Protection in the Army Campaign Plan and Overseas Contingency Operation units.

FY 2013 Base funding will be used for the engineering effort required to provide the Defense Health Information Management System (DHIMS) TMIP-J software on the Army platform, as well as the engineering effort for other Army unique capability. Activities include:

- Test augmentation to include development testing of TMIP (all releases until final objective), and other Army unique software capabilities
- Integration testing of software systems on the MC4 baseline system
- Future engineering in architecture development for better efficiency and effectiveness
- Evaluation of technology obsolescence and solutions
- Evaluation and testing of technology upgrades to include capabilities identification through market surveys and demonstrations
- Evaluation of new health care capabilities not provided by DHIMS/TMIP, e.g. teleradiology
- Test and evaluation of new capabilities and how well they work in the combat theater
- Lab site studies with technology and scenarios
- Interfaces with other systems, e.g. Army Brigade Combat Team Modernization

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

	FY 2011	FY 2012	FY 2013
Title: Engineering and Technical Support	1.003	1.766	0.716
Articles:	0	0	

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Description: Engineering and Technical Support for P3I and System Upgrades, Systems Integration, and Software Support.</p> <p>FY 2011 Accomplishments: Engineering and Technical Support for P3I and System Upgrades, Systems Integration, and Software Support.</p> <p>FY 2012 Plans: Engineering and Technical Support for P3I and System Upgrades, Systems Integration, and Software Support.</p> <p>FY 2013 Plans: Engineering and Technical Support for P3I and System Upgrades, Systems Integration, and Software Support.</p>				
<p>Title: MC4 Information Assurance (IA) Testing</p> <p align="right">Articles:</p> <p>Description: Ensures IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems.</p> <p>FY 2011 Accomplishments: Ensures IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems.</p> <p>FY 2012 Plans: Ensures IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems.</p> <p>FY 2013 Plans: Ensures IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems.</p>		0.483 0	0.502 0	0.523
<p>Title: PMO Testing Support</p> <p align="right">Articles:</p> <p>Description: Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies.</p> <p>FY 2011 Accomplishments: Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies.</p> <p>FY 2012 Plans:</p>		0.479 0	0.831 0	0.542

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies.			
FY 2013 Plans: Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies.			
Title: MC4/TMIP Integration and Testing	2.238	3.472	2.504
Articles:	0	0	
Description: Development testing of DHIMS/TMIP-J Increment 2 (all releases); Lab site studies with technology and scenarios; Integration testing of software systems on the MC4 baseline system; test and evaluation of new capabilities for combat theater functionality.			
FY 2011 Accomplishments: Development testing of DHIMS/TMIP-J Increment 2 (all releases); Lab site studies with technology and scenarios; Integration testing of software systems on the MC4 baseline system; test and evaluation of new capabilities for combat theater functionality.			
FY 2012 Plans: Development testing of DHIMS/TMIP-J Increment 2 (all releases); Lab site studies with technology and scenarios; Integration testing of software systems on the MC4 baseline system; test and evaluation of new capabilities for combat theater functionality.			
FY 2013 Plans: Development testing of DHIMS/TMIP-J Increment 2 (all releases); Lab site studies with technology and scenarios; Integration testing of software systems on the MC4 baseline system; test and evaluation of new capabilities for combat theater functionality.			
Accomplishments/Planned Programs Subtotals	4.203	6.571	4.285

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA SSN MA8046: <i>OPA</i>	21.245	23.084	22.899		22.899		23.734	24.123	24.540	Continuing	Continuing
• OMA PE 432612: <i>OMA</i>	9.360	8.051	6.906		6.906		3.436	3.495	3.554	Continuing	Continuing

D. Acquisition Strategy

The MC4 Program supports a number of Army Medical Information Technology/Communications initiatives. The near and mid-term focus of the MC4 program is to engineer, design, test, acquire and field the Army automation infrastructure capabilities supporting fielding of the Joint Theater Medical Information Program (TMIP) integrated software application suite and other Army requirements. The MC4 hardware is procured as Commercial-off-the-Shelf (COTS) components. Since TMIP software is a major component of the MC4 System, the MC4 Program will deliver capabilities in increments, recognizing the need for future system upgrades and Preplanned Product Improvements (P3Is). The MC4 Program continues to work with the user community to continually define and refine additional requirements and

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0605013A: <i>Information Technology Development</i>	193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>

match them with available technologies to provide the user enhanced capabilities. These enhanced capabilities will be provided to the user at the earliest possible date. This approach yields the most operationally useful and supportable capability in the shortest time possible with Cost As an Independent Variable. Moreover, this approach provides an initial capability with the explicit intent of delivering improved and updated capability in subsequent upgrades and P3Is. This evolutionary development approach will be accomplished through a rapid prototyping process that will progress the system from its current functional capabilities to fully integrated objective capabilities. Appropriate commercial technology enhancements (e.g. advances in operating systems, voice activated technology, etc) will be incorporated into MC4 products and systems as they become available. Each MC4 System component will undergo a full range of developmental testing to include software unit testing, integration testing, interoperability testing and software qualification testing. The MC4 system upgrades and improvements will continue to undergo follow-on operational testing.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 193: <i>MEDICAL COMMUNICATIONS FOR COMBAT CASUALTY CARE</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prog Mgmt Operations	Various	PMO:various	8.405	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			8.405	-		-		-		-			

Remarks
Funding in Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc. in direct support of RDTE effort

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering & Tech Spt	Various	L3 (was Titan):various	6.088	1.766		0.716		-		0.716	Continuing	Continuing	Continuing
Information Assurance	Various	ISEC Support:AZ	1.783	0.502		0.523		-		0.523	Continuing	Continuing	Continuing
Subtotal			7.871	2.268		1.239		-		1.239			

Remarks
Electronic Commodity is a pass-through to Department of Interior, an initiative of SEN Byrd of West Virginia, from Congressional MARKS. SBIR/STTR reductions taken from program.
PMO SUPPORT with GDIT moved to another appropriation to better align activities with program life cycle

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO Testing Spt	Various	ATEC/AMEDD Board:various	5.212	0.831		0.542		-		0.542	Continuing	Continuing	Continuing
MC4/TMIP System Engineering	Various	John Hopkins University (JHU) Applied Physics Lab:MD	32.124	-		-		-		-	Continuing	Continuing	Continuing
MC4/TMIP System Engineering	C/T&M	L3 Communications:Frederick MD	2.238	3.472		2.504		-		2.504	Continuing	Continuing	0.000
Subtotal			39.574	4.303		3.046		-		3.046			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>				PROJECT 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>	2.622	4.692	2.506	-	2.506	2.333	2.163	2.226	2.238	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Combat Service Support (CSS) Automated Information System Interface (CAISI) is a high-data-rate wireless system that provides sensitive information (SI) and is the backbone for logistics connectivity down to individual Combat Service Support (CSS) computer systems located within the sustainment area. The CAISI design effort focuses on integrating Commercial Off-The-Shelf (COTS) equipment from various manufacturers to create a standard deployable set of communications equipment. Current CAISI equipment is being fielded with new equipment training to logistics units Army-wide. Maintenance support is provided at depot-level with additional support at forward repair activities. Computer based training, on-line refresher training and technical support is also provided for CAISI users. CAISI employs a deployable wireless LAN infrastructure linking Army Logistics Information Systems (LIS) computers in a 7 square-kilometer area using wireless bridging. CAISI design incorporates full lifecycle sustainability features to ensure reliability and supportability in full spectrum operations.

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

	FY 2011	FY 2012	FY 2013
Title: Accomplishments and Planned	2.622	4.692	2.506
Articles:	0	0	
Description: Funding is provided for the following efforts:			
FY 2011 Accomplishments: FY2011 funding supported evaluation, testing, Information Assurance Vulnerability Management (IAVM) compliance and technical support requirements.			
FY 2012 Plans: FY2012 funding is supporting continuous evaluation, testing, Information Assurance Vulnerability Management (IAVM) compliance and technical support requirements.			
FY 2013 Plans: FY2013 funding will support follow-on evaluation, testing, Information Assurance Vulnerability Management (IAVM) compliance and technical support requirements.			
Accomplishments/Planned Programs Subtotals	2.622	4.692	2.506

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA, BD3512: <i>OPA, BD3512</i>	22.540	16.376	10.500		10.500					0.000	49.416
• OMA, 423612: <i>OMA, 423612</i>	5.678	3.424	5.620		5.620					0.000	14.722

D. Acquisition Strategy

Acquisition strategy will be to obtain engineering support, as well as applicable hardware and software to enhance current CAISI capabilities. Funding provides functional assesment, technical support and integration of IA requirements. Integral to this strategy is the imperative of developing the capability for inserting and integrating emerging technologies into CAISI 2.0.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Research, modification/ integration and testing of CAISI 2.0.	MIPR	ISEC:Technical/ Integration Support	25.401	1.910		0.800		-		0.800	Continuing	Continuing	Continuing
Subtotal			25.401	1.910		0.800		-		0.800			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Support	SS/FP	Springfield, VA:SETA Contractor Support	-	1.787		0.906		-		0.906	1.814	4.507	0.000
Subtotal			-	1.787		0.906		-		0.906	1.814	4.507	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Research, modification/ integration and testing of CAISI 2.0.	MIPR	ISEC:Technical/ Integration Support	25.620	0.995		0.800		-		0.800	Continuing	Continuing	Continuing
Subtotal			25.620	0.995		0.800		-		0.800			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			51.021	4.692		2.506		-		2.506			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>		PROJECT 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
CAISI 5.4 Firmware Test & Evaluation					██████████																							
ES2440 Radio Test & Evaluation					██████████																							
CAISI Firmware Implementation									████████████████████																			
CAISI 3.X ES2440 Radio Hardware									██																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CAISI 5.4 Firmware Test & Evaluation	1	2012	4	2012
ES2440 Radio Test & Evaluation	1	2012	2	2013
CAISI Firmware Implementation	3	2012	4	2014
CAISI 3.X ES2440 Radio Hardware	4	2012	3	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 738: <i>AcqBiz</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
738: <i>AcqBiz</i>	5.892	9.389	14.837	-	14.837	12.485	12.266	10.962	3.842	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

PM AcqBusiness establishes and sustains the family of IT business systems that support the business of Army acquisition. PM AcqBusiness consists of a family of IT solutions, COTS products, decision support tools and web services that are integrated through a common architecture. Whenever possible, PM AcqBusiness provides access to external enterprise tools and services from other business domains, Army, OSD and DISA and does not duplicate those capabilities. PM AcqBusiness establishes the enterprise level investment control, portfolio management and requirements visibility which is the heart of IT business system transformation in Army Acquisition. PM AcqBusiness provides Army Acquisition practitioners with a consistent set of unique business tools, web services, and decision support tools which provides visibility of authoritative data, consistency in business process, more timely support to acquisition decisions and enterprise control over IT investments. The enterprise tools provided via PM AcqBusiness enables the reduction and eventual elimination of stovepipe and redundant tools that exist in the domain today. PM AcqBusiness provides an environment that will enable a standard capability to allow access to disparate Acquisition Domain data sources. PM AcqBusiness will provide role-based access to authoritative data sources and services. In addition, PM AcqBusiness provides a framework for information providers to publish their data and provide their services to authorized users.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Design, Development, and Test</p> <p align="right">Articles:</p> <p>Description: This effort supports the ultimate integration of the AcqBusiness Portfolio</p> <p>FY 2011 Accomplishments: Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio.</p> <p>FY 2012 Plans: Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio.</p> <p>FY 2013 Plans: Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio.</p>	4.800 0	8.275 0	12.760
<p>Title: Program Management</p> <p align="right">Articles:</p> <p>Description: This effort provides program management in support of the AcqBusiness Portfolio.</p> <p>FY 2011 Accomplishments:</p>	1.092 0	1.114 0	2.077

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 738: <i>AcqBiz</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Program Management			
<i>FY 2012 Plans:</i> Program Management			
<i>FY 2013 Plans:</i> Program Management			
Accomplishments/Planned Programs Subtotals	5.892	9.389	14.837

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OMA: <i>OMA APE</i>	10.117	11.238	11.871		11.871		12.281	13.036	12.112	Continuing	Continuing

D. Acquisition Strategy

Product Manager AcqBusiness was established to acquire a centrally managed and funded suite of standard net-centric business capabilities in order to provide Army acquisition practitioners the data visibility necessary to optimize the acquisition of supplies, services, and materiel for the Warfighter. PM AcqBusiness is using an evolutionary acquisition strategy to acquire the capabilities specified in the PM AcqBusiness requirements document in order to realize benefits early and reduce risk. The full range of PM AcqBusiness Service Oriented Architecture (SOA) services will be achieved through an evolutionary implementation of individual components. Each service is designed to federate cleanly with and leverage the capabilities provided by other SOA environments by leveraging an open-standards based approach to design. Each PM AcqBusiness SOA service will implement new functionality, and may or may not utilize other already published SOA services. Each service capability will be tested and then made available to consumers throughout the acquisition community and the Army. This approach minimizes the cost incurred for testing the system, as well as minimizes release transition impacts on users. PM AcqBusiness is using an evolutionary acquisition approach, incorporating the use of commercial-off-the-shelf (COTS) hardware and software, and custom developed software to meet Army requirements. In this approach, the maintenance release will be streamlined to expedite the fielding of a particular PM AcqBusiness software fix or upgrade. Maintenance releases will be installed on an "as needed" basis after testing and approval by PM AcqBusiness. This approach minimizes the time required to deliver new capabilities to users. The PM AcqBusiness acquisition approach embraces the tenets of Subtitle III of Title 40, U.S.C. (Formerly the Clinger-Cohen Act of 1996). As such, the PM AcqBusiness is: (1) performing Business Process Reengineering (BPR) in advance of development of AcqBusiness capabilities. AcqBusiness is primarily about changing how the acquisition business functions are done in the Army; (2) encouraging the purchase of commercial products and innovations from private industry; (3) involving potential suppliers of SOA technology early in the requirements generation process; (4) employing outsourcing wherever possible; and (5) acquiring the AcqBusiness capabilities in interoperable modules, leveraging the evolutionary acquisition approach.

E. Performance Metrics

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

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 738: <i>AcqBiz</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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 Five IOC			■																									
Increment Six IOC							■																					
Increment Seven IOC											■																	
Increment Eight IOC															■													
Increment Nine IOC																												
Increment Ten IOC																												
Increment Eleven IOC																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 738: <i>AcqBiz</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Increment Five IOC	3	2011	3	2011
Increment Six IOC	2	2012	2	2012
Increment Seven IOC	1	2013	1	2013
Increment Eight IOC	1	2014	1	2014
Increment Nine IOC	1	2015	1	2015
Increment Ten IOC	1	2016	1	2016
Increment Eleven IOC	1	2017	1	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT AE5: <i>HEADQUARTERS ARMY ENVIRONMENTAL SYSTEM (HQAES)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
AE5: <i>HEADQUARTERS ARMY ENVIRONMENTAL SYSTEM (HQAES)</i>	24.243	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Headquarters Army Environmental System (HQAES) is the system of record for the Headquarters Environmental reporting mission, scheduled to subsume the legacy Army Environmental Data Base (AEDB) databases. The HQAES will serve in the same capacity as AEDB while being upgraded to ensure compliance with certification and current regulatory requirements (the Chief Financial Officers Act, DoD Financial Management Regulation (DoD 7000.14-R), Clinger Cohen Act, etc.), adding new capabilities, and ultimately will interface with the Army's General Fund Enterprise Business System (GFEBS) and the Single Army Logistics Enterprise (SALE). Furthermore, HQAES will satisfy Army Environmental Cleanup Liability Recognition, Valuation and Reporting requirements.

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

	FY 2011	FY 2012	FY 2013
Title: Headquarters Army Environmental System (HQAES)	24.243	-	-
Articles:	0		
Description: Funding supports Engineering and Development efforts.			
FY 2011 Accomplishments: Funding supports Engineering and Development efforts.			
Accomplishments/Planned Programs Subtotals	24.243	-	-

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>				PROJECT M05: <i>Enterprise Army Workload & Performance Sys (eAWPS)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
M05: <i>Enterprise Army Workload & Performance Sys (eAWPS)</i>	2.916	-	0.817	-	0.817	0.822	0.777	0.747	0.759	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Army Procure-to-Pay (P2P) business processes include purchase requisition, approval (work flow), commitment of funds, sourcing, solicitation, evaluation, contract management (award), receipt and acceptance, payment approval, and disbursing (payment). P2P follows a phased approach which includes a sand box demonstration of capability; initial fielding to a single site to further demonstrate capabilities in a live environment.

A. Mission Description and Budget Item Justification

Army Procure-to-Pay (P2P) business processes include purchase requisition, approval (work flow), commitment of funds, sourcing, solicitation, evaluation, contract management (award), receipt and acceptance, payment approval, and disbursing (payment). P2P follows a phased approach, with initial fielding to a single site to further demonstrate capabilities in a live environment. The system will enable standard, integrated business processes across the Army that link finance and procurement

BENEFITS:

- Leverages automation, reduces paper, maximizes electronic storage
- Reduces duplicate data entry
- Data entered once in integrated system then used many times in linked end-to-end business processes
- Reduces manual intervention = reduced costs
- Improves records management and document tracking
- Process visibility from end-to-end

FY 2013 and out funding is seed money to support future requirements of the P2P program.

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

	FY 2011	FY 2012	FY 2013
Title: System Development	2.916	-	0.817
Articles:	0		
Description: Software and architecture development			
FY 2011 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT M05: <i>Enterprise Army Workload & Performance Sys (eAWPS)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Software and architecture development				
<i>FY 2013 Plans:</i> Seed funding for software and architecture development				
Accomplishments/Planned Programs Subtotals		2.916	-	0.817
C. Other Program Funding Summary (\$ in Millions) N/A				
D. Acquisition Strategy N/A				
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>	0.563	0.663	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Virtual Interactive Processing System (VIPS) will modernize and automate the Information Technology (IT) capabilities for qualifying Applicants into the Military Service during wartime, peacetime, and mobilization. VIPS will enable a responsive, flexible and efficient means to qualify Applicants to meet manpower resource requirements for the uniformed Services, Coast Guard, and National Guard routine and contingency operations. VIPS will be the future accessioning system to be used by the US Military Entrance Processing Command (USMEPCOM) which serves as the single entry point for determining the physical, aptitude, and conduct qualifications of candidates for enlistment. VIPS will provide the capability to electronically acquire, process, store, secure, and seamlessly share personnel data across the Accessions Community of Interest (ACOI). When fully implemented, VIPS will reduce the cycle time required to induct enlistees to meet the needs of Homeland Defense, reduce the number of visits to the Military Entrance Processing Stations (MEPS), reduce manual data entry errors, and reduce attrition through better pre-screening practices. The implementation of a Service Oriented Architecture (SOA) approach will enable accession data to be securely available to applicants and ACOI partners such as Recruiting and Training Commands, Defense Manpower Data Center (DMDC), Military Health System, Human Resource Management (HRM), and Defense Travel Management Office (DTMO). VIPS will support compliance with DoD direction for a net-centric environment and take advantage of automated data capture technology, e.g., medical equipment with the capability to capture and electronically transmit exam results. The accessioning system of the future will be location independent, virtually paper-free, and automated to assist with bringing the right people at the right time to operational commanders. On November 1, 2008, the DoD Business Transformation Agency (BTA) assumed program lead.

FY12 Base funding supports USMEPCOM project transformation of VIPS.

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

	FY 2011	FY 2012	FY 2013
Title: Project Support	0.563	0.663	-
Articles:	0	0	
Description: Funding will support the following effort			
FY 2011 Accomplishments: The Virtual Interactive Processing System (VIPS) modernizes and automates the Information Technology (IT) capabilities			
FY 2012 Plans: The Virtual Interactive Processing System (VIPS) will modernize and automate the Information Technology (IT) capabilities			
Accomplishments/Planned Programs Subtotals	0.563	0.663	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T04: <i>USMEPCOM TRANSFORMATION - IT MODERNIZATION</i>

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

N/A

D. Acquisition Strategy

VIPS will be acquired using an incremental acquisition strategy to develop and field the system in multiple increments. Increments will be developed to meet user requirements and place a capability in the hands of the stakeholders as early as possible. The incremental development strategy will allow for opportunities to align VIPS engineering and development with the ongoing deployment of other Service modernization projects such as Defense Travel System (DTS), Armed Forces Health Longitudinal Technology Application (AHLTA), Internet Computerized Adaptive Testing (ICAT), and Defense Integrated Military Human Resources System (DIMHRS), promoting incorporation of existing systems into the VIPS solution and mitigate program costs. Requirements will be based on the industry's capabilities discovered through market sampling and review of technology and systems conducted by PEO-EIS (IMS-A/USMEPCOM), Business Transformation Agency (BTA) and the ACOI.

In accordance with the incremental acquisition strategy, the program will complete Milestones B and C in stages that correspond to three major increments. Milestone B for Increment 1.0 will be completed by the end of FY 2010. Completion of Milestone B for Increment 1.0 will ensure start of Engineering and Manufacturing Development Phase in FY 2011. The Milestone C for Increment 1.0 will be completed in FY 2011.

Following the successful acceptance of the Increment 1.0 Initial Operational Test & Evaluation (OT&E) in FY 2011, the system deployment will provide a functional baseline and Initial Operational Capability (IOC) early in the program life cycle. Subsequent to deployment of Increment 1.0, Increment 2.0 will be developed. Milestone B for Increment 2.0 will be completed in FY 2012 and Milestone C for Increment 2.0 will be completed in FY 2012. Increment 2.0 will be deployed in FY 2012/2013. Increment 3.0 development and deployment will occur in FY 2013. Final Full Operational Capability (FOC) scheduled for the end of FY 2013 following completion of a Final Operational Test & Evaluation (FOT&E) to verify that functional capability requirements have been fulfilled and that the system is operationally effective.

VIPS will be acquired using a full and open competitive contracting strategy using performance based contracting and will include Earned Value Management (EVM). BTA's VIPS Program Office will employ rigorous cost controls using a comprehensive risk management program to ensure development and deployment of a managed solution that meets USMEPCOM and ACOI requirements and fulfills identified capability gaps.

E. Performance Metrics

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>				PROJECT T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>	5.836	6.093	26.217	-	26.217	25.545	22.263	22.737	22.836	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Adapt/improve/install/field government off the shelf (GOTS), commercial off the shelf (COTS), and new software to perform various tasks in a networked environment such as data warehousing, force management, personnel, installation and environmental databases and applications to support Business System Transformation and Installation Management.

The Army Human Resources Command (HRC) has two efforts for which RDT&E will be applied. One is to prepare those systems for subsumption by the Integrated Personnel and Pay System (IPPS-A). The other is to disconnect and upgrade those systems not being subsumed by IPPS-A. Many systems have delayed upgrade do to the planned release of DIMHRS. Systems that will be targeted by HRC to prepare for IPPS-A subsumption or upgrade are the Enlisted Distribution and Assignment System (EDAS), Soldier Management System (SMS), the Army Strategic Readiness Update (ASRU), the Keystone Retain System, and the Interactive Personnel Electronic Records Management System (iPERMS).

The Program Planning Budget (PPB)- Business Operating System (BOS) will standardize and better integrate the transactional automated information systems used in the HQDA level programming and budgeting processes. These systems are core to the PPBE business processes of the HQ for gathering programmatic requirements, balancing resources and delivering the Army's program budget to OSD. This project is streamlining programming and budgeting processes and significantly improving strategic analysis capabilities. The project is architecting, reengineering, streamlining and consolidating HQDA systems, feeder data base systems, and streamlining the associated processes. These improvements will improve capability eliminate redundancies and reduce overall cost of operations. The PPB BOS project is complementary to the Army's General Fund Enterprise Business System (GFEBS) program.

The Law Enforcement Advisory Program (LEAP), formerly known as the Criminal Information Management System (CIMS), is a collection of mission essential information technology (IT) systems within the Criminal Investigation Command (CIDC) and the Office of the Provost Marshal General (OPMG). USACIDC and OPMG has been tasked by the Army Health Promotion/Risk Reduction (HP/RR) task force to develop and integrate a unified, comprehensive enterprise program / system that shall house Classified and Unclassified - Law Enforcement Sensitive (LES) data which shall leverage existing and future Army LE enterprise information technology (IT) assets and other external data sources providing a full range of law enforcement functions to support business objectives and mission. This new comprehensive enterprise environment shall provide US Army LE stakeholders the enhanced capability to rapidly and efficiently manage a variety of LE and criminal intelligence (CrimIntel) functions; as well as a broader range of senior executive reporting requirements.

The Laboratory Information Management System (LIMS) is a web-based software system used at the United States Army Criminal Investigation Laboratory (USACIL) at Fort Gillem, GA for the management of casework and tracking of all evidence received and processed. The USACIL requires RDT&E funding to complete the configuration, installation and validation of additional LIMS modules in support of forensics (to include the Materials Management, Equipment Management, Proficiency

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>
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Testing, Training and Crime Scene support); and, to support the development, configuration and implementation of an Expeditionary Forensics Laboratory Information Management System (eLIMS) in theater. The eLIMS is the conduit between the deployed labs and the laboratory located at Ft. Gillem. The eLIMS would provide the forensic analysts with the ability to collect, track, store and analyze evidence collected from battlefield crime scenes at required competency levels of testing and calibration. It will allow the results to be electronically maintained and transmitted to the permanent physical lab at Ft. Gillem, Ga. In addition, the system would afford the analysts electronic access to shared case management and evidence databases at the LAB from their deployed positions. At the current configuration of LIMS from CONUS locations, transmission of case related information can be processed in real time; however, transmission of case related information in theater takes approximately 1-2 hours. If requirements are not funded, the USACIL will not be able to complete and implement the additional forensic modules for the core LIMS or develop and implement the eLIMS for the deployable labs. The stated objective will be delayed, resulting in a less than efficient process for handling of cases in theater and an inability to meet acceptable levels of turnaround time for casework.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Army Business System Modernization Initiatives</p> <p style="text-align: right;">Articles:</p> <p>Description: The Army Human Resources Command (HRC) modernization requirements will add new capabilities to legacy IT systems that support human resource functions such as organization and position management, training, and employment. The PPB BOS system standardize and integrate the transactional information systems used in the Headquarters Department of Army (HQDA) Programming and Budgeting processes. The program is streamlining programming and budgeting business processes and significantly improving strategic analysis capabilities. The PPB BOS architecture reengineers, streamlines, and consolidates HQDA systems and financial feeder systems; aligns to the DoD Business Enterprise Architecture (BEA); implements powerful business intelligence analytical tools to support strategic planning, programming, and budgeting within HQDA; and provides access to GFEBS funds management and execution data through system interfaces with required SFIS compliancy integral to the PPB BOS data model. The LEAP program will provide criminal intelligence querying and reporting capabilities in compliance with regulatory and policy standards for Army Law Enforcement regarding investigation of felony crimes. LEAP will captures criminal case investigative information regarding incidents, location descriptors, entities (name, social security number, rank, title, physical characteristics, sex, birth place, and date), agent assignment, crime description and identifiers, statements, property data, laboratory tests; verifies and stores this data for criminal intelligence purposes: and reports this information to the proper authorities from the Division Commanding Officer to the United States Grand Jury. The system will extract necessary data for consolidation and input to Defense Incident-Based Reporting System (DIBRS) monthly reports, National Incident-Based Reporting System (NIBRS) monthly reports and the Defense Clearance and Investigations Index (DCII) daily updates. The LIMS system will automate business processes that support the forensic examiners. These processes include, but are not limited to, analytics, materials management, management reporting, Freedom of Information Act requests (FOIA), legal discovery request, court preparation and outsource processing.</p> <p>FY 2011 Accomplishments:</p>	<p>5.836</p> <p>0</p>	<p>6.093</p> <p>0</p>	<p>26.217</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Continued deployment and final fielding of the enterprise-level PPB BOS application throughout HQDA and the transfer of budget data to the Army's financial enterprise resource system, the General Fund Enterprise Business System. Field the full operating capability of the Army Mapper system, which is the Army Geospatial data base of record and the HQDA repository for all Installation & Environment related geo-spatial data systems. FY 2012 Plans: Complete development of the enterprise-level PPB BOS application throughout HQDA and the transfer of budget data to the Army's financial enterprise resource system, the General Enterprise Business System. Start the development, configuration, and implementation of the Law Enforcement Advisory Program (LEAP) and the Laboratory Information Management System (LIMS) to support the administrative requirements for law enforcement management within the Criminal Investigation Command (CICD). Army Human Resources Command will update and add new capabilities to several IT systems currently in sustainment, which includes the Army Selection Board system, the Officer Selection Support system, the Promotion Point Worksheet, and the Go Army Education system. FY 2013 Plans: Will continue deployment and final fielding of the enterprise-level PPB BOS application throughout HQDA and the transfer of budget data to the Army's financial enterprise resource system, the General Fund Enterprise Business System. Will field the full operating capability of the Army Mapper system, which is the Army Geospatial data base of record and the HQDA repository for all Installation & Environment related geo-spatial data systems.				
Accomplishments/Planned Programs Subtotals		5.836	6.093	26.217
C. Other Program Funding Summary (\$ in Millions) N/A				
D. Acquisition Strategy Modernize IT legacy systems across Army IT domains by adapting/improving government off the shelf (GOTS), commercial off the shelf (COTS), and new software development to perform various tasks in a networked environment. These efforts include the Enlisted Distribution and Assignment System (EDAS), Soldier Management System (SMS), the Army Strategic Readiness Update (ASRU), the Keystone Retain System, and the Interactive Personnel Electronic Records Management System (iPERMS), Law Enforcement Advisory Program (LEAP), the Laboratory Information Management System (LIMS), and the Program Planning Budget Execution (PPBE) - Business Operating System (BOS).				
E. Performance Metrics Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T05: <i>ARMY BUSINESS SYSTEM MODERNIZATION INITIATIVES</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
PRODUCT DEVELOPMENT FOR KEYSTONE RETAIN SYSTEM, i-PERMS PRODUCT DEVELOPMENT	MIPR	M&RA/G-1:ARLINGTON, VA	3.154	3.417		13.978		-		13.978	51.578	72.127	64.528	
PPBOS PRODUCT DEVELOPMENT	MIPR	OAA:FORT BELVOIR, VA	1.930	1.930		1.820		-		1.820	7.541	13.221	24.001	
Subtotal			5.084	5.347		15.798		-		15.798	59.119	85.348	88.529	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
IPPS-A SUPPORT COSTS	MIPR	HRC:FORT KNOX, KY	0.752	0.746		7.742		-		7.742	14.421	23.661	25.119	
Law Enforcement Advisory Program(LEAP)	MIPR	ACC/NCR:Quantico, VA	-	-		2.677		-		2.677	0.000	2.677	0.000	
Subtotal			0.752	0.746		10.419		-		10.419	14.421	26.338	25.119	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		5.836	6.093		26.217		-	26.217	73.540	111.686	113.648

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	58.348	68.628	158.646	-	158.646	144.625	141.794	140.475	122.691	Continuing	Continuing
HR5: <i>Integrated Personnel and Pay System-Army (IPPS-A)</i>	58.348	68.628	158.646	-	158.646	144.625	141.794	140.475	122.691	Continuing	Continuing

Note

Explanation of funding Changes between the FY 2012 President's Budget Position and the FY 2013 President's Budget Position.

FY 2013 RDT&E: \$104.678million Increase (+294%)

The funds increased due to the Army's commitment to fully funding the program for completion of Increment I development and integration, as well as initial system Design, Development, and Integration efforts associated with critical activities for Increment II, Release 2.0. The Increment II Releases require ramp-up efforts of the System Integrator in order to meet our current schedule of fielding capabilities every 12 months. Release 2.0 is twice the size of Increment I in terms of efforts required for development and integration.

A. Mission Description and Budget Item Justification

The Army Integrated Military Human Resources System (A-IMHRS) /Integrated Personnel and Pay System - Army (IPPS-A) provides the Army with an integrated, multi-Component, personnel and pay system which streamlines Army Human Resources (HR), enhances the efficiency and accuracy of Army personnel and pay procedures, and supports Soldiers and their families. A-IMHRS /IPPS-A will subsume approximately 56 Army legacy systems across the Army, Army Reserve, and National Guard, into an integrated system. A-IMHRS /IPPS-A will be a web-based tool, available 24 hours a day, accessible to HR professionals, combatant commanders, personnel and pay managers, and other authorized users throughout the Army. A-IMHRS/ IPPS-A addresses major deficiencies in the delivery of military personnel and pay services and also provides internal controls and audit procedures that prevent erroneous payments and loss of funds.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	100.500	68.693	53.968	-	53.968
Current President's Budget	58.348	68.628	158.646	-	158.646
Total Adjustments	-42.152	-0.065	104.678	-	104.678
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	104.678	-	104.678
• Other Adjustments 1	-42.152	-0.065	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	PROJECT HR5: <i>Integrated Personnel and Pay System-Army (IPPS-A)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
HR5: <i>Integrated Personnel and Pay System-Army (IPPS-A)</i>	58.348	68.628	158.646	-	158.646	144.625	141.794	140.475	122.691	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Please note the name of Army Integrated Military Human Resources System (A-IMHRS) has changed to Integrated Personnel and Pay System - Army (IPPS-A) effective 22 September 2010. IPPS-A more accurately identifies the program as the military personnel and pay solution for the Army.

A. Mission Description and Budget Item Justification

The Army Integrated Military Human Resources System (A-IMHRS) /Integrated Personnel and Pay System - Army (IPPS-A) provides the Army with an integrated, multi-Component, personnel and pay system which streamlines Army Human Resources (HR), enhances the efficiency and accuracy of Army personnel and pay procedures, and supports Soldiers and their families. A-IMHRS /IPPS-A will subsume approximately 56 Army legacy systems across the Army, Army Reserve, and National Guard, into an integrated system. A-IMHRS /IPPS-A will be a web-based tool, available 24 hours a day, accessible to HR professionals, combatant commanders, personnel and pay managers, and other authorized users throughout the Army. A-IMHRS/ IPPS-A addresses major deficiencies in the delivery of military personnel and pay services and also provides internal controls and audit procedures that prevent erroneous payments and loss of funds.

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

	FY 2011	FY 2012	FY 2013
Title: Analysis and Design, Development, and Integration of IPPS-A	58.348	68.628	158.646
Articles:	0	0	
Description: Funding is provided for the following efforts:			
FY 2011 Accomplishments:			
FY 2011 Accomplishments include the following: (1) Developed the Soldier's Record Brief prototype. (2) Approved the final Technical Architecture Specification Document describing the overall technical architecture of the IPPS-A data centers. (3) Developed new Acquisition Strategy options based on modular development and delivery of IPPS-A capabilities. (4) Completed initial sessions of Foundation Fit/Gap and the System/Sub-system Specifications (S/SS) statements for the Foundation and Acquire Lifecycles. (5) Received approval of Functional Baseline 1.3 and Allocated Baseline 1.0. (6) Decomposed approximately 7,500 S/SS and System Requirements Specifications (SyRS) Statements which were reviewed for testability and supportability. (7) Developed Interface Requirements Statements (IRS). (8) Initiated data mapping and conversion for field systems. (9) Completed eight business processes related to initial operations activities, production, payroll certification, and personnel data. (10) Developed Performance Work Statement and solicitation package for Increment I development contract. (11) Prepared required acquisition documentation for Increment I to include approval of the Acquisition Strategy. (12) Obtained Acquisition			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	PROJECT HR5: <i>Integrated Personnel and Pay System-Army (IPPS-A)</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Decision Memorandum (ADM) for IPPS-A Increment I to enter the Engineering and Manufacturing Development (EMD) phase of the acquisition life-cycle. FY 2012 Plans: A-IMHRS/IPPS-A will engage in multiple activities related to system development and deployment of Increment I, including the Design, Development and Integration for Increment I, build-out of the Production environment and data centers, deployment planning, data conversion, interface conversion, security planning, reports and queries, and development of all Increment I Milestone C documentation. Lastly, A-IMHRS/IPPS-A will prepare all the required acquisition documentation in support of a Milestone B decision for Increment II; and development of the Performance Work Statement and solicitation package for the Increment II System Integrator contract. FY 2013 Plans: A-IMHRS/IPPS-A will complete critical activities associated with Government Acceptance and Operational Testing which will lead to a Full Deployment Decision for Increment I in Q2 FY2013 and begin deployment and sustainment in Q3 FY2013. A-IMHRS/IPPS-A will begin system Design, Development, and Integration efforts associated critical activities for Increment II, Release 2.0. The Increment II Releases require ramp-up efforts of the System Integrator in order to meet our current schedule of fielding capabilities every 12 months. Major activities will include finalization of the required acquisition documentation for a Full Deployment Decision for Increment II, Release 2.0; continuation of data management activities to include data call from legacy systems, data analysis, data cleansing, and data conversion; design and build out the system technical architecture for IPPS-A; and configure the Enterprise Resource Planning system against functional personnel specifications.			
Accomplishments/Planned Programs Subtotals	58.348	68.628	158.646

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Sustainment and Support: <i>OMA - Army Integrated Military Human Resources System (A-IMHRS)</i>							25.655	26.157	27.284	Continuing	Continuing
• System Implementation/Fielding: <i>OPA - Army Integrated Military Human Resources System (A-IMHRS)</i>			1.056		1.056		9.599	13.190	8.700	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	PROJECT HR5: <i>Integrated Personnel and Pay System-Army (IPPS-A)</i>

D. Acquisition Strategy

On September 8, 2009, the USD(AT&L) issued an Acquisition Decision Memorandum (ADM) directing the Services to develop Service-specific integrated personnel and pay systems (IPPSs). The ADM also directed the Services to use the DIMHRS IT Investment to the maximum extent practical to develop their IPPS from a DoD program to a Service-specific program. As a result of this decision, on October 1, 2009, the DoD Business Transformation Agency (BTA) began to transition the work done on DIMHRS to the Services. The Army G-1 and Program Executive Office Enterprise Information Systems (PEO EIS) are partnered to develop the Integrated Personnel and Pay System - Army (IPPS-A), leveraging the IT investment to the maximum extent practical. This new direction for the program will ensure the system meets Army specific requirements while also feeding a planned DoD Enterprise Data Warehouse to satisfy joint Services and Office of the Secretary of Defense (OSD) information requirements. The Army will address personnel and pay management requirements by implementing a COTS Enterprise Resource Planning (ERP) product using the Oracle PeopleSoft software and building on the DIMHRS solution delivered by BTA.

The Army will employ a hybrid solution using ERP software and Agile Development to deliver integrated personnel and pay capabilities, capitalizing on the PeopleSoft product delivered by BTA as part of the DIMHRS program. The Army plans to use current Army upgraded PeopleSoft 9.1 ERP and Oracle 11g database capabilities, along with Application Technologies outside of the core ERP to meet user requirements.

IPPS-A will be developed in two Increments with multiple releases. The Army will employ 18-24 month development cycles for each release which is consistent with the Business Capability Lifecycle (BCL) guidance, with the goal of fielding capabilities every 12 months. Increment II acquisition documentation will follow BCL guidance in accordance with Directive Type Memorandum (DTM) 11-009, Acquisition Policy for Defense Business Systems (DBS). Increment I will provide a multi-component Trusted Database with single record for all Army Soldiers. Fielding of Increment I will lay the foundation for the authoritative database in Increment II and will allow for development of Increment II functionalities. Increment I will build out the infrastructure to provide Increment II with the ability to support all three Army components with accurate and timely data needed to track the movement of Active, Reserve, and National Guard personnel from location to location in support of operational requirements. Increment II will be able to link the personnel and pay functions for all Army personnel eliminating duplicate data entry, reducing complex system maintenance, and minimizing pay discrepancies. IPPS-A will account for status changes between Active, Reserve, and National Guard components to ensure accurate service time minimizing impact on individual pay, credit for service, and other benefits as well as enable disciplined human resource management. On July 29, 2011, the Deputy Chief Management Officer (DCMO) granted an ADM for IPPS-A Increment I to enter the Engineering and Manufacturing Development (EMD) phase of the acquisition life-cycle; the Army anticipates approval of a Defense Acquisition Milestone (MS) C in Q1 FY 2013.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	PROJECT HR5: <i>Integrated Personnel and Pay System-Army (IPPS-A)</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Contract Support	C/T&M	Booz Allen Hamilton INC.:McLean, VA	2.669	2.780		2.891		-		2.891	Continuing	Continuing	Continuing
Independent Verification and Validation (IV&V)	C/T&M	Capgemini Government Solutions LLC:Herndon, VA	1.962	0.672		3.340		-		3.340	Continuing	Continuing	Continuing
In-house Government Management Support	Various	Program oversight, resource justification, budget and programming, milestone and schedule tracking:Alexandria, VA	3.749	3.824		4.988		-		4.988	Continuing	Continuing	Continuing
Subtotal			8.380	7.276		11.219		-		11.219			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Licenses - All Others	SS/FP	Various:Various	1.265	2.885		6.077		-		6.077	Continuing	Continuing	Continuing
Software Licenses - IBM	SS/FFP	Immixtechnology, INC.:McLean, VA	3.396	1.948		1.948		-		1.948	Continuing	Continuing	Continuing
Software Licenses - GRC	C/FFP	Mythics:Virginia Beach, VA	4.296	0.773		0.784		-		0.784	Continuing	Continuing	Continuing
Software Licenses - PeopleSoft Enterprise Licenses	SS/FFP	Oracle America, INC:Reston, VA	2.327	2.327		2.327		-		2.327	Continuing	Continuing	Continuing
Software Licenses - CA	SS/FFP	ImmixTechnology:McLean, VA	1.193	0.800		0.810		-		0.810	Continuing	Continuing	Continuing
Software Licenses - Actuate eReport	SS/FFP	Actuate Corp:San Mateo, CA	-	1.200		0.600		-		0.600	Continuing	Continuing	Continuing
Oracle Consulting Service	TBD	TBD:TBD	-	-		3.000		-		3.000	Continuing	Continuing	Continuing
In-house contract support of system development	C/T&M	Booz Allen Hamilton INC:McLean, VA	11.384	11.679		17.330		-		17.330	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	PROJECT HR5: <i>Integrated Personnel and Pay System-Army (IPPS-A)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
In-house contract support of system development - Army National Guard/Army Reserve	MIPR	Various:Various	2.614	3.460		10.300		-		10.300	Continuing	Continuing	Continuing
Design, Development, and Integration - Increment I	C/CPIF	TBD:TBD	-	13.415		14.434		-		14.434	0.000	27.849	27.849
Design, Development, and Integration of Increment II	C/CPIF	TBD:TBD	-	-		62.160		-		62.160	Continuing	Continuing	Continuing
Design, Development, and Integration	C/CPAF	Northrop Grumman Information Technology:Mclean, VA	16.070	-		-		-		-	0.000	16.070	16.070
Network Support/Production Hosting Services/Hardware Leasing (SLAs)	MIPR	Network support from various activities:Various	2.351	15.360		15.667		-		15.667	Continuing	Continuing	Continuing
Subtotal			44.896	53.847		135.437		-		135.437			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Facilities/Lease/Rents	MIPR	Facilities/Lease/Rents:Various	2.720	2.030		2.060		-		2.060	Continuing	Continuing	Continuing
Army Taxes	Allot	Army Taxes:N/A	2.152	3.435		7.850		-		7.850	0.000	13.437	13.437
Equipment and Supplies, MISC	Various	Various:Various	0.200	0.200		0.200		-		0.200	Continuing	Continuing	Continuing
Subtotal			5.072	5.665		10.110		-		10.110			

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	PROJECT HR5: <i>Integrated Personnel and Pay System-Army (IPPS-A)</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Prep./Analysis	██████████																											
Matériel Development Decision (MDD) - Increment I				██																								
Increment I, Release 1.0 - Trusted Database and Reports					██████████																							
Design, Development, and Integration					██████████																							
GAT/OT&E									██████████																			
Milestone C - Release 1.0									██																			
Full Deployment Decision (FDD) - Increment I									██																			
Milestone B (MS B) - Increment II									██																			
Increment II, Release 2.0 - Accountability									██████████																			
Milestone C - Release 2.0													██															
Milestone for Deployment - Release 2.0													██															
Increment II, Release 3.0 - Essential Personnel Service													██████████															
Milestone C - Release 3.0													██															
Milestone for Deployment - Release 3.0													██															
Increment II, Release 4.0 - Pay Service													██████████															
Milestone C - Release 4.0																	██											
Milestone for Deployment - Release 4.0																	██											
Increment II, Release 5.0 - Personnel Service																	██████████											
Milestone C - Release 5.0																					██							
Milestone for Deployment - Release 5.0																					██							

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	PROJECT HR5: <i>Integrated Personnel and Pay System-Army (IPPS-A)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Prep./Analysis	2	2011	2	2012
Materiel Development Decision (MDD) - Increment I	4	2011	4	2011
Increment I, Release 1.0 - Trusted Database and Reports	2	2012	2	2013
Design, Development, and Integration	2	2012	1	2013
GAT/OT&E	1	2013	2	2013
Milestone C - Release 1.0	1	2013	1	2013
Full Deployment Decision (FDD) - Increment I	2	2013	2	2013
Milestone B (MS B) - Increment II	1	2013	1	2013
Increment II, Release 2.0 - Accountability	1	2013	3	2014
Milestone C - Release 2.0	1	2014	1	2014
Milestone for Deployment - Release 2.0	3	2014	3	2014
Increment II, Release 3.0 - Essential Personnel Service	1	2014	3	2015
Milestone C - Release 3.0	1	2015	1	2015
Milestone for Deployment - Release 3.0	3	2015	3	2015
Increment II, Release 4.0 - Pay Service	1	2015	3	2016
Milestone C - Release 4.0	1	2016	1	2016
Milestone for Deployment - Release 4.0	3	2016	3	2016
Increment II, Release 5.0 - Personnel Service	1	2016	3	2017
Milestone C - Release 5.0	1	2017	1	2017
Milestone for Deployment - Release 5.0	3	2017	3	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>			PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	71.760	126.895	10.000	-	10.000	10.000	9.780	-	-	Continuing	Continuing
JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>	71.760	126.895	10.000	-	10.000	10.000	9.780	-	-	Continuing	Continuing

Note

FY11 - The Army decision to restructure the program to continue the JAGM Technology Development Phase has resulted in the EMD Contract not being awarded.
 FY11 (-49,700) - JAGM Reprogramming Action, Omnibus 2011, DoD Serial Number FY 11-21 PA
 FY13 (-126,284) - Continuation of the JAGM Program Technology Development Phase.

A. Mission Description and Budget Item Justification

The Joint Air-to-Ground Missile (JAGM) is an air-launched missile system that provides the Joint warfighter advanced targeting capabilities beyond currently fielded legacy missile variants. The funding allows continuation of the Technology Development phase to focus on affordability and risk reduction prior to additional investment in the Engineering and Manufacturing Development phase.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	130.340	127.095	136.284	-	136.284
Current President's Budget	71.760	126.895	10.000	-	10.000
Total Adjustments	-58.580	-0.200	-126.284	-	-126.284
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.291	-			
• SBIR/STTR Transfer	-3.788	-			
• Adjustments to Budget Years	-	-	-126.284	-	-126.284
• Other Adjustments 1	-0.801	-	-	-	-
• Other Adjustments 2	-49.700	-	-	-	-
• Other Adjustments 3	-	-0.200	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	PROJECT JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>	71.760	126.895	10.000	-	10.000	10.000	9.780	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Joint Air-to-Ground Missile (JAGM) is an air-launched missile system that provides the Joint warfighter advanced targeting capabilities beyond currently fielded legacy missile variants. The funding allows continuation of the Technology Development phase to focus on affordability and risk reduction prior to additional investment in the Engineering and Manufacturing Development phase.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Software Simulation Algorithm Maturity</p> <p align="right">Articles:</p> <p>Description: The program will use a Modeling and Simulation (M&S) strategy that provides an Integrated Flight Simulation (IFS), a software test station, and a high fidelity hardware in the loop simulation facility.</p> <p>FY 2011 Accomplishments: The IFS results were used for analysis in support of the JAGM AOA conducted by TRAC, sensitivity studies in support of CAIV analysis for millimeter wave performance, and common scene generation updates.</p>	6.297 0	-	-
<p>Title: Technology Development Phase Exit Criteria</p> <p align="right">Articles:</p> <p>Description: The JAGM Product Management Office are developing exit criteria appropriate to the next phase or effort of the program. The OIPT will review the proposed exit criteria and make a recommendation to the Milestone Decision Authority.</p> <p>FY 2011 Accomplishments: Completing JAGM regulatory and statutory documentation in support of TD exit criteria and Source Selection Evaluation Board (SSEB) closeout.</p>	5.047 0	-	-
<p>Title: Development Activities for Subsystem Design</p> <p align="right">Articles:</p>	34.911 0	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	PROJECT JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Description: The JAGM prime contractors, with government oversight, will initiate major component subsystem design reviews and testing activities.</p> <p>FY 2011 Accomplishments: The JAGM Product Management Office is initiating Cost as An Independent Variable (CAIV) trades in support of an extended Technology Development Phase.</p>				
<p>Title: Continued Technology Development Phase</p> <p>Articles:</p>		25.505 0	-	-
<p>Description: The Technology Development phase will design, build, test and demonstrate seekers from both contractors to validate that both the seeker capabilities and affordability meet user requirements.</p> <p>FY 2011 Accomplishments: Develop and provide demonstration of an improved capabilities over legacy laser missiles (countermeasure, adverse weather, UAS lethality against HVT and Fire & Forget).</p>				
<p>Title: Delta PDR and Component Qualification</p> <p>Articles:</p>		-	55.105 0	-
<p>Description: A cornerstone of the extended TD phase includes completing all component qualifications and performing a cost analysis on requirements prior to entering CDR. Component qualification will give the JAGM program confidence in the JAGM system's design maturity and reduce risk for the subsystem qualification phase and pilot production line activities.</p> <p>FY 2012 Plans: Conduct component affordability analysis, order hardware, and initiate component qualification efforts.</p>				
<p>Title: Engineering Design Review & Subsystem Qualification</p> <p>Articles:</p>		-	47.803 0	-
<p>Description: Complete detailed engineering design and development activities to support component and subsystem design reviews, and initiate subsystem qualification testing with emphasis on affordability.</p> <p>FY 2012 Plans: Purchase subsystem hardware and initiate component and subsystem design reviews, testing, and platform integration activities.</p>				
<p>Title: Integrated Baseline Review (IBR)</p> <p>Articles:</p>		-	3.845 0	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	PROJECT JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>Description: JAGM Product Office and Prime Contractor will review the entire TD affordability objectives and technical scope of work (SOW) . The JAGM IBR team and prime will develop and implement the technical plan. This will lead to an assessment of JAGM technical risk and allocation of resources necessary to meet the technical requirements within the schedule.</p> <p>FY 2012 Plans: JAGM IBR team conducts Performance Measurement Baseline reviews. The reviews will tracks to the Budgeted Cost of Work Scheduled. The team will conduct reviews with the prime contractors.</p>			
<p>Title: Sub-System Qualification</p> <p align="right">Articles:</p> <p>Description: The JAGM PO will initiate subsystem performance and qualification testing of the JAGM missile subsystem and performance verification of the system.</p> <p>FY 2012 Plans: The JAGM Product Office will support affordability performance and qualification testing at the subsystem level.</p>	-	20.142 0	-
<p>Title: Affordability Activities to Support Critical Design Review (CDR)</p> <p>Description: During the 27-month TD phase affordability extension, the JAGM Product Office will complete all major component subsystem design reviews, testing, and platform affordability activities.</p> <p>FY 2013 Plans: The Product Management Office continues affordability design delta verification testing and component qualification testing leading to an Affordability Design Review and Army Configuration Steering Boards (CSB).</p>	-	-	10.000
Accomplishments/Planned Programs Subtotals	71.760	126.895	10.000

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0605450N: <i>Navy RDTE</i>	80.911	108.395								Continuing	Continuing

D. Acquisition Strategy

The JAGM program is a restructured pre Major Defense Acquisition Program (MDAP) Army led effort to reduce risk and increase affordability through continuation of the Technology Development phase. The JAGM system is a common air-to-ground precision guided missile for use by Joint Service manned and unmanned aircraft. The JAGM program will extend the Technology Development (TD) Phase 27 months to address affordability and reexamine requirements with the warfighter. The

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>

continued TD Phase will include a delta-Preliminary Design Review (PDR), developmental testing, qualification, and design reviews of the guidance section, and U.S. Government led all-up round qualification. After the completion of the design reviews in FY13, a Configuration Steering Board will be held to review capabilities desired for the first JAGM increment developed and fielded in the Engineering and Manufacturing Development phase. At the conclusion of all qualification testing, the JAGM Program will conduct government controlled ground flight testing to validate all up round integration. The government plans to award two fixed-priced contracts to the both prime contractors from the previous TD Phase that concluded in December 2010.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	PROJECT JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Eng/ Project Management	C/FP	Various:Performers	22.633	7.520		4.740		-		4.740	0.000	34.893	0.000
Subtotal			22.633	7.520		4.740		-		4.740	0.000	34.893	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TD Prime Contract	C/CPIF	TD:Prime Contract	271.113	98.436		-		-		-	0.000	369.549	0.000
Support Contracts	C/FP	Various:Performers	25.232	7.542		-		-		-	0.000	32.774	0.000
Development Engineering	C/FP	Various:Performers	15.135	5.165		3.428		-		3.428	0.000	23.728	0.000
Subtotal			311.480	111.143		3.428		-		3.428	0.000	426.051	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Gov Agencies	C/FP	Various:Performers	13.063	8.232		1.832		-		1.832	0.000	23.127	0.000
Subtotal			13.063	8.232		1.832		-		1.832	0.000	23.127	0.000

			Total Prior Years Cost	FY 2012		FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			347.176	126.895		10.000	-	10.000	0.000	484.071	0.000

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	PROJECT JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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								■																				
Test Events																												
Milestone Decision																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>	PROJECT JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Contract Award	4	2012	4	2012
Test Events	3	2013	4	2014
Milestone Decision	4	2014	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0605455A: <i>SLAMRAAM</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	18.358	1.529	-	-	-	-	-	-	-	Continuing	Continuing
S35: <i>SLAMRAAM</i>	18.358	1.529	-	-	-	-	-	-	-	Continuing	Continuing

Note

This program Element was reduced to fund higher Department of the Army priorities.

A. Mission Description and Budget Item Justification

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

The Army's Air and Missiles Defense (AMD) portfolio assessment of the cost-effectiveness of SLAMRAAM capabilities versus competing priorities for capability investments within the AMD portfolio led to an Army recommendation to conduct an orderly conclusion of the SLAMRAAM program. The program will complete prototypes and vehicle integration, developmental testing, limited user testing and demonstrations but will not go into production. The prototypes will allow for provision of an Emergency Operational Capability if required. At the direction of the Under Secretary of the Army, Program Executive Officer (PEO), Missiles and Space, in coordination with the Army stakeholders, will conduct an analysis within existing funds to assist the development of an executable modernization/mitigation strategy that considers legacy systems.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	23.700	19.931	-	-	-
Current President's Budget	18.358	1.529	-	-	-
Total Adjustments	-5.342	-18.402	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.500	-			
• SBIR/STTR Transfer	-0.705	-			
• Other Adjustments 1	-0.137	-18.402	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>	PROJECT S35: <i>SLAMRAAM</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
S35: <i>SLAMRAAM</i>	18.358	1.529	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

Note

This is the new SLAMRAAM program element for RDTE. All prior year information is located in PE 0604802A (S23).

A. Mission Description and Budget Item Justification

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

The Army's Air and Missiles Defense (AMD) portfolio assessment of the cost-effectiveness of SLAMRAAM capabilities versus competing priorities for capability investments within the AMD portfolio led to an Army recommendation to conduct an orderly conclusion of the SLAMRAAM program. The program will conclude testing activities, finalize safety reports and technical manuals, document the EOC support plan, prepare the prototypes and place them in long term storage, oversee the delivery of the Technical Data Package, archive essential program documents and data, and close out the SLAMRAAM contract and Product office. The prototypes will allow for provision of an Emergency Operational Capability, if required.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Development Testing/Operational Testing and Modeling and Simulation for FY11</p> <p style="text-align: right;">Articles:</p> <p>Description: This element includes contractor and government test and evaluation costs.</p> <p>FY 2011 Accomplishments: Execution of operational testing (Limited User Testing (LUT)), logistics and maintenance demonstration, developmental testing of prime items to support component qualification. Perform technical assessments of capability gap and mitigation options.</p>	5.210 0	-	-
<p>Title: Product Development - Engineering and Manufacturing Development (EMD) phase contract activities.</p> <p style="text-align: right;">Articles:</p> <p>Description: Continue EMD phase contract activities.</p> <p>FY 2011 Accomplishments:</p>	5.837 0	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>	PROJECT S35: <i>SLAMRAAM</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>Conduct Physical Configuration Audit (PCA) and Functional Configuration Audit (FCA) in support of the program close out review with the Milestone Decision Authority. Execution of operational testing (Limited User Testing (LUT)), logistics and maintenance demonstration, developmental testing of prime items to support component qualification. Perform technical assessments of capability gap and mitigation options.</p> <p>Title: System Engineering/Program Management (SE/PM)</p> <p style="text-align: right;">Articles:</p> <p>Description: CMDS Project Office cost for execution of project management activities to include government lead for execution program close-out activities. This includes government labor, contractor labor and operating expenses.</p> <p>FY 2011 Accomplishments: Government PM execution of Engineering and Manufacturing (EMD) activities to support restoring prototypes to 10/20 maintenance standards, redesign and qualification of line replaceable units and conduct of physical configuration audit and functional configuration audit. Perform technical assessments of capability gap and mitigation options.</p> <p>FY 2012 Plans: Government PM execution of Engineering and Manufacturing (EMD) activities to support completion of the restoring prototypes to 10/20 maintenance standards, audit and program close-out activities. Perform technical assessments of capability gap and mitigation options.</p>	4.330 0	1.529 0	-
<p>Title: Close Out (Contract, Facilities, Disposition)</p> <p style="text-align: right;">Articles:</p> <p>Description: Disposition equipment and shutdown facilities. Shutdown Product Office (personnel, MOAs/MOUs)</p> <p>FY 2011 Accomplishments: Estimated funding to complete the disposition of equipment and close-out of personnel and facilities. Perform technical assessments of capability gap and mitigation options.</p>	2.981 0	-	-
Accomplishments/Planned Programs Subtotals	18.358	1.529	-

C. Other Program Funding Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0604869A: <i>Proj MO6, Patriot/MEADS Combined Aggregate Program (CAP)</i>	450.584	389.630	400.861		400.861					Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>	PROJECT S35: <i>SLAMRAAM</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0605456A: <i>Project PA3, PAC-3/MSE Missile</i>	121.475	88.909	69.029		69.029		130.348	63.975	65.771	Continuing	Continuing
• SSN C53101: <i>MSE Missile</i>		74.953	12.850		12.850		505.084	596.387	566.757	Continuing	Continuing
• PE 0102419A: <i>Proj E55, JLENS</i>	399.477	327.338	190.422		190.422		32.480	24.130	24.612	Continuing	Continuing
• PE 0605455A: <i>Proj S35, SLAMRAAM</i>	18.358	1.529								Continuing	Continuing
• SSN C81002: <i>SLAMRAAM Launcher</i>	2.355									Continuing	Continuing
• PE 0604319A: <i>Proj DU3, IFPC2 (FY 2012/2012 PE0603305A IFPC II- Intercept)</i>	4.143	9.269	76.039		76.039		122.355	146.463	151.769	Continuing	Continuing
• SSN WK5053: <i>FAAD GBS</i>	258.413	3.958	7.980		7.980					Continuing	Continuing
• PE 0605457A: <i>Proj, S40, Army Integrated Air and Missile Defense (AIAMD)</i>	246.691	270.180	262.211		262.211		394.260	210.580	135.072	Continuing	Continuing
• SSN BZ5075: <i>Army IAMD Battle Command System (IBCS)</i>							103.453	281.828	426.582	Continuing	Continuing
• PE 0208053: <i>Proj 635, JOINT TACT GRD STATION-P3I (MIP)</i>	12.005	27.586	31.738		31.738		8.006	8.134	8.314	Continuing	Continuing
• SSN BZ8401: <i>Joint Tactical Ground Station (JTAGS)</i>	9.227	1.199	2.680		2.680		4.432	4.496	4.768	Continuing	Continuing
• PE 0604820A: <i>Proj E10, SENTINEL</i>		2.885	3.486		3.486		1.948	2.972	3.022	Continuing	Continuing

D. Acquisition Strategy

System Development and Demonstration (SDD) contract was awarded in 2nd Quarter FY 2004 and CLIN 001 was completed in Oct 2009. The SLAMRAAM program has been restructured to a FMTV platform. Furthermore, SLAMRAAM has a new Program Element for RDTE beginning in FY 2011 (S35). All prior SLAMRAAM activities are under PE Number 0604802A/S23.

The Army's Air and Missiles Defense (AMD) portfolio assessment of the cost-effectiveness of SLAMRAAM capabilities versus competing priorities for capability investments within the AMD portfolio led to an Army recommendation to conduct an orderly conclusion of the SLAMRAAM program. The program will conclude testing activities, finalize safety reports and technical manuals, document the EOC support plan, prepare the prototypes and place them in long term storage, oversee the

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0605455A: <i>SLAMRAAM</i>	S35: <i>SLAMRAAM</i>

delivery of the Technical Data Package, archive essential program documents and data, and close out the SLAMRAAM contract and Product office. The prototypes will allow for provision of an Emergency Operational Capability, if required.

E. Performance Metrics

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

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
2040: <i>Research, Development, Test & Evaluation, Army</i>			PE 0605456A: <i>PAC-3/MSE MISSILE</i>								
BA 5: <i>Development & Demonstration (SDD)</i>											
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	121.475	88.909	69.029	-	69.029	69.175	130.348	63.975	65.771	Continuing	Continuing
PA3: <i>PAC-3/MSE MISSILE</i>	121.475	88.909	69.029	-	69.029	69.175	130.348	63.975	65.771	Continuing	Continuing

Note

\$31.442 million adjustment in FY 2013 reflects revised test and evaluation efforts.

A. Mission Description and Budget Item Justification

This system is an integral part of the overall Air and Missile Defense (AMD) architecture and will provide for an incrementally fielded Integrated Air and Missile Defense Fire Control System/capability for the composite Army Air and Missile Defense Battalions.

The Patriot Advanced Capability 3 (PAC-3) is the evolution of the phased material change improvement to Patriot. It is continuously being improved via hardware and software changes to provide enhanced performance across the spectrum for system and threat intercept performance. The latest missile improvement is the Missile Segment Enhancement (MSE). It is being developed by the U.S. for Patriot to meet the U.S. operational requirements. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of Patriot systems. The MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded software, and insensitive munitions improvements. System testing will continue as software and hardware improvements are developed.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	62.500	88.993	37.587	-	37.587
Current President's Budget	121.475	88.909	69.029	-	69.029
Total Adjustments	58.975	-0.084	31.442	-	31.442
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	61.200	-			
• SBIR/STTR Transfer	-1.860	-			
• Adjustments to Budget Years	-	-	31.442	-	31.442
• Other Adjustments 1	-0.365	-0.084	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
PA3: <i>PAC-3/MSE MISSILE</i>	121.475	88.909	69.029	-	69.029	69.175	130.348	63.975	65.771	Continuing	Continuing
Quantity of RDT&E Articles											

Note

From FY 2006 through FY 2010, this system was funded under the PATRIOT/MEADS Combined Aggregate Program (CAP) program element: 0604869A.

A. Mission Description and Budget Item Justification

This system is an integral part of the overall Air and Missile Defense (AMD) architecture and will provide for an incrementally fielded Integrated Air and Missile Defense Fire Control System/capability for the composite Army Air and Missile Defense Battalions.

The Patriot Advanced Capability 3 (PAC-3) is the evolution of the phased material change improvement to Patriot. It is continuously being improved via hardware and software changes to provide enhanced performance across the spectrum for system and threat intercept performance. The latest missile improvement is the Missile Segment Enhancement (MSE). It is being developed by the U.S. for Patriot to meet the U.S. operational requirements. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of Patriot systems. The MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded software, and insensitive munitions improvements. System testing will continue as software and hardware improvements are developed.

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

	FY 2011	FY 2012	FY 2013
Title: MSE PAC-3	62.140	6.000	3.998
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments: MSE specific qualification activities to include Solid Rocket Motor (SRM), Ignition Safety Device (ISD), canister, Functional Configuraton Audit (FCA). and completion of Guided Test Flight 2 (GTF-2), and MSE corrective action upgrade for future follow-on qualification activities.			
FY 2012 Plans: Continues MSE upgrade and qualification activities.			
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
MSE specific qualification activities to include Solid Rocket Motor (SRM), Ignition Safety Device (ISD), canister, Functional Configuration Audit (FCA), and completion of Guided Test Flight 2 (GTF-2), and MSE corrective action upgrade for future follow-on qualification activities.				
<p>Title: Program integration efforts</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Implementation of common redesign program integration efforts to support PAC-3/MSE missile improvements for initiation and completion of US operational needs.</p> <p>FY 2012 Plans: Integration of PAC-3 modernization hardware items in support of MSE follow-on flight tests (task 7.4 and 7.5) and MSE ground system integration/software.</p> <p>FY 2013 Plans: Integration of PAC-3 modernization hardware items in support of MSE follow-on flight tests (task 7.4 and 7.5) and MSE ground system integration/software.</p>		<p>32.735</p> <p>Articles: 0</p>	<p>40.009</p> <p>0</p>	<p>24.531</p>
<p>Title: Testing, targets, and modeling and simulation</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: White Sands Missile Range (WSMR) Engineering support, hardware and set-up of test activities to prove out test readiness.</p> <p>FY 2012 Plans: Modeling and simulation, and MSE follow-on test.</p> <p>FY 2013 Plans: Range support for LFTE, modeling and simulation, and MSE follow-on test.</p>		<p>26.600</p> <p>Articles: 0</p>	<p>42.900</p> <p>0</p>	<p>40.500</p>
Accomplishments/Planned Programs Subtotals		121.475	88.909	69.029

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0604869A: <i>PE 0604869A, Proj M06, PATRIOT/MEADS Combined Aggregate Program (CAP)</i>	450.584	389.630	400.861		400.861					Continuing	Continuing
• SSN C53101: <i>SSN C53101, MSE Missile</i>		74.953	12.850		12.850		505.084	596.387	566.757	Continuing	Continuing
• PE 0102419A: <i>PE 0102419A, Proj E55, JLENS</i>	399.477	327.338	190.422		190.422		32.480	24.130	24.612	Continuing	Continuing
• PE 0605455A: <i>PE 0605455A, Proj 35 SLAMRAAM</i>	18.358	1.529								Continuing	Continuing
• SSN C81002: <i>SSN C81002, SLAMRAAM Launcher</i>	2.355									Continuing	Continuing
• PE 0604319A: <i>PE 0604319A, Proj DU3, IFPC II - Intercept</i>	4.143	9.269	76.039		76.039		122.355	146.463	151.769	Continuing	Continuing
• SSN WK5053: <i>SSN WK5053, FAAD GBS</i>	258.413	3.958	7.980		7.980					Continuing	Continuing
• PE 0605457A: <i>PE 0605457A, Proj S40 Army Integrated Air and Missile Defense (AIAMD)</i>	246.691	270.180	262.211		262.211		394.260	210.580	135.072	Continuing	Continuing
• SSN BZ5075: <i>SSN BZ5075, Army IAMD Battle Command System (IBCS)</i>							103.453	281.828	426.582	Continuing	Continuing
• PE 0208053m: <i>PE 0208053m Proj 635, Joint Tact Grd Station-P3I (MIP)</i>	12.005	27.586	31.738		31.738		8.006	8.134	8.314	Continuing	Continuing
• SSN BZ8401: <i>SSN BZ8401, Joint Tactical Ground Station (JTGS)</i>	9.227	1.199	2.680		2.680		4.432	4.496	4.768	Continuing	Continuing
• PE 0604820A: <i>PE 0604820A, Proj E10, SENTINEL</i>		2.885	3.486		3.486		1.948	2.972	3.022	Continuing	Continuing
• PE 654741A: <i>PE 654741A, Proj 126,146,149, Air Defense C2I Eng Dev</i>	139.662	82.932	73.333		73.333		18.058	18.676	20.049	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>

D. Acquisition Strategy

The design objective of the Patriot system is to provide an element of an integrated Ballistic Missile Defense system capable of being modified to cope with the evolving threat. This strategy minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. PAC-3 system development efforts further improve system capabilities against emerging and reactive threats. The PAC-3 Missile Program focuses on developing, fabricating and testing the high velocity, hit to kill, surface to air missile and associated ground support equipment to provide essential increases in battle space, accuracy, lethality and firepower to counter and destroy evolving air defense threats. The missile performance is demonstrated through a series of flight tests and modeling and simulation activities. The latest missile improvement is the PAC-3 MSE program which provides extended ranges, insensitive munitions enhancements, and greater logistical flexibility. The PAC-3 MSE will be fielded to Patriot units.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	Various:Huntsville, AL	1.003	1.003		1.003		-		1.003	Continuing	Continuing	Continuing
Subtotal			1.003	1.003		1.003		-		1.003			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Missile Segment Enhancement (MSE) - Lockheed Martin Missiles and Fire Control (LMMFC)	C/CPIF	LMMFC:Dallas, TX	62.140	6.000		3.998		-		3.998	Continuing	Continuing	Continuing
Program Integration	Various	Various:Huntsville, AL	17.607	20.870		6.443		-		6.443	Continuing	Continuing	Continuing
PAC-3 Product Office	Various	PO:Huntsville, Alabama	4.997	2.327		2.304		-		2.304	Continuing	Continuing	Continuing
MSE/PAC-3 Raytheon	Various	Raytheon:Waltham, Massachusetts	3.000	18.500		24.602		-		24.602	Continuing	Continuing	Continuing
SETA Contracts	Various	Various:Huntsville, AL	2.380	3.609		3.478		-		3.478	Continuing	Continuing	Continuing
U.S. Other Government Agencies (OGAs)	Various	Various:Huntsville, AL	3.748	6.200		6.201		-		6.201	Continuing	Continuing	Continuing
Subtotal			93.872	57.506		47.026		-		47.026			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Targets/Threat Simulators	Various	Various:Huntsville, AL	16.500	16.500		1.500		-		1.500	Continuing	Continuing	Continuing
Modeling and simulation	Various	Various:Huntsville, AL	1.900	1.700		1.000		-		1.000	Continuing	Continuing	Continuing
Contractor T&E funding	Various	Various:Huntsville, AL	3.100	3.700		5.150		-		5.150	Continuing	Continuing	Continuing
Other T&E Funding	Various	Various:Holloman AFB, NM	5.100	8.500		13.350		-		13.350	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PDB 7 Fielding - Modernized Adjunct Processor (MAP)																												
MSE Production Decision																												
MSE Production Contract Award																												
PDB 8 Fielding - Radar Digital Processor (RDP)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
PDB 7 Fielding - Modernized Adjunct Processor (MAP)	1	2013	1	2013
MSE Production Decision	1	2014	1	2014
MSE Production Contract Award	1	2014	1	2014
PDB 8 Fielding - Radar Digital Processor (RDP)	1	2016	1	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	246.691	270.180	277.374	-	277.374	349.231	394.260	210.580	135.072	Continuing	Continuing
DU4: <i>Advanced Electronic Protection Enhancements AEPE</i>	-	-	15.163	-	15.163	-	-	-	-	Continuing	Continuing
S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	246.691	270.180	262.211	-	262.211	349.231	394.260	210.580	135.072	Continuing	Continuing

Note
FY13 (+\$26,479) To provide for continuation of the Army Integrated Air and Missile Defense (AIAMD) Program and Advanced Electronic Protection Enhancements (AEPE).

A. Mission Description and Budget Item Justification

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

The Office of the Secretary of Defense (OSD) Acquisition Decision Memorandum (ADM) directed restructuring the AIAMD program to include AIAMD capability in the following systems: Terminal High Altitude Area Defense (THAAD), Air and Missile Defense Brigades (ADA Bde), Air and Missile Defense Commands (AAMDC), Indirect Fire Protection Capability (IFPC) within IFPC/Avenger Composite Battalions and Air Defense and Airspace Management (ADAM) cells. The restructured program will include two Product Improvements. Product Improvement 1 will include placing Phased Array Tracking to Intercept of Target (PATRIOT) components directly on the Integrated Fire Control Network (IFCN) and employing a common set of C2 tools across Air Defense Artillery (ADA) formations with a First Unit Equipped (FUE) in FY 2019. Product Improvement 2 will integrate THAAD on the IFCN. An IBCS Critical Design Review (CDR) is planned for second quarter FY 2012, along with the contributing programs CDRs. AIAMD CDR is scheduled for third quarter FY 2012. The IBCS prototype is scheduled for delivery to the Government System Integration

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>
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Laboratory (GSIL) in February FY 2012. Modeling and Simulation will be conducted throughout the program. The AIAMD original Acquisition Program Baseline (APB) was approved on 28 June 2010 and is being revised per ADM.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	251.124	270.607	250.895	-	250.895
Current President's Budget	246.691	270.180	277.374	-	277.374
Total Adjustments	-4.433	-0.427	26.479	-	26.479
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.500	-			
• SBIR/STTR Transfer	-7.470	-			
• Adjustments to Budget Years	-	-	26.479	-	26.479
• Other Adjustments 1	-1.463	-0.427	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>	PROJECT DU4: <i>Advanced Electronic Protection Enhancements AEPE</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
DU4: <i>Advanced Electronic Protection Enhancements AEPE</i>	-	-	15.163	-	15.163	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The advanced electronic protection (EP) enhancement program funds efforts to assess and initiate development of fixes to the Army's air and missile defense systems vulnerability to digital radio frequency memory (DRFM) deceptive electronic attack (EA). The assessment effort includes both radars and RF data links and will incorporate the latest threat information, comparable work being executed by the other services and conceptual EP solutions. The conceptual solutions will be a combination of direct individual sensor mitigation techniques and multiple sensor network approaches. The tasks are: (1) Conduct individual radar and RF guided missile digital simulations capable of assessing system performance when exposed to current and future deceptive EA techniques. (2) Purchase and modify commercial and military off-the-shelf DRFM injection units to insert actual high fidelity EA signals into the radar's and guided missile's receivers. (3) In conjunction with the Joint Electronic Protection for Air Combat (JEPAC) unit and the Army Research Laboratory's Survivability Assessment Directorate conduct and evaluate field tests of deceptive EA against Army air and missile defense systems. Use results to formulate near term tactics, technique and procedures for immediate fielding and to identify the highest priority areas to concentrate future development efforts. (4) Develop and implement models of Army air and missile defense systems and electronic attack effects to be used to the Extended Air Defense Simulation (EADSIM) for initial assessment of deceptive EA effects on the overall defense capability and potential network-based solutions. (5) Based on the results obtained from the simulations and field tests initiate the development of countermeasure EP techniques for air and missile defense radars and guided missile seekers.

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

	FY 2011	FY 2012	FY 2013
Title: Advanced Electronic Protection Enhancements	-	-	15.163
Description: Funding is provided for the following effort			
FY 2013 Plans: Conducting Threat Assessments and Modeling and Simulation to formulate near term tactics, technique and procedures for immediate fielding and to identify the highest priority areas to concentrate future development efforts.			
Accomplishments/Planned Programs Subtotals	-	-	15.163

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

N/A

D. Acquisition Strategy

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>	PROJECT DU4: <i>Advanced Electronic Protection Enhancements AEPE</i>

E. Performance Metrics

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>	PROJECT S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>	246.691	270.180	262.211	-	262.211	349.231	394.260	210.580	135.072	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

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

The Office of the Secretary of Defense (OSD) Acquisition Decision Memorandum (ADM) directed restructuring the AIAMD program to include AIAMD capability in the following systems: Terminal High Altitude Area Defense (THAAD), Air and Missile Defense Brigades (ADA Bde), Air and Missile Defense Commands (AAMDC), Indirect Fire Protection Capability (IFPC) within IFPC/Avenger Composite Battalions and Air Defense and Airspace Management (ADAM) cells. The restructured program will include two Product Improvements. Product Improvement 1 will include placing Phased Array Tracking to Intercept of Target (PATRIOT) components directly on the Integrated Fire Control Network (IFCN) and employing a common set of C2 tools across Air Defense Artillery (ADA) formations with a First Unit Equipped (FUE) in FY 2019. Product Improvement 2 will integrate THAAD on the IFCN. An IBCS Critical Design Review (CDR) is planned for second quarter FY 2012, along with the contributing programs CDRs. AIAMD CDR is scheduled for third quarter FY 2012. The IBCS prototype is scheduled for delivery to the Government System Integration Laboratory (GSIL) in February FY 2012. Modeling and Simulation will be conducted throughout the program. The AIAMD original Acquisition Program Baseline (APB) was approved on 28 June 2010 and is being revised per ADM. Beginning with FY11, this funding was transferred from the Army IAMD PE 0603327A, Project Code S34, to continue funding the Engineering and Manufacturing Development (EMD) phase of the program.

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

	FY 2011	FY 2012	FY 2013
Title: Product Development	225.062	245.821	219.824
Articles:	0	0	

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>	PROJECT S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Continuing product development for EOC, the common and unique side of the Plug and Fight kits, and the Integrated Fire Control Network. Provides for an IBCS CDR, contributing programs CDRs, and the AIAMD CDR.</p> <p>FY 2012 Plans: Continuing product development for EOC, the common and unique side of the Plug and Fight kits, and the Integrated Fire Control Network. Provides for a Post CDR Assessment and Defense Acquisition Board In Process Review (DAB IPR), and documentation revisions in support of ADM.</p> <p>FY 2013 Plans: Continuing product development in support of Prototype Deliveries of EOCs and Plug and Fight kits. Completion of Software Build version 2.0. Risk Reduction test.</p>				
<p>Title: Government Program Management</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Government Program Management in support of developing the Plug and Fight kits, Integrated Fire Control Network, IBCS CDR, contributing programs CDRs, and the AIAMD CDR. Other contracts and OGAs support of EMD phase activities.</p> <p>FY 2012 Plans: Government Program Management in support of developing the Plug and Fight kits, Integrated Fire Control Network, Post CDR Assessment and the DAB IPR. Other contracts and OGAs support of EMD phase activities.</p> <p>FY 2013 Plans: Government Program Management in support of developing the Plug and Fight kits, Integrated Fire Control Network, and Modeling and Simulation. Other contracts and OGAs support of EMD phase activities.</p>		4.632 0	5.129 0	5.642
<p>Title: Test and Evaluation</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments:</p>		16.997 0	19.230 0	36.745

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>	PROJECT S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Provides for Modeling & Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support FY 2012 Plans: Provides for Modeling & Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support FY 2013 Plans: Provides for Modeling & Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support			
Accomplishments/Planned Programs Subtotals	246.691	270.180	262.211

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0604869A, Project M06: <i>PE 0604869A, Project M06, PATRIOT/MEADS Combined Aggregate Program (CAP)</i>	450.584	389.630	400.861		400.861					Continuing	Continuing
• PE 0605456A, Project PA3: <i>PE 0605456A, Project PA3, PAC- 3/ MSE Missile</i>	121.475	88.909	69.029		69.029		130.348	63.975	65.771	Continuing	Continuing
• SSN C53101: <i>SSN C53101, MSE Missile</i>		74.953	12.850		12.850		505.084	596.387	566.757	Continuing	Continuing
• PE 0102419A, Proj E55: <i>PE 0102419A, Proj E55, JLENS</i>	399.477	327.338	190.422		190.422		32.480	24.130	24.612	Continuing	Continuing
• PE 0605455A, Project S35: <i>PE 0605450A, Project S35, SLAMRAAM</i>	18.358	1.529								Continuing	Continuing
• BZ5075: <i>BZ5075, Army IAMD Battle Command System (IBCS)</i>							103.453	281.828	426.582	Continuing	Continuing
• PE 0604820A, Proj E10: <i>PE 0604820A, Proj E10, SENTINEL</i>		2.885	3.486		3.486		1.948	2.972	3.022	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>	PROJECT S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0604741A, Proj 126, 146, 149: <i>PE 0604741A, Proj 126, 146, 149, Counter-Rockets, Artillery and Mortar (CRAM)</i>	139.662	82.932	73.333		73.333		18.058	18.676	20.049	Continuing	Continuing

D. Acquisition Strategy

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

Each AIAMD capability increment follows the AIAMD Capability Development Document (CDD), JROC approved on 17 May 2010 via JROCM 073-10, and is defined as:

- Increment 1 is a User-executed capability increment focused on realignment of current force systems into an AMD Battalion (BN) organizational construct. (not part of the materiel development program)
- Increment 2 provides the first increment of an integrated materiel solution, and is the initial acquisition program to develop the threshold AIAMD capability

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

Key principles of the AIAMD acquisition approach are the following:

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

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>	PROJECT S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	TBD	Various:Huntsville, AL	4.632	5.129		5.642		-		5.642	Continuing	Continuing	Continuing
Subtotal			4.632	5.129		5.642		-		5.642			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Space and Missile Defense (ASMD) System of Systems (SOS) Hardware-in-the- Loop Testbed	C/CPFF	Various:Huntsville, AL and multiple other locations	17.697	-		-		-		-	0.000	17.697	0.000
AIAMD System Engineering & Integration	C/CPFF	Contractor:Huntsville, AL	17.015	18.812		16.155		-		16.155	Continuing	Continuing	Continuing
IAMD Engineering Manufacturing and Development	C/CPFF	Contractor:Huntsville, AL and Various other locations	181.516	211.974		187.212		-		187.212	Continuing	Continuing	Continuing
Government Furnished Equipment	TBD	Various:Multiple	5.705	8.275		7.740		-		7.740	Continuing	Continuing	Continuing
Government Systems Engineering and Logistics	TBD	Various:Huntsville, AL	3.129	6.760		8.717		-		8.717	Continuing	Continuing	Continuing
Subtotal			225.062	245.821		219.824		-		219.824			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Army Evaluation Center/ Developmental Test Command/Operational Test Command	TBD	Various:Multiple Locations	0.811	0.894		0.956		-		0.956	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>	PROJECT S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Overarching Integrated Product Team (OIPT)			■																									
Critical Design Review (CDR) (IBCS Incr 2)							■																					
Critical Design Review (CDR) (IAMD Incr 2)							■																					
Post Critical Design Review (CDR) Assessment											■																	
Defense Acquisition Board In Process Review (DAB IPR)											■																	
Modeling and Simulation																												
Planned Product Improvement 1																												
Force Development Experimentation/Limited User Test (FDE/LUT)																												
Product Readiness Review (PRR)																												
Milestone C (MS C)																												
Force Development Test/Initial Op T&E/HWIL (FDT/IOT&E/HWIL)																												
Initial Operational Capability (IOC)																												
Full Rate Production (FRP) Review																												
Planned Product Improvement 2																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>	PROJECT S40: <i>ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Overarching Integrated Product Team (OIPT)	3	2011	3	2011
Critical Design Review (CDR) (IBCS Incr 2)	2	2012	2	2012
Critical Design Review (CDR) (IAMD Incr 2)	3	2012	3	2012
Post Critical Design Review (CDR) Assessment	4	2012	4	2012
Defense Acquisition Board In Process Review (DAB IPR)	4	2012	4	2012
Modeling and Simulation	1	2013	4	2017
Planned Product Improvement 1	1	2014	4	2017
Force Development Experimentation/Limited User Test (FDE/LUT)	4	2014	2	2015
Product Readiness Review (PRR)	1	2015	1	2015
Milestone C (MS C)	3	2015	3	2015
Force Development Test/Initial Op T&E/HWIL (FDT/IOT&E/HWIL)	1	2016	4	2016
Initial Operational Capability (IOC)	4	2016	4	2016
Full Rate Production (FRP) Review	4	2017	4	2017
Planned Product Improvement 2	4	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	313.413	449.387	639.874	-	639.874	1,416.884	1,772.042	1,487.524	1,099.821	Continuing	Continuing
FC8: <i>BCT Ground Combat Vehicle</i>	313.413	449.387	639.874	-	639.874	1,416.884	1,772.042	1,487.524	1,099.821	Continuing	Continuing

Note

Change Summary Explanation:

Funding:

FY2011: The FY2012 President's Budget did not reflect program strategy revisions approved late in 2010. These revisions reduced estimated program costs and also delayed the planned contract awards by approximately seven months (to 3QFY2011). Delays related to the source selection and milestone review processes resulted in a further three month slip to the contract awards. In addition, two (versus the planned three) contracts were awarded for the TD phase. Finally, a protest caused a stop work order shortly after award of the contracts. All of these factors contributed to the congressional reduction (Other Adjustment 1) and rescission (Other Adjustment 2) in FY2011.

FY2012: Based on the factors discussed above, the Army provided revised FY2012 funding requirements to the congressional committees 4QFY2011. As a result, Congressional action as part of the final FY2012 appropriation/authorization process reduced funding to the level reflected in this exhibit (Other Adjustment 1).

FY2013: The FY2013 requested funding reflects adjustments (Other Adjustment 3) due to all the factors discussed above.

A. Mission Description and Budget Item Justification

The Ground Combat Vehicle (GCV) program is based on an Initial Capabilities Document (ICD) that was approved 10 December 2009 and a draft Capabilities Development Document (CDD) developed by the U.S. Army Training and Doctrine Command (TRADOC). The accomplishments and funding reflected in this justification are based on these documents and on program milestone decision memoranda. A Milestone A Defense Acquisition Board was conducted on 21 July 2011. An Acquisition Decision Memorandum (ADM) was signed 17 August 2011. It granted the Project Management Office approval to enter the Technology Development (TD) phase. Although the Army had originally planned to award up to three TD contracts, the source selection process resulted in only two being awarded on 18 August 2011. One contract was awarded to BAE Systems Land & Armaments, L.P. and one was awarded to General Dynamics Land Systems Inc. Following GAO receipt of a protest, stop work orders were issued on 29 August 2011. The Government Accountability Office denied the protest on 5 December 2011, and work resumed 6 December 2011. The following funding requirements/justifications reflect the impact of the 100 day delay caused by the protest. This delay also means that full contract baselines were not available for use in preparing these justifications. Accordingly, these funding requirements are largely based on program office estimates.

The Army requires an Infantry Fighting Vehicle (IFV) capability to rapidly deploy an overmatching infantry squad anywhere on the battlefield. The GCV IFV will provide the infantry squad with a highly mobile, protected, transport to the decisive locations on the battlefield. The GCV IFV will provide both destructive fires against threat armored vehicles and direct fire support for the squad during dismounted assaults. It will increase the Infantry's tactical mobility, survivability, and lethality against light and heavy armored threats across a variety of missions.

The GCV program is using an incremental approach with the GCV IFV as the first increment (future increments have not yet been defined). The GCV IFV program will utilize competitive development and a 3-phased approach that started with MS A in 4QFY2011. Due to the aforementioned protest, the 24 month Technology

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	PE 0605625A: <i>Manned Ground Vehicle</i>

Development phase (with 2 competing contractors) began 6 December 2011. Following Milestone B currently planned for 1Q2014, the program is planning to award up to two competitively selected 48 month contracts for the Engineering and Manufacturing Development (EMD) phase. During EMD, each contractor will continue to refine designs and deliver prototypes to support engineering development, risk mitigation, and technical and operational tests. Milestone C is planned for 1QFY2018 and will immediately be followed with award of a Low Rate Initial Production (LRIP) contract to one contractor.

For the TD phase, the Army will mature its requirements by using four key program imperatives to shape trade space and to ensure convergence on an affordable and achievable set of requirements: 1) Providing requisite force protection to the Squad and crew in the vehicle, 2) Capable of carrying a full nine-Soldier squad, 3) using a modular, open architecture and sufficient margin to support full spectrum operations and changing threats over time, and 4) deliver the first production vehicle approximately seven years after award of the TD phase contracts. In support of these key requirements as well as affordability targets, the TD phase contracts allow contractors to trade selected capability to support the path to an affordable set of requirements and to reduce program cost and risk. In addition to the effort related to the TD contracts, PM GCV will conduct assessments of selected non-developmental vehicles and will support a dynamic update to the Analysis of Alternatives (AoA). This "three pronged effort" (TD contracts, vehicle assessments, and dynamic AoA update) will generate data that will ensure a well informed Milestone B. Information generated from the TD phase will inform the requirements generation/maturation process and will lead to a Joint Requirements Oversight Council (JROC) approved CDD prior to Milestone B.

During the TD phase, the contractors will focus on integration leading to the completion of Preliminary Design Reviews (PDR). In support of the PDRs, each contractor will be required to develop, fabricate, integrate, and test two different subsystem prototypes: Rocket Propelled Grenade (RPG) Protection Subsystem prototype and Mine Blast Subsystem prototype. Additional subsystem prototypes may be defined by contractors to support development. Prototype subsystem testing will be conducted by the Government.

The combined fiscal impacts of the protest delay and the selection of only two TD contractors are: 1) larger than planned FY2011 carry-over dollars, and 2) adjustments to funding requirements for FY2012 and beyond. The FY2012 funding was adjusted as

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	934.366	884.387	1,963.178	-	1,963.178
Current President's Budget	313.413	449.387	639.874	-	639.874
Total Adjustments	-620.953	-435.000	-1,323.304	-	-1,323.304
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-475.953	-435.000	-	-	-
• Other Adjustments 2	-145.000	-	-	-	-
• Other Adjustments 3	-	-	-1,323.304	-	-1,323.304

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
FC8: <i>BCT Ground Combat Vehicle</i>	313.413	449.387	639.874	-	639.874	1,416.884	1,772.042	1,487.524	1,099.821	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

A Request for Proposal (RFP) was released by the Government in November 2010 and up to three Technology Development (TD) contracts were intended to be awarded 4QFY2011. An Acquisition Decision Memorandum (ADM) was signed 17 August 2011 and 2 TD contracts were awarded 18 August 2011. A protest was filed with the Government Accountability Office challenging the Department of the Army's rejection of a third proposal. The protest resulted in a stop work contract modification and 100 day program schedule delay. On 5 December 2011, the GAO denied the protest and TD work resumed via contract modification. The fiscal impacts of the protest delay and selection of only two TD contractors are: 1) larger than planned FY2011 carry-over dollars, and 2) adjustments to funding requirements for FY2012 and beyond, which are reflected above. The FY2011 carry-over means that contract work discussed in the below FY2011 Descriptions will reflect efforts through approximately February, 2012.

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

	FY 2011	FY 2012	FY 2013
Title: Government System Engineering & Program Management	39.194	75.297	96.250
Articles:	0	0	
Description: Provides for basic Government oversight of the Ground Combat Vehicle (GCV) program. Includes funding for government personnel (labor, travel, training, supplies) and other support (other government agencies, support contractors, automated data processing, communications, and equipment).			
FY 2011 Accomplishments: Developing the GCV Request for Proposal (RFP), conducting a Source Selection Evaluation Board (SSEB), and preparing for the Milestone A. The Project Management Office (PMO) began to execute the approved three-pronged strategy mandated by the 17 August 2011 Acquisition Decision Memorandum. The TD contracts represent one prong, assessments of selected non-development vehicles and a dynamic update to the Analysis of Alternatives (AoA) represent the other two. For these latter two prongs, the PMO conducted detailed planning in FY2011 and initiated efforts to acquire the necessary data. This included both analytical effort and the conduct of limited system/subsystem tests.			
FY 2012 Plans: Provide integrated program management for all development activities by continuing to execute the GCV three-pronged development effort. The PMO will provide United States Code (USC) Title 10 oversight to the TD contractors. The GCV Earned Value Management (EVM) team will evaluate cost and schedule performance against the established Performance Measurement Baseline (PMB) and Integrated Master Schedule (IMS) for each contractor. The GCV Integrated Product Teams (IPTs) will oversee the technical development efforts of each contractor in order to monitor and track technical progress related to the			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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<p>development of the various subsystems. This includes review and acceptance of all formal contract deliverables for the two contractor teams. These deliverables will be used to support execution of the GCV knowledge based management plan. The government management team will also oversee each contractor as they perform systems engineering, requirements analysis, functional analysis, configuration management, risk management, interface management, data management, technical reviews, trade studies, modeling and simulation, specialty engineering, software engineering, test and training. The PMO will continue (and likely conclude) efforts associated with the assessments of selected non-developmental vehicles and efforts associated with the dynamic AoA update. All information from the three-pronged strategy will be used to begin preparation of Milestone B products and to support the maturation/approval of the GCV Capability Development Document (CDD).</p> <p>FY 2013 Plans: Provide integrated program management for all development activities by continuing to execute the GCV knowledge based management plan and by providing USC Title 10 oversight to the TD contractors. The GCV Earned Value Management (EVM) team will continue to evaluate cost and schedule performance against the established Performance Measurement Baseline (PMB) and Integrated Master Schedule (IMS) for each contractor. The GCV IPTs will continue to oversee the technical development efforts of each contractor in order to monitor and track technical progress related to the development of the various subsystems. This includes review and acceptance of all formal contract deliverables for the two contractor teams. The government management team will continue to oversee each contractor as they perform systems engineering, requirements analysis, functional analysis, configuration management, risk management, interface management, data management, technical reviews, trade studies, modeling and simulation, specialty engineering, software engineering, test and training. The Government team will emphasize support for each contractor's Preliminary Design Review (PDR), currently planned for 3QFY2013 . Information generated from the three-pronged strategy will be used to complete Engineering and Manufacturing Development (EMD) performance specification for inclusion in the EMD Request for Proposal (RFP), planned for release 3QFY2013. In addition to the above, approximately 40 documents to support the Milestone B will be prepared. The Milestone B is currently planned for 1QFY2014.</p>			
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<p>Title: Contractor Systems Engineering/Program Management</p> <p>Articles:</p> <p>Description: Provides for contractor basic development, engineering, and management for the GCV prime contracts, less prototype hardware and software development (which are captured in the following sections). Includes material consumed in support of component level engineering efforts.</p> <p>FY 2011 Accomplishments:</p>	<p>253.356</p> <p>0</p>	<p>240.083</p> <p>0</p>	<p>386.269</p>
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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>In 4QFY2011, prime contractors awarded subsystem and component provider contracts, began vehicle design, installed the Performance Measurement Baseline (PMB) and delivered the initial Integrated Master Schedule (IMS). Conducted formal start-of-work meetings and completed System Requirement Reviews (SRRs).</p> <p>FY 2012 Plans: Continue preliminary design of subsystems focusing on size, weight, power, and cooling requirements. Conduct System Functional Reviews (SFRs) 3QFY2012 and conduct sub-system Preliminary Design Reviews. Complete the designs for the subsystem test assets. Complete initial delivery of the integrated set of architecture artifacts. Plan, design, and complete the initial fabrication of the GCV System Integration Environment. Provide a GCV Hot Bench to support integration of hardware and software sub-components prior to vehicle level integration. Design and fabricate vehicle and modular armor mock-ups. Complete design studies to allow identification of Engineering and Manufacturing Development (EMD) long lead hardware requirements. Initiate testing related to the subsystem test assets. Perform program management using Earned Value Management (EVM) and Technical Performance Measures (TPMs) to report cost, schedule and technical status.</p> <p>FY 2013 Plans: Conduct and support TD subsystem prototype testing. Utilize the System Integration Environment and the Hot Bench to mature subsystem designs. Deliver approximately 35 data items and conduct the GCV system level Preliminary Design Review (PDR) in 3QFY2013. Following PDR, initiate detailed design of subsystems focusing on size, weight, power, and cooling requirements. Perform program management using EVM and TPMs to report cost, schedule and technical status. Prepare and submit all contract deliverables.</p>				
<p>Title: Contractor Prototypes</p> <p>Articles:</p> <p>Description: Procurement and fabrication of subsystem test assets required by the Technology Development (TD) contract and for system level prototypes planned in the EMD phase. Does not include material consumed in support of component level engineering efforts.</p> <p>FY 2011 Accomplishments: Ordered long-lead items required for the TD subsystem test assets.</p> <p>FY 2012 Plans: Initiate hardware procurement and integration of the subsystem test assets required of each contractor (Rocket Propelled Grenade (RPG) Protection Subsystem Prototype and Mine Blast Subsystem Prototype Test Article). Subject to Defense Acquisition Executive (DAE) approval, procure limited long lead hardware required for the EMD early prototypes.</p> <p>FY 2013 Plans:</p>		2.582 0	30.695 0	99.860

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Complete fabrication, integration, and delivery of the subsystem test assets required of each contractor (Rocket Propelled Grenade (RPG) Protection Subsystem Prototype and Mine Blast Subsystem Prototype Test Article). Subject to Defense Acquisition Executive (DAE) approval, procure long lead hardware required for the EMD early prototypes.				
<p>Title: Government Tests and Modeling and Simulation</p> <p align="right">Articles:</p> <p>Description: Government costs to perform and validate system-related test activities. This element includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing. The actual test articles (i.e., functionally configured systems) are excluded from this element as they are included in the prototype manufacturing section.</p> <p>FY 2011 Accomplishments: Test planning, coordination and safety requirements development and coordination efforts in support of the Subsystem Prototype testing began in FY2011.</p> <p>FY 2012 Plans: Detailed test planning, coordination and safety requirements development efforts in support of the Subsystem Prototype testing continue in FY2012. Initiate development of the Test and Evaluation Master Plan (TEMP) required to support Milestone B.</p> <p>FY 2013 Plans: Subsystem Prototype testing will be conducted at Government test facilities during 2-3QFY2013. The subsystem test assets will be tested, as required. This includes testing of the Rocket Propelled Grenade (RPG) Protection Subsystem Prototypes and Mine Blast Subsystem Prototype Test Articles against relevant threats. The TEMP will be completed to support Milestone B scheduled in 1QFY2014. PM GCV will continue to procure test threats to support future Survivability/Force Protection testing, and test ammunition to support future integration testing and Lethality testing. Detailed test planning will be initiated for the Engineering and Manufacturing Development (EMD) phase. Army Test and Evaluation Command will develop the System Evaluation Plan and support the GCV Operational Test Agency MS B Assessment Report.</p>		5.007 0	10.783 0	15.527
<p>Title: Contractor Software</p> <p align="right">Articles:</p> <p>Description: Software development efforts for the GCV prime contracts. This includes all software related to the various subsystems, training, logistics, vehicle management, and battle command integration.</p> <p>FY 2011 Accomplishments:</p>		4.677 0	31.126 0	41.968

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Initiated vehicle software development activities in 4QFY2011 for supporting FY2013 prototype subsystem competitive testing and Modeling and Simulation (M&S) tests. The software development plan and schedule was developed.</p> <p>FY 2012 Plans: Continue the development of initial software builds in support of testing of the subsystem test assets. Define and establish software development and integration environments. Initiate development of Software Requirements Specification, interface requirements specification, software architecture definition/description, formulate software build plan to align with system and subsystem requirements development, and begin software development and integration. Create vehicle model and selected subsystem models (e.g. mobility, survivability, etc.) for Modeling and Simulation.</p> <p>FY 2013 Plans: All software requirements and interfaces for the early software build will be baselined to allow software development to complete in support of iterative software integration. Conduct early software integration using emulators and surrogates to verify correct subsystem behaviors and interfaces. Conduct qualification and regression testing and delivery of the software build to support subsystem level integration. Initiate subsequent software build/development efforts and incrementally build up the functionalities in meeting vehicle delivery schedules. Update software architecture with specific implementation features for all Government furnished software subsystems.</p>				
<p>Title: Assessment of Selected Non-developmental Vehicles (ASNV)</p> <p align="right">Articles:</p> <p>Description: ASNV represents the second prong of the GCV TD three-prong approach as outlined in the 17 August 2011 Milestone A ADM. The ASNV includes comprehensive assessments of multiple configurations and families (mixes) of vehicles which could provide affordable, effective and suitable capability in the required timeframe. This element provides for the testing and analysis associated with the ASNV effort. Basic PM oversight of the effort, however, is included in Government Systems Engineering and Program Management.</p> <p>FY 2011 Accomplishments: Technical and operational assessments began in the United States and at OCONUS locations. Identified limitations on vehicle availability with foreign vehicles. Began to gather relevant data to support the analysis in a manner that balanced cost and schedule limitations.</p> <p>FY 2012 Plans: Continue technical and operational assessments. Leverage the most cost effective means of gathering data. Conduct range test events, instrumentation testing, and modeling and simulation to validate data trends. Provide an acceptable level of data for each</p>		8.597 0	61.403 0	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
ASNV excursion to the GCV Integrated Concept Team (ICT) to support the GCV Capability Development Document (CDD) and Milestone B scheduled for 1QFY2014.			
Accomplishments/Planned Programs Subtotals	313.413	449.387	639.874

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• (GCV): <i>Ground Combat Vehicle</i> (GCV)								549.238	1,925.649	Continuing	Continuing

D. Acquisition Strategy

The strategy is to execute the program in three phases. GCV entered the acquisition process at Milestone A (4Q FY2011). Approval for the Technology Development (TD) phase was received through a signed Acquisition Decision Memorandum 17 August 2011. The TD phase is based on a three-pronged strategy. The first consists of award of development contracts (two TD phase contracts were awarded 18 August 2011). The second prong consists of assessments of selected non-developmental vehicles and the third includes a dynamic update to the Analysis of Alternatives. For the contracts, the TD phase will consist of designing an Infantry Fighting Vehicle based on requirements defined in the draft Capability Development Document (CDD) and articulated in the Specification included in the GCV Request for Proposal (RFP). Selected sub-system test assets will be delivered in FY2013. The TD phase includes competitive testing and evaluation of the sub-system test assets and completion of a Preliminary Design Review (3Q FY2013). This information, coupled with data obtained from the other two prongs, will be used to define an affordable, effective, and suitable set of requirements that will be embodied in the CDD and Engineering and Manufacturing Development (EMD) RFP performance specification. A full and open competition will be held and up to two contractors will enter EMD phase (2Q FY2014). EMD will end at MS C (2Q FY2018). During EMD, each contractor will successfully complete a Critical Design Review and produce three (3) early prototypes and twelve (12) complete prototypes. The EMD phase will end with a competitive down select to one contractor. The selected contractor will execute Low Rate Initial Production.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor System Engineering and Prog. Mgt	TBD	TBD:TBD	274.947	240.083		386.269		-		386.269	Continuing	Continuing	Continuing
Contractor Prototypes	TBD	TBD:TBD	2.582	30.695		99.860		-		99.860	Continuing	Continuing	Continuing
Contractor Software	TBD	TBD:TBD	4.677	31.126		41.968		-		41.968	Continuing	Continuing	Continuing
Subtotal			282.206	301.904		528.097		-		528.097			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government System Engineering and Prog. Mgt	TBD	PM Ground Combat Vehicle:Warren, MI	92.378	75.297		96.250		-		96.250	Continuing	Continuing	Continuing
Assessment of Selected Non-developmental Vehicles (ASNV)	TBD	TBD:TBD	8.597	61.403		-		-		-	0.000	70.000	0.000
Subtotal			100.975	136.700		96.250		-		96.250			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Tests & Modeling & Simulation	TBD	PM Ground Combat Vehicle:Warren, MI	7.093	10.783		15.527		-		15.527	Continuing	Continuing	Continuing
Subtotal			7.093	10.783		15.527		-		15.527			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			390.274	449.387		639.874		-		639.874			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army			DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>			PROJECT FC8: <i>BCT Ground Combat Vehicle</i>		

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
Milestone A				■																									
Technology Development Source Selection Board		■	■	■																									
Technology Development Contract Award				■																									
Technology Development Phase			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
Prototype Subsystem Testing											■	■	■	■	■	■													
System Preliminary Design Review											■	■	■	■	■	■													
Milestone B															■	■													
EMD Contract Award															■	■													
Engineering/Manufacturing Development															■	■	■	■	■	■	■	■	■	■	■	■	■	■	
1st Early Prototype Vehicle																			■	■									
Critical Design Review																				■	■								
1st Full-up Prototype Vehicle																							■	■					
Critical Design Review Update																											■	■	
Production Qualification Test																							■	■	■	■	■	■	
Limited User Test																											■	■	
Production Readiness Review																												■	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Milestone A	4	2011	4	2011
Technology Development Source Selection Board	2	2011	4	2011
Technology Development Contract Award	4	2011	4	2011
Technology Development Phase	4	2011	1	2014
Prototype Subsystem Testing	2	2013	4	2013
System Preliminary Design Review	3	2013	3	2013
Milestone B	1	2014	1	2014
EMD Contract Award	2	2014	2	2014
Engineering/Manufacturing Development	2	2014	4	2017
1st Early Prototype Vehicle	2	2015	2	2015
Critical Design Review	4	2015	4	2015
1st Full-up Prototype Vehicle	3	2016	3	2016
Critical Design Review Update	3	2017	3	2017
Production Qualification Test	3	2016	4	2017
Limited User Test	1	2017	2	2017
Production Readiness Review	4	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605626A: <i>Aerial Common Sensor - SDD</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	101.171	31.435	47.426	-	47.426	0.124	0.125	0.131	0.133	Continuing	Continuing
AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>	101.171	31.435	47.426	-	47.426	0.124	0.125	0.131	0.133	Continuing	Continuing

Note

FY11 - Congressional rescission.
FY13 - Funding has been internally realigned to complete EMD.

A. Mission Description and Budget Item Justification

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's next generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. EMARSS provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS aircraft will be assigned to the U.S. Army Intelligence and Security Command's (INSCOM) Aerial Exploitation Battalions (AEB). EMARSS is an improvement over the existing Medium Altitude Reconnaissance and Surveillance System Quick Reaction Capability (MARSS QRC) in that it hosts an on board DCGS-A capability, improved satellite communications, and improved aircraft performance.

EMARSS will consist of a commercial derivative aircraft equipped with an Electro-optical/Infrared (EO/IR) Full Motion Video (FMV) sensor, a Communications Intelligence (COMINT) collection system, an aerial precision geolocation (APG) system, tactical line-of-site (LOS) and beyond line-of-site (BLOS) communications suites, two Distributed Common Ground System - Army (DCGS-A) enabled operator workstations and a self-protection suite. Built to allow future capabilities to be integrated on platform with the addition of the third carry-on workstation.

EMARSS will operate as a single platform in direct support of tactical missions. EMARSS, working with and incorporating elements of the DCGS-A, will provide efficient response to Combat Forces Intelligence, Surveillance and Reconnaissance (ISR) tasking with centralized Processing, Exploitation & Dissemination (PED) of ISR products while simultaneously transmitting critical FMV and other intelligence products to engaged tactical forces.

FY13 Base funding in the amount of \$47.426 million funds continues EMD activities, test activities to support a Forward Operational Assessment (FOA) which will be conducted in theater against current threats and inform a future production decision. This will position the Army to operationally deploy the assets.
FY13 OCO - No budget request

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605626A: <i>Aerial Common Sensor - SDD</i>
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B. Program Change Summary (\$ in Millions)	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	211.500	31.465	3.335	-	3.335
Current President's Budget	101.171	31.435	47.426	-	47.426
Total Adjustments	-110.329	-0.030	44.091	-	44.091
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-110.329	-0.030	44.091	-	44.091

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605626A: <i>Aerial Common Sensor - SDD</i>				PROJECT AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>	101.171	31.435	47.426	-	47.426	0.124	0.125	0.131	0.133	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is the Army's next generation C-12 based, direct support, manned airborne intelligence collection, processing, and targeting support system. EMARSS provides a persistent capability to detect, locate, classify/identify, and track surface targets with a high degree of timeliness and accuracy. EMARSS aircraft will be assigned to the U.S. Army Intelligence and Security Command's (INSCOM) Aerial Exploitation Battalions (AEB). EMARSS is an improvement over the existing Medium Altitude Reconnaissance and Surveillance System Quick Reaction Capability (MARSS QRC) in that it hosts an on board (DCGS-A) capability, improved satellite communications, and improved aircraft performance.

EMARSS will consist of a commercial derivative aircraft equipped with an Electro-optical/Infrared (EO/IR) Full Motion Video (FMV) sensor, a Communications Intelligence (COMINT) collection system, an aerial precision geolocation (APG) system, tactical line-of-site (LOS) and beyond line-of-site (BLOS) communications suites, two Distributed Common Ground System - Army (DCGS-A) enabled operator workstations and a self-protection suite. Built to allow future capabilities to be integrated on platform with the addition of a third carry-on workstation.

EMARSS will operate as a single platform in direct support of tactical missions. EMARSS, working with and incorporating elements of the DCGS-A, will provide efficient response to Combat Forces Intelligence, Surveillance and Reconnaissance (ISR) tasking with centralized Processing, Exploitation & Dissemination (PED) of ISR products while simultaneously transmitting critical FMV and other intelligence products to engaged tactical forces.

FY13 Base funding in the amount of \$47.426 million funds continues EMD activities, test activities to support a Forward Operational Assessment (FOA) which will be conducted in theater against current threats and inform a future production decision.

FY13 OCO - No budget request

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

	FY 2011	FY 2012	FY 2013
Title: Product Development	59.737	9.535	17.426
Articles:	0	0	
Description: Funding is provided for the following efforts:			
FY 2011 Accomplishments: Continued EMD contract. Purchase of aircraft, GFE and technical support. Continued DCGS-A on board processing and test.			
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605626A: <i>Aerial Common Sensor - SDD</i>	PROJECT AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Continues integration of prime mission equipment, software integration, and risk mitigation effort. FY 2013 Plans: Continues prime contractor systems support, and Engineering Change Proposals (ECP).				
Title: Support Costs	Articles:	11.269 0	-	4.800
Description: Support costs for matrix government, matrix contractor and PM Fixed Wing. FY 2011 Accomplishments: Support costs for matrix government, matrix contractor and PM Fixed Wing. FY 2013 Plans: Support costs for matrix government, matrix contractor and PM Fixed Wing.				
Title: Test and Evaluation	Articles:	19.574 0	17.335 0	19.300
Description: Funding is provided for the following effort: FY 2011 Accomplishments: Government Test and Flight Range Support. FY 2012 Plans: Government DT/OT, LUT, LFTE, FOA and Joint Test Integration Facility (JTIF). FY 2013 Plans: Government LFTE, FOA, Reliability Growth Testing (RGT), and JTIF.				
Title: Program Management Support	Articles:	10.591 0	4.565 0	5.900
Description: Funding is provided for the following effort: FY 2011 Accomplishments: Continues Program Management Office (PMO) and travel, Systems Engineering and Technical Assistance (SETA) and MITRE support. FY 2012 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605626A: <i>Aerial Common Sensor - SDD</i>	PROJECT AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continues Program Management Office (PMO) and travel, Systems Engineering and Technical Assistance (SETA) and MITRE support.			
<i>FY 2013 Plans:</i> Continues Program Management Office (PMO) and travel, Systems Engineering and Technical Assistance (SETA) and MITRE support.			
Accomplishments/Planned Programs Subtotals	101.171	31.435	47.426

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• EMARSS: <i>NSA Defense Military Intelligence Program (MIP) funding</i>	1.294	6.151	5.226		5.226		0.766	0.766		0.000	16.370

D. Acquisition Strategy
The Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) is a Program of Record based on an Army G-3/5/7 Directed Requirement (DR) signed 11 December 2009. The program entered the acquisition process in the Engineering and Manufacturing Development (EMD) phase with a 1QFY11 contract award that was competitively awarded to a single contractor. Program has completed System Design Review and is on track to begin modification and integration of the aircraft in 2Q12. Following a LUT, a FOA will be conducted to demonstrate the system against real world threats. Based on the outcomes of these activities, the Army will be positioned to operationally deploy these assets and inform a future production decision.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605626A: <i>Aerial Common Sensor - SDD</i>	PROJECT AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO Staff/travel/OH expenses	Various	PM ARES:Aberdeen Proving Ground, MD	5.220	4.565		3.300		-		3.300	0.000	13.085	0.000
SETA Support	C/CPFF	PM ARES:Aberdeen Proving Ground, MD	3.045	-		1.600		-		1.600	0.000	4.645	0.000
MITRE	C/CPFF	PM ARES:Aberdeen Proving Ground, MD	2.326	-		1.000		-		1.000	0.000	3.326	0.000
Subtotal			10.591	4.565		5.900		-		5.900	0.000	21.056	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
EMARSS EMD	C/CPIF	Boeing Company:Ridley Park, PA	42.989	-		-		-		-	0.000	42.989	0.000
Other GFE to include COMSEC Equipment, Airborne Precision Geo Location (APG), and Vortex Data Links	Various	L3 COMM/NSA:Warner Robins AFB	3.463	-		-		-		-	0.000	3.463	0.000
Request for Equitable Adjustment (REA)	C/FP	Boeing Company:Ridley Park, PA	7.085	-		-		-		-	0.000	7.085	0.000
Prime Contractor Systems Support	C/FP	Boeing Company:Ridley Park, PA	-	7.065		5.535		-		5.535	0.000	12.600	0.000
Engineering Change Proposals (ECP)	C/CPIF	Boeing Company:Ridley Park, PA	-	-		11.891		-		11.891	0.000	11.891	0.000
DCGS-A & Orion S/W processing on board	Various	Various:Various	6.200	2.470		-		-		-	0.000	8.670	0.000
Subtotal			59.737	9.535		17.426		-		17.426	0.000	86.698	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605626A: <i>Aerial Common Sensor - SDD</i>	PROJECT AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Matrix Government	MIPR	Various:Various	9.405	-		3.679		-		3.679	0.000	13.084	0.000
Matrix Contractor Support	Various	Various:Various	1.864	-		1.121		-		1.121	0.000	2.985	0.000
Subtotal			11.269	-		4.800		-		4.800	0.000	16.069	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government DT/OT, LUT	Various	Various:Various	6.383	3.500		-		-		-	0.000	9.883	0.000
Test Flight Ranges	Various	Various:Various	6.391	4.000		-		-		-	0.000	10.391	0.000
Live Fire Test & Evaluation (LFTE)	MIPR	Various:Various	-	6.035		5.000		-		5.000	0.000	11.035	0.000
Forward Operational Assessment (FOA)	MIPR	Various:Various	-	1.000		7.000		-		7.000	0.000	8.000	0.000
Integrated Operational Test and Evaluation (IOT&E)	MIPR	Various:Various	-	-		1.000		-		1.000	0.000	1.000	0.000
Reliability Growth Testing (RGT)	MIPR	Various:Various	-	-		3.500		-		3.500	0.000	3.500	0.000
Joint Test & Integration Facility (JTIF)	Various	Various:various	6.800	2.800		2.800		-		2.800	0.000	12.400	0.000
Subtotal			19.574	17.335		19.300		-		19.300	0.000	56.209	0.000

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract	
		Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost				
Project Cost Totals		101.171	31.435			47.426		-	47.426	0.000	180.032	0.000

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605626A: <i>Aerial Common Sensor - SDD</i>	PROJECT AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Engineering Manufacturing & Development	3	2011	2	2013
SRR/SFR	4	2011	4	2011
System Design Review	1	2012	1	2012
CT/DT	2	2012	4	2012
LUT /FOA	4	2012	2	2013
MS C	2	2013	2	2013
IOT&E	1	2014	1	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0605812A: <i>Joint Light Tactical Vehicle - ED</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	-	72.295	-	72.295	76.163	31.549	51.924	53.223	Continuing	Continuing
VU9: <i>Joint Light Tactical Vehicle - ED</i>	-	-	72.295	-	72.295	76.163	31.549	51.924	53.223	Continuing	Continuing

Note

At the request of the House Armed Services Committee - Air and Land Forces, a separate and distinct funding line (0605812A-VU9) was established for JLTV, transition of Project L50 funding to this newly established Program Element (PE) occurred in FY 2013.

A. Mission Description and Budget Item Justification

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

In FY 2013, major budget activities support three Engineering and Manufacturing Development contracts; completion of EMD prototype fabrication, delivery of the prototypes, ballistic cab and chassis testing, vendor shakedown testing, Government Test Readiness Review, and initiation of Government performance, Reliability, Availability and Maintainability (RAM), and ballistic testing and program management support. FY 2013 funding increased from President's Budget (PB) 12, \$53.254 million to \$72.295 million as a result of the program revising the acquisition strategy.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605812A: <i>Joint Light Tactical Vehicle - ED</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	72.295	-	72.295
Total Adjustments	-	-	72.295	-	72.295
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	72.295	-	72.295

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605812A: <i>Joint Light Tactical Vehicle - ED</i>	PROJECT VU9: <i>Joint Light Tactical Vehicle - ED</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
VU9: <i>Joint Light Tactical Vehicle - ED</i>	-	-	72.295	-	72.295	76.163	31.549	51.924	53.223	Continuing	Continuing
Quantity of RDT&E Articles											

Note

FY 2008 - FY 2011 funding for the Joint Light Tactical Vehicles (JLTV) program is under Program Element (PE) 0603804A, Project L04.
 FY 2012 funding for the Joint Light Tactical Vehicles (JLTV) program is under Program Element (PE) 0604804A, Project L50.
 FY 2013 and out year funding is under Project Element (PE) 0605812A, Project VU9.

A. Mission Description and Budget Item Justification

Funding supports the development and testing of the Joint Light Tactical Vehicle (JLTV) Family of Vehicles (FoV), which is a joint program between the Army and the Marine Corps. International participation will be offered during the Engineering, Manufacturing and Development (EMD) phase. The JLTV goal is a FoV capable of performing multiple mission roles that will be designed to provide protected, sustained, networked mobility for personnel and payloads across the full range of military operations. JLTV objectives include increased protection and performance over the current fleet; minimizing ownership costs by maximizing commonality, fuel efficiency, reliability, and maintaining effective competition throughout the life cycle. Commonality of components, maintenance procedures, training, etc., between vehicles is expected to be inherent in FoV solutions across mission variants to minimize total ownership cost. Unique service requirements have been minimized.

During FY 2013, major budget activities include support for three Engineering and Manufacturing Development contracts; completion of EMD prototype fabrication, delivery of the prototypes, ballistic cab and chassis testing, vendor shakedown testing, Government Test Readiness Review, initiation of Government performance, Reliability, Availability and Maintainability (RAM) test, and ballistic testing and program management support.

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

	FY 2011	FY 2012	FY 2013
Title: Engineering, Manufacturing, and Development (EMD) prototype contract for development and fabrication.	-	-	40.525
Description: Funding is provided for Engineering, Manufacturing, and Development (EMD) prototype contract award for development and fabrication.			
FY 2013 Plans: Funding is provided for Engineering, Manufacturing, and Development (EMD) prototype contract award for Joint Light Tactical Vehicles development and fabrication.			
Title: Joint Light Tactical Vehicles (JLTV) program management support	-	-	11.652
Description: Funding is provided for the support of program management government operations.			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605812A: <i>Joint Light Tactical Vehicle - ED</i>	PROJECT VU9: <i>Joint Light Tactical Vehicle - ED</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012	FY 2013
FY 2013 Plans: Various costs to provide effort during the EMD phase.			
Title: Engineering, Manufacturing, and Development test and evaluations.	-	-	20.118
Description: Funding is provided for Engineering, Manufacturing, and Development (EMD) ballistic cab and chassis testing, Reliability, Availability and Maintainability (RAM) testing, Ballistic & AFES Testing, and Limited User Testing (LUT).			
FY 2013 Plans: Engineering, Manufacturing, and Development Test support.			
Accomplishments/Planned Programs Subtotals	-	-	72.295

C. Other Program Funding Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PM JLTV PROJECT L04: <i>Joint Light Tactical Vehicles (JLTV), 0603804A, Army RDTE Project L04</i>	36.408									0.000	36.408
• PM JLTV PROJECT L50: <i>Joint Light Tactical Vehicles (JLTV), 0604804A, Army RDTE Project L50</i>		87.217								0.000	87.217
• PM JLTV PRODUCTION D15603: <i>Joint Light Tactical Vehicles (JLTV), D15603, Army OPA 1</i>						167.408	299.238	516.722		Continuing	Continuing
• PM JLTV PROJECT 3209 0603635M: <i>Marine Corps Ground Combat/Support Systems, RDTE Project 3209 0603635M</i>	18.364	46.866								0.000	65.230
• PM JLTV PROJECT 3209 0605812M: <i>Marine Corps Ground</i>			44.500		44.500	16.000	40.100	44.300		Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605812A: <i>Joint Light Tactical Vehicle - ED</i>	PROJECT VU9: <i>Joint Light Tactical Vehicle - ED</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
<i>Combat/Support Systems, RDTE</i>											
<i>Project 3209 0605812M</i>											
• PM JLTV PRODUCTION 5095:							24.500	87.300	134.900	Continuing	Continuing
<i>Marine Corps Ground Combat/</i>											
<i>Support Systems, Production 5095</i>											

D. Acquisition Strategy

Joint Light Tactical Vehicles (JLTV) is a Joint Services Program with the U.S. Army and Marine Corps as the two main components. In addition, the Navy anticipates procuring JLTV vehicles upon successful Low Rate Initial Production (LRIP) testing. The program will use an evolutionary approach to deliver capabilities in increments based on program priorities. All technologies entering the current Engineering, Manufacturing and Development (EMD) phase shall be no less than Technology Readiness Level 6 to achieve Capabilities Development Document (CDD) requirements.

The program revised the acquisition strategy in the first quarter FY 2012 addressing Better Buying Power Initiatives, and reduced the schedule by 15 months to enable a 33-month Non-Developmental Item approach for EMD with Milestone B in third quarter of FY 2012. This initiative saves \$400.0 million in the Future Years Defense Program (FYDP) for the Services.

Increment I will produce two Mission Role Variant (MRV) configurations (Combat Tactical Vehicle (CTV) and Combat Support Vehicle (CSV)) with mission packages (General Purpose, Heavy Guns Carrier, Close Combat Weapons Carrier, and Utility/Shelter Carrier). EMD vendors will fabricate representative mission packages from both MRVs, which the Government will fully test during the EMD phase. Agreement was reached between the PM and user community to eliminate two mission packages, the Special Purpose (SP) and Command and Control On-The Move (C2OTM) vehicles which integrated WIN-T systems for the Army. Eliminating these unique vehicles reduces technical risk and cost of the JLTV EMD effort. It also eliminates duplicate development and relies on the WIN-T program's existing efforts to fund, integrate, and test their capabilities on other vehicles during the JLTV EMD schedule

Through a full and open competition, the program anticipates awarding up to three firm-fixed price contracts for the EMD phase. Unless future market research identifies a valid non-EMD vendor capable of delivering the required capabilities, there will be a down-select from the EMD contractors to enter into the Production and Deployment phase. The down-select will result in a fixed-price type contract with a base LRIP quantity, LRIP options, full-rate production options, and a Technical Data Package option.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605812A: <i>Joint Light Tactical Vehicle - ED</i>	PROJECT VU9: <i>Joint Light Tactical Vehicle - ED</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JLTV Contract Service Support	SS/CPFF	Booz-Allen Hamilton:VA	-	-		2.422		-		2.422	Continuing	Continuing	0.000
JLTV Contract Service Support	SS/CPFF	Camber Corporation:Huntsville, AL	-	-		0.200		-		0.200	Continuing	Continuing	0.000
JLTV Contract Service Support	SS/CPFF	US Army Combined Arms Support Commands - CASCOM:Ft. Lee, VA	-	-		0.200		-		0.200	Continuing	Continuing	0.000
Subtotal			-	-		2.822		-		2.822			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JLTV Engineering and Manufacturing Development Contracts	C/FFP	TBD:Various	-	-		31.609		-		31.609	Continuing	Continuing	0.000
Subtotal			-	-		31.609		-		31.609			0.000

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JLTV Program Management Support	Various	TACOM Life Cycle Management Command (LCMC):Harrison Township, MI	-	-		11.652		-		11.652	Continuing	Continuing	0.000
JLTV Program Prototype for Engineering, Manufacturing, and Development Phase	MIPR	Tank Automotive Reseach, Development, and Engineering Center - TARDEC:Warren, MI	-	-		3.985		-		3.985	Continuing	Continuing	0.000

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605812A: <i>Joint Light Tactical Vehicle - ED</i>	PROJECT VU9: <i>Joint Light Tactical Vehicle - ED</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Joint Capability Development Document (CDD) Approved																												
Engineering and Manufacturing Development (EMD) RFP release																												
Source Selection Evaluation Board (SSEB)																												
MS B																												
EMD Contract Award																												
EMD Development Contract																												
EMD Test and Validation / Reports																												
MS C																												
LRIP Contract Award																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605812A: <i>Joint Light Tactical Vehicle - ED</i>	PROJECT VU9: <i>Joint Light Tactical Vehicle - ED</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Joint Capability Development Document (CDD) Approved	2	2012	2	2012
Engineering and Manufacturing Development (EMD) RFP release	2	2012	2	2012
Source Selection Evaluation Board (SSEB)	2	2012	3	2012
MS B	3	2012	3	2012
EMD Contract Award	3	2012	3	2012
EMD Development Contract	3	2012	4	2014
EMD Test and Validation / Reports	4	2012	1	2015
MS C	2	2015	2	2015
LRIP Contract Award	3	2015	3	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	3.578	3.916	4.232	-	4.232	4.386	3.651	4.826	4.624	Continuing	Continuing
RH5: <i>TROJAN - RH12 - MIP</i>	3.578	3.916	4.232	-	4.232	4.386	3.651	4.826	4.624	Continuing	Continuing

Note

Change Summary Explanation: Adjustments to Budget Years generated by Congressional changes to President's Budget.

A. Mission Description and Budget Item Justification

This project is a Military Intelligence Program (MIP). Trojan research and development supports Trojan Classic XXI (TCXXI) and next generation (NexGEN) future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of Army Modernization and Army Force Generation, TCXXI TROJAN NexGen and TROJAN SWARM will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure, collaborative architecture.

A key factor for future force success is the ability to collect, process and use information about an adversary while preventing similar information from being disclosed. Trojan is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. Trojan operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. This project engineers, tests and evaluates new digital intelligence collection, processing and dissemination technology using the fielded Trojan systems, prior to the acquisition of those technologies. As part of the objective intelligence architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that Trojan keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threats.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	3.697	3.920	4.142	-	4.142
Current President's Budget	3.578	3.916	4.232	-	4.232
Total Adjustments	-0.119	-0.004	0.090	-	0.090
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-0.119	-0.004	0.090	-	0.090

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>	PROJECT RH5: <i>TROJAN - RH12 - MIP</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
RH5: <i>TROJAN - RH12 - MIP</i>	3.578	3.916	4.232	-	4.232	4.386	3.651	4.826	4.624	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

This project is a Military Intelligence Program (MIP). Trojan research and development supports Trojan Classic XXI (TCXXI) and next generation (NexGEN) future capabilities to fulfill the Army's need for a worldwide, deployable, remotable, intelligence, surveillance and reconnaissance support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of Army Modernization and Army Force Generation, TCXXI TROJAN NexGen and TROJAN SWARM will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure, collaborative architecture.

A key factor for future force success is the ability to collect, process and use information about an adversary while preventing similar information from being disclosed. Trojan is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, facsimile, and electronic reconnaissance support to U.S. forces throughout the world. Trojan operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. This project engineers, tests and evaluates new digital intelligence collection, processing and dissemination technology using the fielded Trojan systems, prior to the acquisition of those technologies. As part of the objective intelligence architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that Trojan keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threats.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Integrate and test specialized hardware/software</p> <p style="text-align: right;">Articles:</p> <p>Description: 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 National Security Agency (NSA) SW packages.</p> <p>FY 2011 Accomplishments: Integrated and tested specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resourced development of GLAIVE software. Integrated several new NSA SW packages.</p> <p>FY 2012 Plans:</p>	<p>0.388</p> <p>0</p>	<p>0.412</p> <p>0</p>	<p>0.862</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>	PROJECT RH5: <i>TROJAN - RH12 - MIP</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
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. FY 2013 Plans: Will 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 and integrated several new NSA SW efforts still ongoing. Will develop TROJAN SWARM Intelligence Surveillance Reconnaissance enterprise.				
Title: Multi-bandwidth compression algorithms Description: Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput. FY 2011 Accomplishments: Acquired and applied multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput. FY 2012 Plans: Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput. FY 2013 Plans: Will acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput, as well as new technologies that address Video Encoder/Decoder system improvements.		0.336 0	0.358 0	0.375
Articles:				
Title: Develop prototype quick reaction capability receiver Description: Develop prototype quick reaction capability receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using Digital System Processing (DSP) and Field Programmable Gate Arrays (FPGAs) technologies. FY 2011 Accomplishments: Developed prototype quick reaction capability receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGAs. FY 2012 Plans:		0.375 0	0.400 0	0.300
Articles:				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>	PROJECT RH5: <i>TROJAN - RH12 - MIP</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Develop prototype quick reaction capability receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGAs. FY 2013 Plans: Will continue development of prototype quick reaction capability receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGAs.				
Title: Integrate Direction Finding Description: Integrate Direction Finding (DF) and geolocation technologies into Trojan Remote Receiving Groups. FY 2011 Accomplishments: Integrated Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups. FY 2012 Plans: Integrate Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups. FY 2013 Plans: Will integrate Direction Finding (DF) and geolocation technologies into Trojan Remote Receiving Groups to include a High Frequency Direction Finding (HFDF) Extension Node 2 and a Wideband graphical user interface (GUI).		0.367 0	0.390 0	0.950
Articles:				
Title: Develop hardware/software interface Description: Develop hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system FY 2011 Accomplishments: Developed hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system FY 2012 Plans: Complete development of hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system		0.420 0	0.445 0	-
Articles:				
Title: Develop specialized software enhancements to the Trojan Description: Develop specialized software enhancements to the Trojan audio streaming subsystems to improve system redundancy and throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies.		0.270 0	0.285 0	0.300
Articles:				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>	PROJECT RH5: <i>TROJAN - RH12 - MIP</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p><i>FY 2011 Accomplishments:</i> Developed specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy and throughput capacity and system management capabilities; Investigated compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies.</p> <p><i>FY 2012 Plans:</i> Develop specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy and throughput capacity and system management capabilities; Investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies.</p> <p><i>FY 2013 Plans:</i> Will continue development of specialized software enhancements to the TROJAN audio streaming subsystems to improve system redundancy and throughput capacity and system management capabilities; will investigate compression/processing technologies to reduce communications bandwidth requirements for remoted TROJAN systems, including streaming audio technologies.</p>				
<p><i>Title:</i> Development of Satellite Communication (SATCOM) dishes and receivers</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Development of smaller more mobile Satellite Communication (SATCOM) dishes and receivers. Development of more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems.</p> <p><i>FY 2011 Accomplishments:</i> Developed smaller more mobile SATCOM dishes and receivers. Developed more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems.</p> <p><i>FY 2012 Plans:</i> Develop smaller more mobile SATCOM dishes and receivers. Develop more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems.</p> <p><i>FY 2013 Plans:</i> Will continue development of smaller more mobile SATCOM dishes and receivers and the development of more efficient use of bandwidth, communications on the move and man-packable intelligence collection systems; Super Quick Deploy SATCOM terminals that auto-acquire the spacecraft; and a Back-pack SATCOM system.</p>		0.736 0	0.780 0	0.500
<p><i>Title:</i> Labor cost software (SW) engineers</p> <p align="right"><i>Articles:</i></p>		0.686 0	0.846 0	0.945

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>	PROJECT RH5: <i>TROJAN - RH12 - MIP</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>Description: Labor for two software (SW) engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one Material Developer (MAT DEV) technologist, one MAT DEV software and one MAT DEV Hardware (HW) engineer.</p> <p>FY 2011 Accomplishments: Labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer.</p> <p>FY 2012 Plans: Labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer.</p> <p>FY 2013 Plans: Continued labor for two SW engineers at NSA in support of GLAIVE and other above applicable efforts. Continued labor for one MAT DEV technologist, one MAT DEV software and one MAT DEV HW engineer.</p>			
Accomplishments/Planned Programs Subtotals	3.578	3.916	4.232

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

D. Acquisition Strategy
This Acquisition Strategy for the TROJAN Classic XXI and TROJAN NexGen Systems 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 extent 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.

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 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				PE 0304270A: <i>Electronic Warfare Development</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	13.134	13.807	13.942	-	13.942	13.820	14.480	14.827	15.018	Continuing	Continuing
EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>	10.090	10.422	10.441	-	10.441	9.847	9.312	9.459	9.559	Continuing	Continuing
EW6: <i>ARAT-TSS - MIP</i>	3.044	3.385	3.501	-	3.501	3.973	5.168	5.368	5.459	Continuing	Continuing

Note

Change Summary Explanation: Funding - FY 2011: Program transferred from 0604270A beginning in FY 11 to comply with fully captured Military Intelligence Program (MIP) elements.

A. Mission Description and Budget Item Justification

FY 2011 budget request funds Electronic Warfare Development. This program element (PE) encompasses engineering and manufacturing development for tactical electronic warfare (EW). EW encompasses the development of tactical EW equipment and systems mounted in both ground and air vehicles. The systems under this program provides the Army with the capability to degrade or deny hostile forces the effective use of their communications, countermortar/counterbattery radars, surveillance radars, infrared/optical battlefield surveillance systems and electronically fused munitions. Existing Army EW systems must be replaced or upgraded to maintain their capability in the face of threats. The Army Reprogramming Analysis Team (ARAT) Project will develop, test and equip an Army-wide infrastructure capable of rapidly reprogramming electronic combat software embedded in offensive and defensive weapon systems.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	21.571	13.819	13.918	-	13.918
Current President's Budget	13.134	13.807	13.942	-	13.942
Total Adjustments	-8.437	-0.012	0.024	-	0.024
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.024	-	0.024
• Other Adjustments 1	-8.437	-0.012	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>				PROJECT EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>	10.090	10.422	10.441	-	10.441	9.847	9.312	9.459	9.559	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

Prophet Enhanced (PE) is the tactical commander's sole organic ground-based Signals Intelligence (SIGINT)/Electronic Warfare system for the Brigade Combat Team (BCT), Stryker Brigade Combat Team (SBCT), and Battlefield Surveillance Brigade (BFSB). Its primary mission is to provide 24-hour Situation Development and Information Superiority to the supported maneuver brigade to enable the most effective engagement of enemy forces. A BCT is typically fielded with two PE sensors and one Prophet Control/Prophet Analytic Cell (PC/PAC), which comprise the organic SIGINT collection and analytical functions for the unit. PE provides a modular, scalable, open architecture-based system solution optimized for ease of use in a variety of profiles (Stationary-Fixed, Mobile and Manpack). It also incorporates the ability for rapid integration of Technical Insertions and Pre-Planned Product Improvements to ensure operational relevance. PE is a non-vehicle specific system, allowing maximum flexibility to accommodate a myriad of platforms. It is comprised of modular components that provide a simultaneous mission capability in Stationary-Fixed, Mobile and Manpack configurations. This provides the commander maximum flexibility in employing the PE system and enhances the SIGINT capabilities available. PE provides reach-back capability and interfaces directly with the National SIGINT Enterprise via Wideband Beyond Line of Sight (WB BLOS) Satellite Communications at PC/PAC and the Sensor. PE is an integral part of the Army Modernization providing Near Real Time (NRT) information to the Brigade Commander within their combat decision cycle. This NRT information provides a key component of the fused intelligence Common Operating Environment (COE). PE is being fielded to deploying units in accordance with Army Force Generation (ARFORGEN) requirements.

FY2013 Base dollars support the following activities: develops product upgrades for Next Generation Signals to increase the capabilities of the PE and maintain operational relevance; initiates integration of Real-time Signal Processing architectural framework (e.g. Red Hawk); and initiates integration and testing of a software defined radio/receiver and antenna solutions (e.g. PENNANTRACE and Roadmaster) into the PE Sensor.

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

	FY 2011	FY 2012	FY 2013
Title: Integrate Electronic Warfare Systems	4.900	-	-
Articles:	0		
Description: Integrate Electronic Warfare Systems			
FY 2011 Accomplishments: Integrate Electronic Warfare Systems			
Title: Software System Integration Lab (SIL)	0.937	-	-
Articles:	0		

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>	PROJECT EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Develop Real-time Signal Processing architectural framework (software defined capabilities).			
Title: System Integration Lab (SIL)	-	1.500	1.000
Description: Stand Up SIL		0	
Articles:			
Description: Stand Up SIL			
FY 2012 Plans: Stand Up SIL			
FY 2013 Plans: Initiate operations of SIL			
Title: Next Generation Signals	-	-	4.734
Description: Prophet P3I effort			
FY 2013 Plans: Prophet P3I effort			
Accomplishments/Planned Programs Subtotals	10.090	10.422	10.441

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 654270 L12: <i>Electronic Warfare Development L12 (RDT&E)</i>											
• SSN BZ7326: <i>Prophet Ground (OPA)</i>	83.265	72.041	48.797		48.797		59.906	57.770	52.579	Continuing	Continuing
• SSN 9751: <i>Special Purpose Systems (MIP OPA) (Prophet Only)</i>	6.842	9.163	2.412		2.412		1.231	1.153	2.152	Continuing	Continuing
• PE 305288G: <i>Defense Cryptological Program for Prophet (MIP) (RDT&E)</i>	1.062	3.864	0.754		0.754					Continuing	Continuing

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D. Acquisition Strategy

The Prophet R&D Acquisition Strategy is structured to optimize system capability while reducing risk and streamlining business and engineering processes. PE entered production in 2QFY09 via Full and Open competition. The PE contract supports R&D and other developmental work under a Cost-Plus effort. The PE contract also supports production and sustainment under Firm-Fixed-Price and Indefinite-Delivery Indefinite-Quantity. The PE contract will be used to maintain the operational relevancy of PE systems in a dynamic threat environment.

E. Performance Metrics

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

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>	PROJECT EW5: <i>ELECTRONIC WARFARE DEVELOPMENT - MIP</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	PM Electronic Warfare:APG, MD	-	0.181		0.181		-		0.181	Continuing	Continuing	Continuing
Subtotal			-	0.181		0.181		-		0.181			

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software SIL	C/FP	GD C4 Systems:Scottsdale, AZ	0.889	-		-		-		-	0.000	0.889	0.000
Radio/Receiver Inegration (integrate software defined receiver)	C/FP	GD C4 Systems:Scottsdale, AZ	4.037	-		-		-		-	Continuing	Continuing	Continuing
Integrate Electronic Warfare Systems	C/FP	TBD:TBD	4.900	-		-		-		-	Continuing	Continuing	Continuing
Next Generation Signals (TOS)	C/FP	GD C4 Systems:Scottsdale, AZ	-	1.200		-		-		-	Continuing	Continuing	Continuing
Precision Geo-Location	C/FP	GD C4 Systems:Scottsdale, AZ	-	4.200		-		-		-	Continuing	Continuing	Continuing
Real-time Signal Processing architectural framework (software defined capabilities)	C/CPIF	GD C4 Systems:Scottsdale, AZ	-	3.291		3.412		-		3.412	Continuing	Continuing	Continuing
Next Generation Signals	C/FP	GD C4 Systems:Scottsdale, AZ	-	-		3.400		-		3.400	Continuing	Continuing	Continuing
Subtotal			9.826	8.691		6.812		-		6.812			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	Various	I2WD:APG, MD	0.264	0.050		0.448		-		0.448	Continuing	Continuing	Continuing

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Army		DATE: February 2012
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Prophet Control/Prophet Analytic Cell Production	4	2011	4	2015
Delta Testing - P3I (2013)	2	2013	2	2013
Delta Testing - P3I (2015)	2	2015	2	2015
Delta Testing (2017)	2	2017	2	2017

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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
EW6: <i>ARAT-TSS - MIP</i>	3.044	3.385	3.501	-	3.501	3.973	5.168	5.368	5.459	Continuing	Continuing
Quantity of RDT&E Articles											

Note

This is not a new start. Program transferred from 0604270A beginning in FY 11 to comply with fully captured Military Intelligence Program (MIP) elements.

A. Mission Description and Budget Item Justification

The Army Reprogramming Analysis Team (ARAT) is a Department of the Army established program to develop techniques, methods, tools and architecture to reprogram mission software embedded in Army Force Protection Systems (FPS) and Target Sensing Systems (TSS) in response to changes in threat signatures. The regulatory guidance directing this mission is contained in AR 525-15, AR 525-22, and AR 95-1. Current military operations are conducted in a rapidly changing threat environment, where Improvised Explosive Devices (IEDs), Infra Red (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 Electronic Warfare (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 integrated reprogramming of 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 and TSS; determines the impact of observed signature changes; creates new mission data software to adapt the system to the changes; disseminates the mission software changes; and provides methods to upload the new mission software into the affected FPS and TSS. Each element within the ARAT infrastructure plays a specific role within the program's rapid reprogramming process, providing the Soldier 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 TSS, and supports Service and JCS Reprogramming Exercises in all theaters.

ARAT Research and Development 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, mission software development, distribution and uploading of mission software changes directly to the supported Soldier.

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

	FY 2011	FY 2012	FY 2013
Title: Keeping Pace with the Enemy and Technology	1.785	2.013	2.206
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2011 Accomplishments:			

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>	PROJECT EW6: <i>ARAT-TSS - MIP</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Keeping Pace with the Enemy and Technology - Analysis and Studies for Electro Optics, Infra Red, Ultra Violet (EO/IR/UV) Multi-Spectral FPS and 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 EO/UV/IR and other multi-spectral sensors for aviation and non-aviation EW systems, 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 FPS and TSS.</p> <p>FY 2012 Plans: Keeping Pace with the Enemy and Technology - Analysis and Studies for Electro Optics, Infra Red, Ultra Violet (EO/IR/UV) Multi-Spectral EW system 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 EO/UV/IR and other multi-spectral sensors for aviation and non-aviation EW systems, 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 EW systems.Keeping Pace with the Enemy and Technology - Analysis and Studies for Electro Optics, Infra Red, Ultra Violet (EO/IR/UV) Multi-Spectral FPS and 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 EO/UV/IR and other multi-spectral sensors for aviation and non-aviation EW systems, 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 FPS and TSS.</p> <p>FY 2013 Plans: Keeping Pace with the Enemy and Technology - Analysis and Studies for Electro Optics, Infra Red, Ultra Violet (EO/IR/UV) Multi-Spectral FPS and 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 EO/UV/IR and other multi-spectral sensors for aviation and non-aviation EW systems, 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 FPS and TSS.</p>				
Title: Infrastructure Improvements Multispectral		0.618	0.605	0.607
		Articles: 0	0	
Description: Funding is provided for the following effort				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p><i>FY 2011 Accomplishments:</i> Infrastructure improvements for 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 OFPs and subsequently adapt MWSs 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 2012 Plans:</i> Infrastructure improvements for Operational Flight Program (OFP) sustainment environment - Develop and deploy operational flight program (OFP) development environment for MWS. Determine data and analysis requirements for MANPADS characterization and establish a government-organic analysis and sustainment process to support OFPs and subsequently adapt MWSs 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 2013 Plans:</i> Infrastructure improvements for Operational Flight Program (OFP) sustainment environment - Develop and deploy operational flight program (OFP) development environment for MWS. Determine data and analysis requirements for MANPADS characterization and establish a government-organic analysis and sustainment process to support OFPs and subsequently adapt MWSs 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>Title:</i> Infrastructure Improvement Radio Frequency General</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Funding is provided for the following effort</p> <p><i>FY 2011 Accomplishments:</i> Infrastructure improvements (general) - Enhance the ARAT communications architecture to facilitate the transmission of mission software changes to FPS and TSS users, with emphasis on remote user and highly mobile Soldier connectivity. Develop and implement integrated ASE test environment to ensure MDS and aircraft counter-measure (CM) Integration flight test support.</p> <p><i>FY 2012 Plans:</i> Infrastructure improvements (general) - Enhance the ARAT communications architecture to facilitate the transmission of mission software changes to FPS and TSS users, with emphasis on remote user and highly mobile Soldier connectivity. Develop and implement integrated ASE test environment to ensure MDS and aircraft counter-measure (CM) Integration flight test support.</p> <p><i>FY 2013 Plans:</i></p>		0.435 0	0.540 0	0.478

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Infrastructure improvements (general) - Enhance the ARAT communications architecture to facilitate the transmission of mission software changes to FPS and TSS users, with emphasis on remote user and highly mobile Soldier connectivity. Develop and implement integrated ASE test environment to ensure MDS and aircraft counter-measure (CM) Integration flight test support.				
<p>Title: Threat Flagging and Mission Data Set Reprogramming Tool Development</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2011 Accomplishments: Threat Flagging and MDS Reprogramming Tool Development - Develop applications for ARAT internal system-specific threat flagging, threat analysis, MDS generation, and MDS testing. Enhance threat flagging (threat performance change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging and changing threats that adversely affect the performance of FPS and 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>FY 2012 Plans: Threat Flagging and MDS Reprogramming Tool Development - Develop applications for ARAT internal system-specific threat flagging, threat analysis, MDS generation, and MDS testing. Enhance threat flagging (threat performance change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging and changing threats that adversely affect the performance of FPS and 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>FY 2013 Plans: Threat Flagging and MDS Reprogramming Tool Development - Develop applications for ARAT internal system-specific threat flagging, threat analysis, MDS generation, and MDS testing. Enhance threat flagging (threat performance change detection) and intelligence analytical tools, based on supported systems performance criteria, to rapidly identify and counter emerging and changing threats that adversely affect the performance of FPS and 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</p>		<p>0.206</p> <p>0</p>	<p>0.227</p> <p>0</p>	<p>0.210</p>

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APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>	PROJECT EW6: <i>ARAT-TSS - MIP</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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.			
Accomplishments/Planned Programs Subtotals	3.044	3.385	3.501

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

N/A

D. Acquisition Strategy

The efforts to be funded in this project will require a combination of systems specific and high-tech knowledge. The contractual services portion for the project will be obtained from both the Communications-Electronics Command (CECOM) Software Engineering Center (SEC) competitive omnibus and the Research, Development and Engineering Command (RDECOM) high tech contracts.

E. Performance Metrics

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

