

UNCLASSIFIED

**Department of Defense
Fiscal Year (FY) 2014 President's Budget Submission**

April 2013



Army

Justification Book

Research, Development, Test & Evaluation, Army

RDT&E - Volume II, Budget Activity 5B

UNCLASSIFIED

UNCLASSIFIED
 Department of the Army
 FY 2014 RDT&E Program
 President's Budget 2014

Exhibit R-1

Summary

20-Feb-2013

Summary Recap of Budget Activities		Thousands of Dollars				
		FY2012	FY2013	FY2014	FY2014 OCO	FY2014 Total
Basic research		408,842	444,071	436,725	0	436,725
Applied Research		929,984	874,730	885,924	0	885,924
Advanced technology development		1,067,459	890,722	882,106	0	882,106
Advanced Component Development and Prototypes		513,368	629,981	636,392	26,625	663,017
System Development and Demonstration		3,135,367	3,286,629	2,857,026	0	2,857,026
Management support		1,341,545	1,153,980	1,159,610	0	1,159,610
Operational system development		1,303,974	1,664,534	1,126,602	0	1,126,602
Total	RDT&E, Army	8,700,539	8,944,647	7,984,385	26,625	8,011,010

UNCLASSIFIED
 Department of the Army
 FY 2014 RDT&E Program
 President's Budget 2014

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

20-Feb-2013

Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2012	FY2013	FY2014	FY2014 OCO	FY2014 Total
Basic research								
1	0601101A	01	IN-HOUSE LABORATORY INDEPENDENT RESEARCH	20,395	20,860	21,803		21,803
2	0601102A	01	DEFENSE RESEARCH SCIENCES	207,983	219,180	221,901		221,901
3	0601103A	01	UNIVERSITY RESEARCH INITIATIVES	78,380	80,986	79,359		79,359
4	0601104A	01	UNIVERSITY AND INDUSTRY RESEARCH CENTERS	102,084	123,045	113,662		113,662
Total: Basic research				408,842	444,071	436,725	0	436,725
Applied Research								
5	0602105A	02	MATERIALS TECHNOLOGY	37,707	29,041	26,585		26,585
6	0602120A	02	SENSORS AND ELECTRONIC SURVIVABILITY	42,189	45,260	43,170		43,170
7	0602122A	02	TRACTOR HIP	14,207	22,439	36,293		36,293
8	0602211A	02	AVIATION TECHNOLOGY	43,430	51,607	55,615		55,615
9	0602270A	02	ELECTRONIC WARFARE TECHNOLOGY	15,667	15,068	17,585		17,585
10	0602303A	02	MISSILE TECHNOLOGY	65,591	49,383	51,528		51,528
11	0602307A	02	ADVANCED WEAPONS TECHNOLOGY	19,392	25,999	26,162		26,162
12	0602308A	02	ADVANCED CONCEPTS AND SIMULATION	20,356	23,507	24,063		24,063
13	0602601A	02	COMBAT VEHICLE AND AUTOMOTIVE TECHNOLOGY	62,339	69,062	64,589		64,589
14	0602618A	02	BALLISTICS TECHNOLOGY	60,507	60,823	68,300		68,300
15	0602622A	02	CHEMICAL, SMOKE AND EQUIPMENT DEFEATING TECHNOLOGY	4,753	4,465	4,490		4,490
16	0602623A	02	JOINT SERVICE SMALL ARMS PROGRAM	8,010	7,169	7,818		7,818
17	0602624A	02	WEAPONS AND MUNITIONS TECHNOLOGY	53,883	35,218	37,798		37,798
18	0602705A	02	ELECTRONICS AND ELECTRONIC DEVICES	74,518	60,300	59,021		59,021
19	0602709A	02	NIGHT VISION TECHNOLOGY	54,002	53,244	43,426		43,426
20	0602712A	02	COUNTERMINE SYSTEMS	32,226	18,850	20,574		20,574
21	0602716A	02	HUMAN FACTORS ENGINEERING TECHNOLOGY	21,540	19,872	21,339		21,339
22	0602720A	02	ENVIRONMENTAL QUALITY TECHNOLOGY	20,389	20,095	20,316		20,316
23	0602782A	02	COMMAND, CONTROL, COMMUNICATIONS TECHNOLOGY	25,703	28,852	34,209		34,209
24	0602783A	02	COMPUTER AND SOFTWARE TECHNOLOGY	8,433	9,830	10,439		10,439
25	0602784A	02	MILITARY ENGINEERING TECHNOLOGY	75,465	70,693	70,064		70,064

UNCLASSIFIED
 Department of the Army
 FY 2014 RDT&E Program
 President's Budget 2014

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

20-Feb-2013

Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2012	FY2013	FY2014	FY2014 OCO	FY2014 Total
26	0602785A	02	MANPOWER/PERSONNEL/TRAINING TECHNOLOGY	18,623	17,781	17,654		17,654
27	0602786A	02	WARFIGHTER TECHNOLOGY	46,864	28,281	31,546		31,546
28	0602787A	02	MEDICAL TECHNOLOGY	104,190	107,891	93,340		93,340
Total: Applied Research				929,984	874,730	885,924	0	885,924
Advanced technology development								
29	0603001A	03	WARFIGHTER ADVANCED TECHNOLOGY	55,679	39,359	56,056		56,056
30	0603002A	03	MEDICAL ADVANCED TECHNOLOGY	101,655	69,580	62,032		62,032
31	0603003A	03	AVIATION ADVANCED TECHNOLOGY	60,333	64,215	81,080		81,080
32	0603004A	03	WEAPONS AND MUNITIONS ADVANCED TECHNOLOGY	75,607	67,613	63,919		63,919
33	0603005A	03	COMBAT VEHICLE AND AUTOMOTIVE ADVANCED TECHNOLOGY	142,833	104,359	97,043		97,043
34	0603006A	03	SPACE APPLICATION ADVANCED TECHNOLOGY	4,158	4,157	5,866		5,866
35	0603007A	03	MANPOWER, PERSONNEL AND TRAINING ADVANCED TECHNOLOGY	10,063	9,856	7,800		7,800
36	0603008A	03	ELECTRONIC WARFARE ADVANCED TECHNOLOGY	67,673	50,661	40,416		40,416
37	0603009A	03	TRACTOR HIKE	8,142	9,126	9,166		9,166
38	0603015A	03	NEXT GENERATION TRAINING & SIMULATION SYSTEMS	14,970	17,257	13,627		13,627
39	0603020A	03	TRACTOR ROSE	12,577	9,925	10,667		10,667
40	0603105A	03	MILITARY HIV RESEARCH	22,552	6,984			
41	0603125A	03	COMBATING TERRORISM - TECHNOLOGY DEVELOPMENT	21,939	9,716	15,054		15,054
42	0603130A	03	TRACTOR NAIL	4,271	3,487	3,194		3,194
43	0603131A	03	TRACTOR EGGS	2,257	2,323	2,367		2,367
44	0603270A	03	ELECTRONIC WARFARE TECHNOLOGY	23,046	21,683	25,348		25,348
45	0603313A	03	MISSILE AND ROCKET ADVANCED TECHNOLOGY	87,749	71,111	64,009		64,009
46	0603322A	03	TRACTOR CAGE	10,299	10,902	11,083		11,083
47	0603461A	03	HIGH PERFORMANCE COMPUTING MODERNIZATION PROGRAM	176,533	180,582	180,662		180,662
48	0603606A	03	LANDMINE WARFARE AND BARRIER ADVANCED TECHNOLOGY	30,687	27,204	22,806		22,806
49	0603607A	03	JOINT SERVICE SMALL ARMS PROGRAM	7,473	6,095	5,030		5,030
50	0603710A	03	NIGHT VISION ADVANCED TECHNOLOGY	41,283	37,217	36,407		36,407
51	0603728A	03	ENVIRONMENTAL QUALITY TECHNOLOGY DEMONSTRATIONS	15,247	13,626	11,745		11,745
52	0603734A	03	MILITARY ENGINEERING ADVANCED TECHNOLOGY	40,496	28,458	23,717		23,717

UNCLASSIFIED
 Department of the Army
 FY 2014 RDT&E Program
 President's Budget 2014

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

20-Feb-2013

Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2012	FY2013	FY2014	FY2014 OCO	FY2014 Total
53	0603772A	03	ADVANCED TACTICAL COMPUTER SCIENCE AND SENSOR TECHNOLOGY	29,937	25,226	33,012		33,012
Total: Advanced technology development				1,067,459	890,722	882,106	0	882,106
Advanced Component Development and Prototypes								
54	0603305A	04	ARMY MISSILE DEFENSE SYSTEMS INTEGRATION	23,463	14,505	15,301		15,301
55	0603308A	04	ARMY SPACE SYSTEMS INTEGRATION	9,557	9,876	13,592		13,592
56	0603619A	04	LANDMINE WARFARE AND BARRIER - ADV DEV	16,399	5,054	10,625		10,625
57	0603627A	04	SMOKE, OBSCURANT AND TARGET DEFEATING SYS-ADV DEV	4,357	2,725			
58	0603639A	04	TANK AND MEDIUM CALIBER AMMUNITION	40,201	30,560	30,612		30,612
59	0603653A	04	ADVANCED TANK ARMAMENT SYSTEM (ATAS)	62,343	14,347	49,989		49,989
60	0603747A	04	SOLDIER SUPPORT AND SURVIVABILITY	13,720	29,933	6,703	26,625	33,328
61	0603766A	04	TACTICAL ELECTRONIC SURVEILLANCE SYSTEM - ADV DEV	5,757	8,660	6,894		6,894
62	0603774A	04	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT		10,715	9,066		9,066
63	0603779A	04	ENVIRONMENTAL QUALITY TECHNOLOGY - DEM/VAL	4,788	4,631	2,633		2,633
64	0603782A	04	WARFIGHTER INFORMATION NETWORK-TACTICAL - DEM/VAL	177,122	278,018	272,384		272,384
65	0603790A	04	NATO RESEARCH AND DEVELOPMENT	4,612	4,961	3,874		3,874
66	0603801A	04	AVIATION - ADV DEV	6,879	8,602	5,018		5,018
67	0603804A	04	LOGISTICS AND ENGINEER EQUIPMENT - ADV DEV	12,107	14,605	11,556		11,556
68	0603805A	04	COMBAT SERVICE SUPPORT CONTROL SYSTEM EVALUATION AND ANALYSIS	5,090	5,054			
69	0603807A	04	MEDICAL SYSTEMS - ADV DEV	34,809	24,384	15,603		15,603
70	0603827A	04	SOLDIER SYSTEMS - ADVANCED DEVELOPMENT	23,516	32,050	14,159		14,159
71	0603850A	04	INTEGRATED BROADCAST SERVICE	1,494	96	79		79
72	0604115A	04	TECHNOLOGY MATURATION INITIATIVES	11,839	24,868	55,605		55,605
73	0604131A	04	TRACTOR JUTE		59			
74	0604319A	04	INDIRECT FIRE PROTECTION CAPABILITY INCREMENT 2-INTERCEPT (IFPC2)		76,039	79,232		79,232
75	0604785A	04	INTEGRATED BASE DEFENSE (BUDGET ACTIVITY 4)	3,926	4,043	4,476		4,476
76	0305205A	04	ENDURANCE UAVS	51,389	26,196	28,991		28,991
Total: Advanced Component Development and Prototypes				513,368	629,981	636,392	26,625	663,017

UNCLASSIFIED
 Department of the Army
 FY 2014 RDT&E Program
 President's Budget 2014

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

20-Feb-2013

Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2012	FY2013	FY2014	FY2014 OCO	FY2014 Total
System Development and Demonstration								
77	0604201A	05	AIRCRAFT AVIONICS	115,890	78,538	76,588		76,588
78	0604220A	05	ARMED, DEPLOYABLE HELOS	80,323	90,494	73,309		73,309
79	0604270A	05	ELECTRONIC WARFARE DEVELOPMENT	33,164	181,347	154,621		154,621
80	0604280A	05	JOINT TACTICAL RADIO			31,826		31,826
81	0604290A	05	MID-TIER NETWORKING VEHICULAR RADION (MNVR)	47,000	12,636	23,341		23,341
82	0604321A	05	ALL SOURCE ANALYSIS SYSTEM	7,400	5,694	4,839		4,839
83	0604328A	05	TRACTOR CAGE	23,535	32,095	23,841		23,841
84	0604601A	05	INFANTRY SUPPORT WEAPONS	81,081	96,478	79,855		79,855
85	0604604A	05	MEDIUM TACTICAL VEHICLES	3,835	3,006	2,140		2,140
86	0604611A	05	JAVELIN	9,655	5,040	5,002		5,002
87	0604622A	05	FAMILY OF HEAVY TACTICAL VEHICLES	5,239	3,077	21,321		21,321
88	0604633A	05	AIR TRAFFIC CONTROL	22,218	9,769	514		514
89	0604641A	05	TACTICAL UNMANNED GROUND VEHICLE (TUGV)		13,141			
90	0604642A	05	LIGHT TACTICAL WHEELED VEHICLES	68,442				
91	0604661A	05	FCS SYSTEMS OF SYSTEMS ENGR & PROGRAM MGMT	257,513				
92	0604663A	05	FCS UNMANNED GROUND VEHICLES	34,845				
93	0604710A	05	NIGHT VISION SYSTEMS - ENG DEV	55,412	32,621	43,405		43,405
94	0604713A	05	COMBAT FEEDING, CLOTHING, AND EQUIPMENT	2,008	2,132	1,939		1,939
95	0604715A	05	NON-SYSTEM TRAINING DEVICES - ENG DEV	29,206	44,787	18,980		18,980
96	0604716A	05	TERRAIN INFORMATION - ENG DEV	1,593	1,008			
97	0604741A	05	AIR DEFENSE COMMAND, CONTROL AND INTELLIGENCE - ENG DEV	57,050	73,333	18,294		18,294
98	0604742A	05	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	27,530	28,937	17,013		17,013
99	0604746A	05	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	13,932	10,815	6,701		6,701
100	0604760A	05	DISTRIBUTIVE INTERACTIVE SIMULATIONS (DIS) - ENG DEV	15,357	13,926	14,575		14,575
101	0604780A	05	COMBINED ARMS TACTICAL TRAINER (CATT) CORE	21,541	17,797	27,634		27,634
102	0604798A	05	BRIGADE ANALYSIS, INTEGRATION AND EVALUATION		214,270	193,748		193,748
103	0604802A	05	WEAPONS AND MUNITIONS - ENG DEV	13,384	14,581	15,721		15,721
104	0604804A	05	LOGISTICS AND ENGINEER EQUIPMENT - ENG DEV	173,902	43,706	41,703		41,703
105	0604805A	05	COMMAND, CONTROL, COMMUNICATIONS SYSTEMS - ENG DEV	79,188	20,776	7,379		7,379

UNCLASSIFIED
 Department of the Army
 FY 2014 RDT&E Program
 President's Budget 2014

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

20-Feb-2013

Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2012	FY2013	FY2014	FY2014 OCO	FY2014 Total
106	0604807A	05	MEDICAL MATERIEL/MEDICAL BIOLOGICAL DEFENSE EQUIPMENT - ENG DEV	26,316	43,395	39,468		39,468
107	0604808A	05	LANDMINE WARFARE/BARRIER - ENG DEV	73,955	104,983	92,285		92,285
108	0604814A	05	ARTILLERY MUNITIONS - EMD	45,821	4,346	8,209		8,209
109	0604818A	05	ARMY TACTICAL COMMAND & CONTROL HARDWARE & SOFTWARE	91,490	77,223	22,958		22,958
110	0604820A	05	RADAR DEVELOPMENT	3,093	3,486	1,549		1,549
111	0604822A	05	GENERAL FUND ENTERPRISE BUSINESS SYSTEM (GFEBS)	787	9,963	17,342		17,342
112	0604823A	05	FIREFINDER	12,032	20,517	47,221		47,221
113	0604827A	05	SOLDIER SYSTEMS - WARRIOR DEM/VAL	41,680	51,851	48,477		48,477
114	0604854A	05	ARTILLERY SYSTEMS - EMD	116,293	167,797	80,613		80,613
115	0604869A	05	PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)	377,610	400,861			
116	0604870A	05	NUCLEAR ARMS CONTROL MONITORING SENSOR NETWORK	7,160	7,922			
117	0605013A	05	INFORMATION TECHNOLOGY DEVELOPMENT	35,714	51,463	68,814		68,814
118	0605018A	05	INTEGRATED PERSONNEL AND PAY SYSTEM-ARMY (IPPS-A)	66,612	158,646	137,290		137,290
119	0605028A	05	ARMORED MULTI-PURPOSE VEHICLE (AMPV)			116,298		116,298
120	0605030A	05	JOINT TACTICAL NETWORK CENTER (JTNC)			68,148		68,148
121	0605380A	05	AMF JOINT TACTICAL RADIO SYSTEM (JTRS)			33,219		33,219
122	0605450A	05	JOINT AIR-TO-GROUND MISSILE (JAGM)	123,100	10,000	15,127		15,127
123	0605455A	05	SLAMRAAM	1,186				
124	0605456A	05	PAC-3/MSE MISSILE	86,139	69,029	68,843		68,843
125	0605457A	05	ARMY INTEGRATED AIR AND MISSILE DEFENSE (AIAMD)	262,032	277,374	364,649		364,649
126	0605625A	05	MANNED GROUND VEHICLE	434,977	639,874	592,201		592,201
127	0605626A	05	AERIAL COMMON SENSOR	31,415	47,426	10,382		10,382
128	0605766A	05	NATIONAL CAPABILITIES INTEGRATION (MIP)			21,143		21,143
129	0605812A	05	JOINT LIGHT TACTICAL VEHICLE (JLTV) ENGINEERING AND MANUFACTURING D		72,295	84,230		84,230
130	0303032A	05	TROJAN - RH12	3,914	4,232	3,465		3,465
131	0304270A	05	ELECTRONIC WARFARE DEVELOPMENT	13,798	13,942	10,806		10,806
Total: System Development and Demonstration				3,135,367	3,286,629	2,857,026	0	2,857,026
Management support								
132	0604256A	06	THREAT SIMULATOR DEVELOPMENT	25,838	18,090	16,934		16,934

UNCLASSIFIED
 Department of the Army
 FY 2014 RDT&E Program
 President's Budget 2014

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

20-Feb-2013

Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2012	FY2013	FY2014	FY2014 OCO	FY2014 Total
133	0604258A	06	TARGET SYSTEMS DEVELOPMENT	10,973	14,034	13,488		13,488
134	0604759A	06	MAJOR T&E INVESTMENT	47,972	37,394	46,672		46,672
135	0605103A	06	RAND ARROYO CENTER	19,730	21,026	11,919		11,919
136	0605301A	06	ARMY KWAJALEIN ATOLL	141,365	176,816	193,658		193,658
137	0605326A	06	CONCEPTS EXPERIMENTATION PROGRAM	27,923	27,902	37,158		37,158
138	0605502A	06	SMALL BUSINESS INNOVATIVE RESEARCH	208,324				
139	0605601A	06	ARMY TEST RANGES AND FACILITIES	366,327	369,900	340,659		340,659
140	0605602A	06	ARMY TECHNICAL TEST INSTRUMENTATION AND TARGETS	68,968	69,183	66,061		66,061
141	0605604A	06	SURVIVABILITY/LETHALITY ANALYSIS	42,088	44,753	43,280		43,280
142	0605605A	06	DOD HIGH ENERGY LASER TEST FACILITY	18				
143	0605606A	06	AIRCRAFT CERTIFICATION	5,555	5,762	6,025		6,025
144	0605702A	06	METEOROLOGICAL SUPPORT TO RDT&E ACTIVITIES	7,062	7,402	7,349		7,349
145	0605706A	06	MATERIEL SYSTEMS ANALYSIS	19,498	19,954	19,809		19,809
146	0605709A	06	EXPLOITATION OF FOREIGN ITEMS	5,435	5,535	5,941		5,941
147	0605712A	06	SUPPORT OF OPERATIONAL TESTING	68,311	67,789	55,504		55,504
148	0605716A	06	ARMY EVALUATION CENTER	62,845	62,765	65,274		65,274
149	0605718A	06	ARMY MODELING & SIM X-CMD COLLABORATION & INTEG	3,312	1,545	1,283		1,283
150	0605801A	06	PROGRAMWIDE ACTIVITIES	82,015	83,422	82,035		82,035
151	0605803A	06	TECHNICAL INFORMATION ACTIVITIES	52,085	50,820	33,853		33,853
152	0605805A	06	MUNITIONS STANDARDIZATION, EFFECTIVENESS AND SAFETY	53,530	46,763	53,340		53,340
153	0605857A	06	ENVIRONMENTAL QUALITY TECHNOLOGY MGMT SUPPORT	4,801	4,601	5,193		5,193
154	0605898A	06	MANAGEMENT HQ - R&D	17,480	18,524	54,175		54,175
155	0909999A	06	FINANCING FOR CANCELLED ACCOUNT ADJUSTMENTS	90				
Total: Management support				1,341,545	1,153,980	1,159,610	0	1,159,610
Operational system development								
156	0603778A	07	MLRS PRODUCT IMPROVEMENT PROGRAM	64,609	143,005	110,576		110,576
157	0607141A	07	LOGISTICS AUTOMATION			3,717		3,717
158	0607665A	07	BIOMETRICS ENTERPRISE	44,155				
159	0607865A	07	PATRIOT PRODUCT IMPROVEMENT		109,978	70,053		70,053

UNCLASSIFIED
 Department of the Army
 FY 2014 RDT&E Program
 President's Budget 2014

Exhibit R-1

Appropriation: 2040 A RDT&E, Army

20-Feb-2013

Line No	Program Element Number	Act	Item	Thousands of Dollars				
				FY2012	FY2013	FY2014	FY2014 OCO	FY2014 Total
160	0102419A	07	AEROSTAT JOINT PROJECT OFFICE	317,382	190,422	98,450		98,450
161	0203726A	07	ADV FIELD ARTILLERY TACTICAL DATA SYSTEM	28,649	32,556	30,940		30,940
162	0203735A	07	COMBAT VEHICLE IMPROVEMENT PROGRAMS	35,046	253,959	177,532		177,532
163	0203740A	07	MANEUVER CONTROL SYSTEM	39,282	68,325	36,495		36,495
164	0203744A	07	AIRCRAFT MODIFICATIONS/PRODUCT IMPROVEMENT PROGRAMS	144,904	280,247	257,187		257,187
165	0203752A	07	AIRCRAFT ENGINE COMPONENT IMPROVEMENT PROGRAM	800	898	315		315
166	0203758A	07	DIGITIZATION	7,771	35,180	6,186		6,186
167	0203801A	07	MISSILE/AIR DEFENSE PRODUCT IMPROVEMENT PROGRAM	52,811	20,733	1,578		1,578
168	0203802A	07	OTHER MISSILE PRODUCT IMPROVEMENT PROGRAMS			62,100		62,100
169	0203808A	07	TRACTOR CARD	42,487	63,243	18,778		18,778
170	0208053A	07	JOINT TACTICAL GROUND SYSTEM	27,586	31,738	7,108		7,108
171	0208058A	07	JOINT HIGH SPEED VESSEL (JHSV)		35			
172	0301359A	07	SPECIAL ARMY PROGRAM					
173	0303028A	07	SECURITY AND INTELLIGENCE ACTIVITIES	2,763	7,591	7,600		7,600
174	0303140A	07	INFORMATION SYSTEMS SECURITY PROGRAM	15,282	15,961	9,357		9,357
175	0303141A	07	GLOBAL COMBAT SUPPORT SYSTEM	155,813	120,927	41,225		41,225
176	0303142A	07	SATCOM GROUND ENVIRONMENT (SPACE)	11,765	15,756	18,197		18,197
177	0303150A	07	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	22,658	14,443	14,215		14,215
178	0305204A	07	TACTICAL UNMANNED AERIAL VEHICLES	26,508	31,303	33,533		33,533
179	0305208A	07	DISTRIBUTED COMMON GROUND/SURFACE SYSTEMS	31,401	40,876	27,622		27,622
180	0305219A	07	MQ-1 SKY WARRIOR A UAV	121,846	74,618	10,901		10,901
181	0305232A	07	RQ-11 UAV	1,935	4,039	2,321		2,321
182	0305233A	07	RQ-7 UAV	31,896	31,158	12,031		12,031
183	0305235A	07	MQ-18 UAV	4,000	2,387			
184	0307665A	07	BIOMETRICS ENABLED INTELLIGENCE	15,018	15,248	12,449		12,449
185	0708045A	07	END ITEM INDUSTRIAL PREPAREDNESS ACTIVITIES	57,607	59,908	56,136		56,136
Total: Operational system development				1,303,974	1,664,534	1,126,602	0	1,126,602
Total: RDT&E, Army				8,700,539	8,944,647	7,984,385	26,625	8,011,010

UNCLASSIFIED

Army • President's Budget Submission FY 2014 • RDT&E Program

Table of Contents

Program Element Table of Contents (by Budget Activity then Line Item Number)..... ii
Program Element Table of Contents (Alphabetically by Program Element Title)..... vi
Exhibit R-2's..... 1

UNCLASSIFIED

Army • President's Budget Submission FY 2014 • RDT&E Program

Program Element Table of Contents (by Budget Activity then Line Item Number)

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

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
77	05	0604201A	AIRCRAFT AVIONICS.....	1
78	05	0604220A	Armed, Deployable Helos.....	26
79	05	0604270A	Electronic Warfare Development.....	40
80	05	0604280A	Joint Tactical Radio.....	75
81	05	0604290A	Mid-tier Networking Vehicular Radio (MNVR).....	91
82	05	0604321A	ALL SOURCE ANALYSIS SYSTEM.....	99
83	05	0604328A	TRACTOR CAGE.....	115
84	05	0604601A	Infantry Support Weapons.....	116
85	05	0604604A	MEDIUM TACTICAL VEHICLES.....	186
86	05	0604611A	JAVELIN (AAWS-M).....	192
87	05	0604622A	Family of Heavy Tactical Vehicles.....	199
88	05	0604633A	AIR TRAFFIC CONTROL.....	224
89	05	0604641A	TACTICAL UNMANNED GROUND VEHICLE.....	234
90	05	0604642A	LIGHT TACTICAL WHEELED VEHICLES.....	242
91	05	0604661A	FCS Systems of Systems Engr & Program Mgmt.....	249

UNCLASSIFIED

UNCLASSIFIED

Army • President's Budget Submission FY 2014 • RDT&E Program

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

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
92	05	0604663A	FCS Unmanned Ground Vehicles.....	261
93	05	0604710A	Night Vision Systems - Eng Dev.....	270
94	05	0604713A	Combat Feeding, Clothing, and Equipment.....	305
95	05	0604715A	Non-System Training Devices - Eng Dev.....	320
96	05	0604716A	TERRAIN INFORMATION - ENG DEV.....	340
97	05	0604741A	Air Defense Command, Control and Intelligence - Eng Dev.....	346
98	05	0604742A	CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT.....	370
99	05	0604746A	Automatic Test Equipment Development.....	386
100	05	0604760A	Distributive Interactive Simulations (DIS) - Eng Dev.....	404
101	05	0604780A	Combined Arms Tactical Trainer (CATT) Core.....	422
102	05	0604798A	Brigade Analysis, Integration and Evaluation.....	443
103	05	0604802A	Weapons and Munitions - Eng Dev.....	510
104	05	0604804A	Logistics and Engineer Equipment - Eng Dev.....	519
105	05	0604805A	Command, Control, Communications Systems - Eng Dev.....	607
106	05	0604807A	Medical Materiel/Medical Biological Defense Equipment - Eng Dev.....	622
107	05	0604808A	Landmine Warfare/Barrier - Eng Dev.....	653
108	05	0604814A	Artillery Munitions - EMD.....	678
109	05	0604818A	Army Tactical Command & Control Hardware & Software.....	691

UNCLASSIFIED

UNCLASSIFIED

Army • President's Budget Submission FY 2014 • RDT&E Program

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

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
110	05	0604820A	RADAR DEVELOPMENT.....	730
111	05	0604822A	General Fund Enterprise Business System (GFEBs).....	742
112	05	0604823A	FIREFINDER.....	750
113	05	0604827A	Soldier Systems - Warrior Dem/Val.....	764
114	05	0604854A	Artillery Systems - EMD.....	795
115	05	0604869A	Patriot/MEADS Combined Aggregate Program (CAP).....	806
116	05	0604870A	Nuclear Arms Control Monitoring Sensor Network.....	815
117	05	0605013A	Information Technology Development.....	825
118	05	0605018A	Army Integ Military Human Resources Sys (A-IMRS).....	871
119	05	0605028A	Armored Multi-Purpose Vehicle (AMPV).....	881
120	05	0605030A	Joint Tactical Network Center (JTNC).....	887
121	05	0605380A	Airborne Maritime Fixed Small Airborne (AMF-SA).....	897
122	05	0605450A	Joint Air-to-Ground Missile (JAGM).....	906
123	05	0605455A	SLAMRAAM.....	915
124	05	0605456A	PAC-3/MSE MISSILE.....	923
125	05	0605457A	Army Integrated Air and Missile Defense (AIAMD).....	932
126	05	0605625A	Manned Ground Vehicle.....	946
127	05	0605626A	Aerial Common Sensor - SDD.....	960

UNCLASSIFIED

UNCLASSIFIED

Army • President's Budget Submission FY 2014 • RDT&E Program

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

.....

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
128	05	0605766A	National Integration To Tactical Systems (MIP).....	971
129	05	0605812A	Joint Light Tactical Vehicle - ED.....	979
130	05	0303032A	TROJAN - RH12 - MIP.....	990
131	05	0304270A	Electronic Warfare Development.....	1001

UNCLASSIFIED

Army • President's Budget Submission FY 2014 • RDT&E Program

Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
AIR TRAFFIC CONTROL	0604633A	88	05.....	224
AIRCRAFT AVIONICS	0604201A	77	05.....	1
ALL SOURCE ANALYSIS SYSTEM	0604321A	82	05.....	99
Aerial Common Sensor - SDD	0605626A	127	05.....	960
Air Defense Command, Control and Intelligence - Eng Dev	0604741A	97	05.....	346
Airborne Maritime Fixed Small Airborne (AMF-SA)	0605380A	121	05.....	897
Armed, Deployable Helos	0604220A	78	05.....	26
Armored Multi-Purpose Vehicle (AMPV)	0605028A	119	05.....	881
Army Integ Military Human Resources Sys (A-IMRS)	0605018A	118	05.....	871
Army Integrated Air and Missile Defense (AIAMD)	0605457A	125	05.....	932
Army Tactical Command & Control Hardware & Software	0604818A	109	05.....	691
Artillery Munitions - EMD	0604814A	108	05.....	678
Artillery Systems - EMD	0604854A	114	05.....	795
Automatic Test Equipment Development	0604746A	99	05.....	386
Brigade Analysis, Integration and Evaluation	0604798A	102	05.....	443
CONSTRUCTIVE SIMULATION SYSTEMS DEVELOPMENT	0604742A	98	05.....	370
Combat Feeding, Clothing, and Equipment	0604713A	94	05.....	305

UNCLASSIFIED

UNCLASSIFIED

Army • President's Budget Submission FY 2014 • RDT&E Program

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Combined Arms Tactical Trainer (CATT) Core	0604780A	101	05.....	422
Command, Control, Communications Systems - Eng Dev	0604805A	105	05.....	607
Distributive Interactive Simulations (DIS) - Eng Dev	0604760A	100	05.....	404
Electronic Warfare Development	0604270A	79	05.....	40
Electronic Warfare Development	0304270A	131	05.....	1001
FCS Systems of Systems Engr & Program Mgmt	0604661A	91	05.....	249
FCS Unmanned Ground Vehicles	0604663A	92	05.....	261
FIREFINDER	0604823A	112	05.....	750
Family of Heavy Tactical Vehicles	0604622A	87	05.....	199
General Fund Enterprise Business System (GFEBS)	0604822A	111	05.....	742
Infantry Support Weapons	0604601A	84	05.....	116
Information Technology Development	0605013A	117	05.....	825
JAVELIN (AAWS-M)	0604611A	86	05.....	192
Joint Air-to-Ground Missile (JAGM)	0605450A	122	05.....	906
Joint Light Tactical Vehicle - ED	0605812A	129	05.....	979
Joint Tactical Network Center (JTNC)	0605030A	120	05.....	887
Joint Tactical Radio	0604280A	80	05.....	75
LIGHT TACTICAL WHEELED VEHICLES	0604642A	90	05.....	242
Landmine Warfare/Barrier - Eng Dev	0604808A	107	05.....	653

UNCLASSIFIED

UNCLASSIFIED

Army • President's Budget Submission FY 2014 • RDT&E Program

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Logistics and Engineer Equipment - Eng Dev	0604804A	104	05.....	519
MEDIUM TACTICAL VEHICLES	0604604A	85	05.....	186
Manned Ground Vehicle	0605625A	126	05.....	946
Medical Materiel/Medical Biological Defense Equipment - Eng Dev	0604807A	106	05.....	622
Mid-tier Networking Vehicular Radio (MNVR)	0604290A	81	05.....	91
National Integration To Tactical Systems (MIP)	0605766A	128	05.....	971
Night Vision Systems - Eng Dev	0604710A	93	05.....	270
Non-System Training Devices - Eng Dev	0604715A	95	05.....	320
Nuclear Arms Control Monitoring Sensor Network	0604870A	116	05.....	815
PAC-3/MSE MISSILE	0605456A	124	05.....	923
Patriot/MEADS Combined Aggregate Program (CAP)	0604869A	115	05.....	806
RADAR DEVELOPMENT	0604820A	110	05.....	730
SLAMRAAM	0605455A	123	05.....	915
Soldier Systems - Warrior Dem/Val	0604827A	113	05.....	764
TACTICAL UNMANNED GROUND VEHICLE	0604641A	89	05.....	234
TERRAIN INFORMATION - ENG DEV	0604716A	96	05.....	340
TRACTOR CAGE	0604328A	83	05.....	115
TROJAN - RH12 - MIP	0303032A	130	05.....	990
Weapons and Munitions - Eng Dev	0604802A	103	05.....	510

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

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

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	13.384	14.581	15.721	-	15.721	15.971	1.289	0.000	0.000	Continuing	Continuing
S36: <i>Precision Guidance Kit</i>	-	13.384	14.581	15.721	-	15.721	15.971	1.289	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 provides near precision accuracy and effectiveness for 155mm HE projectiles. 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 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	13.815	14.581	18.943	-	18.943
Current President's Budget	13.384	14.581	15.721	-	15.721
Total Adjustments	-0.431	0.000	-3.222	-	-3.222
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.431	-			
• Adjustments to Budget Years	-	-	-3.222	-	-3.222

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT S36: <i>Precision Guidance Kit</i>
--	---	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
S36: <i>Precision Guidance Kit</i>	-	13.384	14.581	15.721	-	15.721	15.971	1.289	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 provides near precision accuracy and effectiveness for all 155mm HE projectiles. 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 2012	FY 2013	FY 2014
<p>Title: Contractor Engineering and Manufacturing Development</p> <p align="right">Articles:</p> <p>Description: Contractor Engineering and Manufacturing Development</p> <p>FY 2012 Accomplishments: Contractor Engineering and Manufacturing Development</p> <p>FY 2013 Plans: Engineering and Manufacturing Development</p> <p>FY 2014 Plans: Insensitive Munitions and GPS Anti-Jam Development</p>	7.393 0	5.415 0	11.128
<p>Title: Government and Engineering Support</p> <p align="right">Articles:</p> <p>Description: Continue Engineering Support</p> <p>FY 2012 Accomplishments: Continue Engineering Support</p> <p>FY 2013 Plans:</p>	3.612 0	4.526 0	2.953

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT S36: <i>Precision Guidance Kit</i>
--	---	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Continue Engineering Support			
FY 2014 Plans: Continue Engineering Support			
Title: Continue Development/Operational Testing	2.379	4.640	1.640
Articles:	0	0	
Description: Continue Development/Operational Test			
FY 2012 Accomplishments: Continue Development/Operational Test			
FY 2013 Plans: Continue Development/Operational Test			
FY 2014 Plans: Continue Development/Operational Test for Insensitive Munitions and GPS Anti-Jam			
Accomplishments/Planned Programs Subtotals	13.384	14.581	15.721

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• E99250: <i>Procurement of Ammunition Army: Precision Guidance Kit (PGK)</i>		37.952	62.234		62.234	69.176	70.080	70.563	71.093	Continuing	Continuing
Remarks											

D. Acquisition Strategy

The Precision Guidance Kit (PGK) is a Global Positioning System (GPS) guidance kit with fuzing functions for 155mm High Explosive (HE) artillery projectiles. PGK provides near precision accuracy and effectiveness for 155mm high explosive (HE) projectiles. Using an integrated GPS receiver, the PGK corrects the inherent errors associated with ballistic firing solutions and will reduce the number of artillery projectiles required to execute the mission. The current PGK Increment will qualify the PGK with the M795 and M549A1 HE projectiles. The Acquisition Strategy/Acquisition Plan for the PGK program was approved by the Milestone Decision Authority (MDA) on 20 October 2005, subsequently revised and approved on 14 December 2012. 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.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	S36: <i>Precision Guidance Kit</i>

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) is scheduled for 4Q FY 2014. Following Milestone C, a follow-on development effort is planned to address additional requirements to include compatibility with new high explosive insensitive munitions fill and GPS anti-jamming.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT S36: <i>Precision Guidance Kit</i>
--	---	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management Support	MIPR	Camber: Mt Arlington, NJ	1.713	0.075	Feb 2012	0.061	Feb 2013	0.060	Feb 2014	-		0.060	0.000	1.964	1.964
Miscellaneous Support Contract	MIPR	MITRE Corporation: Fort Monmouth, NJ	0.600	-		-		-		-		-	0.000	0.600	0.600
PGK Parallel Studies and Analysis Support -	MIPR	Command and Control Directorate: Ft Monmouth, NJ	0.300	-		-		-		-		-	0.000	0.300	0.300
Subtotal			2.613	0.075		0.061		0.060		0.000		0.060	0.000	2.864	2.864

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PGK TD Contract	C/CPAF	Alliant Techsystems (ATK): Plymouth, MN	5.279	-		-		-		-		-	0.000	5.279	5.279
PGK TD Contract	C/CPAF	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	16.921	6.393	Feb 2012	1.160	Jun 2012	-		-		-	0.000	24.474	24.474
DOTC - PGK Insensitive Munitions & GPS Anti-Jam	C/CPFF	TBD: TBD	0.000	-		4.255	Apr 2013	11.128	Mar 2014	-		11.128	5.441	20.824	20.824

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604802A: <i>Weapons and Munitions - Eng Dev</i>	PROJECT S36: <i>Precision Guidance Kit</i>
--	---	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
DOTC - GDOTS - Engineering & Technology Assessment. Low Cost Roll Control Solutions	C/CPFF	General Dynamics Ordnance & Tactical Systems:Bothell, WA	0.000	0.500	Jul 2012	-		-		-		-	0.000	0.500	0.500
DOTC - BAE Systems - Engineering & Technology Assessment. Low Cost Course Correction solutions.	C/CPFF	BAE/Rokar:Minneapolis, MN	0.000	0.500	Sep 2012	-		-		-		-	0.000	0.500	0.500
Subtotal			79.445	7.393		5.415		11.128		0.000		11.128	5.441	108.822	108.822

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PM Office	PO	PM CAS:Picatinny, NJ	7.835	0.966	Dec 2011	0.735	Nov 2012	0.958	Nov 2013	-		0.958	1.000	11.494	11.494
Government Engineering Support	MIPR	ARDEC:Picatinny, NJ	21.740	2.571	Dec 2011	3.730	Dec 2012	1.935	Dec 2013	-		1.935	2.160	32.136	32.136
Subtotal			29.575	3.537		4.465		2.893		0.000		2.893	3.160	43.630	43.630

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Component Air Gun/ Railgun Testing	MIPR	ARDEC:Picatinny, NJ	0.317	-		-		-		-		-	0.000	0.317	0.317
Other Development Testing	MIPR	Various:Various	1.359	0.366	Jun 2012	-		-		-		-	0.000	1.725	1.725
System Development Testing Increment 1	MIPR	Yuma Proving Ground:Yuma, AZ	7.784	2.013	May 2012	0.690	Dec 2012	-		-		-	0.000	10.487	10.487

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 & GPS Anti-Jam Development	3	2013	4	2015
Milestone C - Type Classification Limited Procurement	2	2013	2	2013
First Article Test (FAT)	3	2013	1	2014
Initial Operational Test and Evaluation (IOT&E)	4	2013	2	2014
Type Classification Standard / Full Materiel Release	3	2014	3	2014
IOC	4	2014	4	2014

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

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

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	173.902	43.706	41.703	-	41.703	49.811	34.604	20.258	18.485	Continuing	Continuing
194: <i>Engine Driven Gen Ed</i>	-	10.854	9.692	5.027	-	5.027	11.503	9.332	4.596	1.244	Continuing	Continuing
H01: <i>Combat Engineer Eq Ed</i>	-	3.836	6.351	2.172	-	2.172	3.388	2.272	2.010	3.600	Continuing	Continuing
H02: <i>Tactical Bridging - Engineering Development</i>	-	60.403	9.525	24.374	-	24.374	23.395	11.290	2.886	2.935	Continuing	Continuing
H14: <i>Materials Handling Equipment - Ed</i>	-	1.613	1.415	0.298	-	0.298	0.576	0.986	0.964	0.615	Continuing	Continuing
L39: <i>Field Sustainment Support Ed</i>	-	4.094	2.550	1.789	-	1.789	2.753	2.588	2.269	2.456	Continuing	Continuing
L41: <i>Water And Petroleum Distribution - Ed</i>	-	2.012	3.839	2.650	-	2.650	4.186	4.106	3.789	3.817	Continuing	Continuing
L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>	-	1.061	1.916	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
L46: <i>Maintenance Support Equipment</i>	-	3.064	3.697	1.232	-	1.232	2.045	1.976	1.829	1.903	Continuing	Continuing
L47: <i>Improved Environmental Control Units Ed</i>	-	0.000	2.976	2.968	-	2.968	0.000	0.000	0.000	0.000	Continuing	Continuing
L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>	-	84.500	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
VR7: <i>Combat Service Support Systems</i>	-	2.465	1.745	1.193	-	1.193	1.965	2.054	1.915	1.915	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Change Summary Explanation: Funding - FY 2014: Adjustment for Tactical Bridging DH02.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

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

A. Mission Description and Budget Item Justification

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

Increase from FY 2013 to FY 2014 reflects DH02 Tactical Briding - Engineering Development increase in FY14

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	173.146	43.706	51.442	-	51.442
Current President's Budget	173.902	43.706	41.703	-	41.703
Total Adjustments	0.756	0.000	-9.739	-	-9.739
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	4.194	-	4.194
• Other Adjustments 1	0.756	-	-13.933	-	-13.933

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
194: <i>Engine Driven Gen Ed</i>	-	10.854	9.692	5.027	-	5.027	11.503	9.332	4.596	1.244	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

This project supports the Tactical Electric Power (TEP) 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 kilowatt (kW) to 840kW. 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. FY13-14 funds continue the Engineering and Manufacturing Development (EMD) Phase for Large Advanced Mobile Power Sources (LAMPS). Funding in FY14 will also prepare the Improved Power Distribution Illumination Systems Electrical (IPDISE)/Microgrids performance specification and initiate the EMD phase.

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

	FY 2012	FY 2013	FY 2014
Title: LAMPS Engineering & Manufacturing Development (EMD) Phase	10.854	9.692	5.027
Articles:	0	0	
Description: Prepare LAMPS performance specification and begin EMD Phase			
FY 2012 Accomplishments: Continue preparing LAMPS performance specification and continue EMD Phase			
FY 2013 Plans: Continue EMD Phase of LAMPS			
FY 2014 Plans: Continue EMD Phase of LAMPS. Prepare the IPDISE/Microgrids performance specification and initiate EMD phase.			
Accomplishments/Planned Programs Subtotals	10.854	9.692	5.027

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 643804.G11: <i>Logistics and Engineer Equipment - Adv Dev G11</i>	0.669	3.921	2.501		2.501	0.788	7.401	4.192	0.823	Continuing	Continuing
• MA9800: <i>Generators and Associated Equipment</i>	67.897	60.302	129.437		129.437	176.107	254.448	273.954	45.435	Continuing	Continuing

Remarks

D. Acquisition Strategy

LAMPS (Large Advanced Mobile Power Sources) Engineering & Manufacturing Development (EMD) Phase: A single competitive contract was awarded for the LAMPS EMD Phase. The EMD phase will be a Fixed Price Incentive Firm (FPIF) contract. The EMD contract will require the vendor to integrate components and fabricate prototypes, verify prototype performance through contractor testing, deliver production representative generator sets and conduct instructor and key personnel training (I&KPT) for Government testing. Major data deliverables will include the technical data package (TDP), provisioning data, logistics management information, technical manuals, test reports and cost data reporting. The Government will purchase the TDP from the vendor with the intent of using it in future competitive re-procurements for LAMPS. A Failure Mode, Effects and Criticality Analysis (FMECA), Level of Repair Analysis (LORA), Functional Configuration Audit (FCA) and a Physical Configuration Audit (PCA) will be completed to verify that the TDP accurately describes the qualified production sets. In addition, Improved Power Distribution Illumination Systems Electrical (IPDISE)/Microgrids will prepare the program's performance specification and initiate the 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LAMPS (100-200kW)	C/FPIF	L-3 Communications, Westwood Corporation, Tulsa, OK:Various	6.069	10.854	Aug 2012	9.692		-		-		-	Continuing	Continuing	Continuing
IPDISE/Microgrids	C/FFP	TBD:TBD	0.000	-		-		3.000	Sep 2014	-		3.000	0.000	3.000	0.000
Subtotal			6.069	10.854		9.692		3.000		0.000		3.000			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LAMPS (100-200kW)	Various	CECOM LCMC:Aberdeen Proving Ground (APG), MD	3.485	-		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			3.485	0.000		0.000		0.000		0.000		0.000			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LAMPS (100-200kW)	MIPR	Army Testing & Evaluation Ctr (ATEC):APG, MD	0.000	-		-		2.027	Jan 2014	-		2.027	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		2.027		0.000		2.027			

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			9.554	10.854	9.692	5.027	0.000	5.027			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
Prepare Procurement Package and Solicitation	■																											
Award Phase 1 Contract				■																								
EMD Phase 1					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
DT/Log Demo/OT									■	■	■	■	■	■	■	■												
MS C-LAMPS															■	■												
IPDISE/Microgrids											■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Pre-EMD Review - IPDISE/Microgrids								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
RFP & Solicitation - IPDISE/Microgrids											■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Milestone B - IPDISE/Microgrids												■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
EMD Award - IPDISE/Microgrids												■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Phase 1 EMD - IPDISE/Microgrids													■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Small Tactical Electric Power (STEP)																					■	■	■	■	■	■	■	■
Pre-EMD Review - STEP															■	■	■	■	■	■	■	■	■	■	■	■	■	■
RFP & Solicitation - STEP															■	■	■	■	■	■	■	■	■	■	■	■	■	■
Milestone B - STEP																■	■	■	■	■	■	■	■	■	■	■	■	■
EMD Award - STEP																■	■	■	■	■	■	■	■	■	■	■	■	■
Phase 1 EMD - STEP																	■	■	■	■	■	■	■	■	■	■	■	■

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
Prepare Procurement Package and Solicitation	2	2012	2	2012
Award Phase 1 Contract	4	2012	4	2012
EMD Phase 1	1	2013	4	2015
DT/Log Demo/OT	2	2014	3	2015
MS C-LAMPS	4	2015	4	2015
IPDISE/Microgrids	3	2014	4	2016
Pre-EMD Review - IPDISE/Microgrids	1	2014	1	2014
RFP & Solicitation - IPDISE/Microgrids	2	2014	4	2014
Milestone B - IPDISE/Microgrids	4	2014	4	2014
EMD Award - IPDISE/Microgrids	4	2014	4	2014
Phase 1 EMD - IPDISE/Microgrids	1	2015	4	2016
Small Tactical Electric Power (STEP)	4	2015	4	2018
Pre-EMD Review - STEP	1	2015	1	2015
RFP & Solicitation - STEP	1	2015	3	2015
Milestone B - STEP	3	2015	3	2015
EMD Award - STEP	3	2015	3	2015
Phase 1 EMD - STEP	3	2015	2	2018

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
H01: <i>Combat Engineer Eq Ed</i>	-	3.836	6.351	2.172	-	2.172	3.388	2.272	2.010	3.600	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 and 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) forces. This project also supports the SDD of enabling systems to meet critical capabilities of joint interdependence through Air and Ground Line of Communication and Rapid Tactical Earthmoving repair and construction which increase the operational reach of modular forces. The BCT and CSB systems include: High Mobility Engineer Excavators, 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.

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

	FY 2012	FY 2013	FY 2014
Title: Family of All Terrain Cranes	1.675	1.306	0.000
Articles:	0	0	
Description: System Pre-Award requirements, Key Performance Parameters (KPP), selection criteria development. Testing of systems.			
FY 2012 Accomplishments: System Pre-Award requirements, KPP, selection criteria development. Testing of systems.			
FY 2013 Plans: System Pre-Award requirements, KPP, selection criteria development. Testing of systems.			
Title: CE Armor	0.000	1.000	0.000
Articles:		0	
Description: Design armor kits for Combat Engineer Equipment.			
FY 2013 Plans: Qualify alternative sources of supply for opaque & Transparent armor on existing CE equipment. Full Vehicle Armor Protection			
Title: CE Robotics Research	0.100	0.500	0.250
Articles:	0	0	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Description: Development of Robotics Research						
FY 2012 Accomplishments: Development of Robotics Research						
FY 2013 Plans: Development of Robotics Research						
FY 2014 Plans: Development of Robotics Research						
Title: CE Simulators				1.894	1.245	0.300
Articles:				0	0	
Description: Labor, software, and hardware simulator development						
FY 2012 Accomplishments: Labor, software, and hardware simulator development						
FY 2013 Plans: Labor, software, and hardware simulator development						
FY 2014 Plans: Labor, software, and hardware simulator development						
Title: Hazard Clearance				0.000	0.500	0.000
Articles:					0	
Description: Hazard Clearance at Speed						
FY 2013 Plans: Adapt existing vehicle to provide area and route clearance to remove explosive and non-explosive obstacles.						
Title: Forced Entry (Airborne/Air Assault) HMEE, Grader, ERACC Type 4 and Loader Type 1 Study/Development				0.000	0.500	0.000
Articles:					0	
Description: Forced Entry (Airborne/Air Assault) HMEE, Grader, ERACC and Loader Type 1 Study/Development						
FY 2013 Plans:						

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
FY13: ERACC Type 4 Study/Development				
<p>Title: Market Research</p> <p align="right">Articles:</p> <p>Description: Market Research Survey</p> <p>FY 2013 Plans: Conduct market research and documentation preparation for all types of construction equipment.</p> <p>FY 2014 Plans: Conduct market research and documentation preparation for all types of construction equipment.</p>		0.000	0.100 0	0.400
<p>Title: Fuel Efficiency</p> <p align="right">Articles:</p> <p>Description: Improve Fuel Efficiency/Reduce Maintenance Time</p> <p>FY 2013 Plans: Using Government supplied vehicles (GFE), evaluate new technologies be developed by private industry to improve the efficiency or reduce maintenance burden.</p>		0.000	0.250 0	0.000
<p>Title: Operational Energy/Duty Cycle</p> <p align="right">Articles:</p> <p>Description: Operational Energy/Duty Cycle Monitoring</p> <p>FY 2013 Plans: Instrumentation of vehicles in select units to monitor the usage and to establish training and operational usage of the machine. This data, once analyzed will be used in requirements development.</p> <p>FY 2014 Plans: Instrumentation of vehicles in select units to monitor the usage and to establish training and operational usage of the machine. This data, once analyzed will be used in requirements development.</p>		0.000	0.250 0	0.872
<p>Title: ERACC Type III</p> <p align="right">Articles:</p> <p>Description: ERACC Type III Equipment</p> <p>FY 2013 Plans:</p>		0.000	0.200 0	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Integration of ERACC Type III Equipment			
Title: System Engineering/Program Management Description: Program Management FY 2013 Plans: Program Management Support of R&D Program for CE FY 2014 Plans: Program Management Support of R&D Program for CE	0.000	0.500 0	0.350
Articles:			
Title: SBIR+STIR Description: SBIR/STIR FY 2012 Accomplishments: SBIR+STIR	0.167 0	0.000	0.000
Articles:			
Accomplishments/Planned Programs Subtotals			
	3.836	6.351	2.172

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• High Mobility Engineer Excavator I: <i>High Mobility Engineer Excavator I</i>	20.702	30.042	23.465		23.465	22.541				0.000	96.750
• HMEE III: <i>High Mobility Engineer Excavator III</i>	2.067									0.000	2.067
• Grader, Mtzd, Hvy: <i>Grader, Mtzd, Hvy</i>	2.201	2.028	2.000		2.000					0.000	6.229
• Hydraulic Excavator: <i>Hydraulic Excavator</i>			50.122		50.122					0.000	50.122
• Plant, Asphalt Mixing: <i>Plant, Asphalt Mixing</i>	0.614	3.629								Continuing	Continuing

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</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>	50.434	20.867	28.828		28.828	28.505	38.652	21.470	22.148	Continuing	Continuing
• All Terrain Cranes: <i>All Terrain Cranes</i>		4.003	19.863		19.863	25.452	38.800	29.947	24.399	Continuing	Continuing
• Skid Steer Loaders: <i>Skid Steer Loaders</i>	3.984									0.000	3.984
• Scraper, Earthmoving: <i>Scraper, Earthmoving</i>	21.031	6.146	36.078		36.078	24.282	20.868	33.186	12.308	Continuing	Continuing
• EMMs: <i>EMMs</i>	43.432	31.200	9.721		9.721	10.340	1.226			0.000	95.919
• ERACC 4: <i>ERACC IV</i>		13.725	13.590		13.590	13.597	13.907	14.547	1.990	Continuing	Continuing
• Const Equip ESP: <i>SLEP</i>	9.771	13.351	16.088		16.088	14.709	14.959	13.522	15.000	0.000	97.400

Remarks

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SBIR+STIR	TBD	TACOM:Warren, Michigan	0.000	0.167		-		-		-		-	0.000	0.167	0.000
Subtotal			0.000	0.167		0.000		0.000		0.000		0.000	0.000	0.167	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Pre-Award requirements, KPP, selection criteria development, Testing of systems	Various	TACOM & TARDEC:Warren, MI	0.000	1.675	Dec 2011	1.306		-		-		-	0.000	2.981	0.000
Development of Robotic Research for Combat Engineer	Various	TBD:TBD	1.619	0.100	Dec 2011	0.500		0.250		-		0.250	0.000	2.469	Continuing
Design armor kits for Combat Engineer	Various	TARDEC:Warren, MI	5.512	-		1.000		-		-		-	0.000	6.512	Continuing
Development of Simulator	Various	PEO Stricom:PEO, Stricom, Orlando, FL	5.409	1.894	Dec 2011	1.245		0.300		-		0.300	0.000	8.848	Continuing
Forced Entry: HMEE Type II, Grader, ERACC Type III and Loader Type I Study/ Development	Various	TARDEC:Warren, MI	8.239	-		0.500		-		-		-	0.000	8.739	Continuing
Hazard Clearance at Speed	TBD	TARDEC:Warren, Michigan	0.000	-		0.500		-		-		-	0.000	0.500	0.000
Market Research	TBD	TARDEC:Warren, Michigan	0.000	-		0.100		0.400		-		0.400	0.000	0.500	0.000
ERACC Type III Integration	MIPR	TARDEC/TACOM:Waren, Michigan	0.000	-		0.200		-		-		-	0.000	0.200	0.000
Subtotal			20.779	3.669		5.351		0.950		0.000		0.950	0.000	30.749	

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Engineering/ Program Mgmt	MIPR	TARDEC/ TACOM:Warren, Michigan	0.000	-		0.500		0.350		-		0.350	0.000	0.850	0.000
Subtotal			0.000	0.000		0.500		0.350		0.000		0.350	0.000	0.850	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Fuel Efficiency	MIPR	TARDEC, Warren, Michigan:TARDEC, Warren, Michigan	0.000	-		0.250		-		-		-	0.000	0.250	0.000
Operational Energy/Duty Cycle Monitoring	TBD	TARDEC:Warren, Michigan	0.000	-		0.250		0.872		-		0.872	0.000	1.122	0.000
Non Nuclear Soil Density Set Testing	TBD	TARDEC:Warren, MI	0.050	-		-		-		-		-	0.000	0.050	0.000
Subtotal			0.050	0.000		0.500		0.872		0.000		0.872	0.000	1.422	0.000

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		20.829	3.836	6.351	2.172	0.000	2.172	0.000	33.188

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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																												
Hazard Clearance at Speed																												
ERACC III integration																												
Market Research																												
System Engineer/Program Support																												
Fuel Efficiency																												
Operational Energy/Duty Cycle Monitoring																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
Hazard Clearance at Speed	1	2013	4	2013
ERACC III integration	1	2013	4	2013
Market Research	1	2013	4	2014
System Engineer/Program Support	1	2013	4	2014
Fuel Efficiency	1	2013	4	2013
Operational Energy/Duty Cycle Monitoring	1	2013	4	2014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
H02: <i>Tactical Bridging - Engineering Development</i>	-	60.403	9.525	24.374	-	24.374	23.395	11.290	2.886	2.935	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

This project supports the engineering, system development and demonstration, testing and transition to procurement of Future Force Tactical Bridge Systems. Systems include the Joint Assault Bridge (JAB) and Line of Communications Bridge (LOCB). Other efforts supported include a Bridge Supplemental Set to provide better footing on muddy or soft soil conditions, as well as structural strength and fatigue testing of Bridging prototypes, development systems and validation of design modifications. This project also includes a remote controlled automatic launch for the Rapidly Emplaced Bridge System (REBS).

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

	FY 2012	FY 2013	FY 2014
<p>Title: BEB Testing</p> <p align="right">Articles:</p> <p>Description: BEB Testing</p> <p>FY 2012 Accomplishments: Completion of operational and development testing and logistics demonstration of the Bridge Erection Boat.</p>	2.516 0	0.000	0.000
<p>Title: Development, integration, and testing of REBS Auto Launch-Retrieve with Common Bridge Transporter (CBT)</p> <p align="right">Articles:</p> <p>Description: Development, integration, and testing of REBS Auto Launch-Retrieve with Common Bridge Transporter (CBT)</p> <p>FY 2012 Accomplishments: 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 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 2014 Plans:</p>	1.100 0	1.400 0	2.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Completion of the development, integration and testing of the Rapidly Emplaced Bridge System Auto Launch-Retrieve capability with the Common Bridge Transporter (CBT).				
Title: JAB Development and Testing		49.810	7.625	11.313
		Articles: 0	0	
Description: JAB Development and Testing				
FY 2012 Accomplishments: JAB Development.				
FY 2013 Plans: JAB Development/Testing				
FY 2014 Plans: JAB Testing.				
Title: SBIR+STTR		1.682	0.000	0.000
		Articles: 0		
Description: SBIR+STTR				
FY 2012 Accomplishments: SBIR+STTR				
Title: LOCB Development		5.295	0.500	9.735
		Articles: 0	0	
Description: LOCB Development				
FY 2012 Accomplishments: LOCB Development				
FY 2013 Plans: LOCB Development				
FY 2014 Plans: LOCB Development				
Title: Structural Health Monitoring		0.000	0.000	0.750

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: Develop a passive method to collect mobile military bridge system usage and health data for remote monitoring.			
FY 2014 Plans: Structural Health Monitoring			
Title: Bridge Supplemental Set	0.000	0.000	0.576
Description: Multi-functional consolidated engineering set consisting of a multi-functional anchorage system targeted for use with multiple tactical bridging systems to include the Line of Communication Bridge (LOCB), Improved Ribbon Bridge (IRB), and the Dry Support Bridge (DSB).			
FY 2014 Plans: Bridge Supplemental Set			
Accomplishments/Planned Programs Subtotals	60.403	9.525	24.374

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA3, MX0100: OPA3, MX0100	92.428	35.499	14.188		14.188	12.136	20.997	21.548	21.914	Continuing	Continuing
• OPA3, MA8890: OPA3, MA8890	72.354	32.893	23.101		23.101	15.766	13.708	15.509	15.793	Continuing	Continuing
• WTCV, GZ3001: WTCV, GZ3001			2.002		2.002	53.928	55.089	78.402	170.027	Continuing	Continuing

Remarks

D. Acquisition Strategy
RDT&E efforts 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Support	MIPR	Various:Various	0.000	-		-		3.000	Nov 2013	-		3.000	0.000	3.000	0.000
SBIR+STTR	TBD	TBD:TBD	0.000	1.682		-		-		-		-	0.000	1.682	0.000
Subtotal			0.000	1.682		0.000		3.000		0.000		3.000	0.000	4.682	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JAB Development	C/FFP	DRS/GDLS:Saint Louis, MO/Sterling Hts, MI	0.000	48.128		-		-		-		-	Continuing	Continuing	Continuing
LOCB Development	MIPR	Rock Island Arsenal (RIA)/Anniston Army Depot (ANAD):Rock Island, IL/Anniston, AL	1.123	5.295	Aug 2013	0.500		-		-		-	Continuing	Continuing	Continuing
Bridge Supplemental Set	MIPR	TBD:TBD	0.000	-		-		0.326	Jan 2014	-		0.326	0.000	0.326	0.000
Structural Health Monitoring	MIPR	TARDEC:Warren, MI	0.000	-		-		0.500	Jan 2014	-		0.500	0.000	0.500	0.000
REBS Testing (Auto Launch-Retrieve)	SS/FFP	General Dynamics Eurpoean Land Systems:Kaiserslautern, Germany	0.000	-		-		1.000	Jun 2014	-		1.000	0.000	1.000	0.000
Subtotal			1.123	53.423		0.500		1.826		0.000		1.826			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government In-House	MIPR	TACOM:Warren, MI	2.100	3.000	Dec 2011	3.000		-		-		-	Continuing	Continuing	Continuing
Subtotal			2.100	3.000		3.000		0.000		0.000		0.000			

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
LOCB Development and Testing	2	2012	4	2016
REBS Auto Launch-Retrieve	3	2012	4	2015
SBIR Technology Transition	1	2014	4	2018
Bridge Supplemental Set	2	2014	4	2015
Structural Health Monitoring Project	2	2014	4	2016

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost	
H14: <i>Materials Handling Equipment - Ed</i>	-	1.613	1.415	0.298	-	0.298	0.576	0.986	0.964	0.615	Continuing	Continuing	
Quantity of RDT&E Articles													

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 Soldier. 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 2012	FY 2013	FY 2014
Title: Material Handling Equipment (MHE) Training Aids	1.116	0.000	0.000
Articles:	0		
Description: Material Handling Equipment (MHE) Training Aids			
FY 2012 Accomplishments: Continue upgrade of Rough Terrain Container Handler (RTCH) Electronic Training Aid. Conduct design verification testing			
Title: Small Business Innovative Research/Small Business Technology Transfer Program	0.032	0.000	0.000
Articles:	0		
Description: Small Business Innovative Research/Small Business Technology Transfer Program			
FY 2012 Accomplishments: SBIR + STTR			
Title: Material Handling Equipment (MHE) System Improvement	0.000	0.655	0.155
Articles:		0	
Description: System Improvements for Light Capability Rough Terrain Forklift (LCRTF) for Tactical Operations			
FY 2013 Plans:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Design and test air drop configuration package for the LCRTF.			
FY 2014 Plans: Integrate and test add-on hardware for reliable cold starting.			
Title: Material Handling Equipment (MHE) Armor Kits Articles:	0.353 0	0.460 0	0.143
Description: Lightweight Armor for All Terrain Lifter Army System (ATLAS) II			
FY 2012 Accomplishments: N/A			
FY 2013 Plans: Investigate alternative armor solutions to eliminate known performance degradation when operated with current add on armor.			
FY 2014 Plans: Conduct evaluation of armor solution at test-site for both performance and survivability			
Title: Sling Load Attachment for Rough Terrain Container Handler (RTCH) Articles:	0.112 0	0.300 0	0.000
Description: Sling Load Attachment for Rough Terrain Container Handler (RTCH)			
FY 2012 Accomplishments: N/A			
FY 2013 Plans: Conduct demonstrations and evaluations of proposed Sling Load Attachment to assess operational suitability and value added capability.			
Accomplishments/Planned Programs Subtotals	1.613	1.415	0.298

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA M41200: <i>Rough Terrain Container Handler</i>			1.250		1.250					0.000	1.250
• OPA M41800: <i>All Terrain Lifting Army System</i>	23.659		2.500		2.500					0.000	26.159

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA G41002: <i>Light Capacity Rough Terrain (LCRT) Forklift</i>	10.944	5.895	5.760		5.760	5.898	6.117	6.240	6.420	Continuing	Continuing

Remarks

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 using U.S. Army TARDEC's Center for Ground Vehicle Development and Integration. Test armored ATLAS 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Engineering/ Program Management	MIPR	TARDEC:Warren, MI	0.000	-		-		0.037		-		0.037	0.000	0.037	0.000
SBIR + STTR	TBD	TBD:TBD	0.000	0.032		-		-		-		-	0.000	0.032	0.000
Subtotal			0.000	0.032		0.000		0.037		0.000		0.037	0.000	0.069	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MHE Training Aids	MIPR	Kalmar Rt:Cibolo, TX	0.974	1.581		-		-		-		-	Continuing	Continuing	Continuing
System Improvements for LCRTF for Tactical Operations	Various	TBD:TBD	0.000	-		0.200		0.155		-		0.155	0.000	0.355	0.000
Lightweight Armor for ATLAS II	MIPR	TARDEC:Warren, MI	0.000	-		0.350		-		-		-	0.000	0.350	0.000
Sling Load Attachment for RTCH	Reqn	Kalmar RT Center:Cibolo, TX	0.000	-		0.100		-		-		-	0.000	0.100	0.000
Subtotal			0.974	1.581		0.650		0.155		0.000		0.155			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Improvements for LCRTF for Tactical Operations	MIPR	TARDEC:Warren, MI	0.000	-		0.055		-		-		-	0.000	0.055	0.000
Lightweight Armor for ATLAS II	MIPR	TARDEC:Warren, MI	0.000	-		0.110		-		-		-	0.000	0.110	0.000
Subtotal			0.000	0.000		0.165		0.000		0.000		0.000	0.000	0.165	0.000

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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 and test LCRTF air drop configuration package								■																				
Integrate and test LCRTF cold weather start kit												■																
Investigate alternative armor solution for ATLAS II							■																					
Conduct evaluation of armor solution at test-site												■																

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
Design and test LCRTF air drop configuration package	3	2013	3	2013
Integrate and test LCRTF cold weather start kit	1	2014	1	2014
Investigate alternative armor solution for ATLAS II	1	2013	1	2013
Conduct evaluation of armor solution at test-site	2	2014	2	2014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
L39: <i>Field Sustainment Support Ed</i>	-	4.094	2.550	1.789	-	1.789	2.753	2.588	2.269	2.456	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 2012	FY 2013	FY 2014
Title: Joint Precision Airdrop System P3I (JPADS)	1.497	0.000	0.000
Articles:	0		
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.			
FY 2012 Accomplishments: Continue JPADS 2K product improvement efforts to integrate advanced hardware and software capabilities			
Title: Joint Precision Airdrop System 10,000 lbs. (JPADS 10K)	1.400	0.000	0.000
Articles:	0		
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			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
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.				
FY 2012 Accomplishments: Complete Operational Testing (OT) and obtain Milestone C for JPADS 10K.				
Title: Advanced Low Velocity Airdrop System (ALVADS) - Light and Heavy		0.000	2.000	1.789
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.			0	
FY 2013 Plans: Complete Design Validation (DV) for ALVADS-L and initiate Developmental Testing (DT).				
FY 2014 Plans: Initiate fabrication of Developmental Testing (DT) assets for ALVADS.				
Title: Low Cost Aerial Delivery System (LCADS)		1.068	0.000	0.000
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.		0		
FY 2012 Accomplishments: 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)		0.000	0.550	0.000
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).			0	
FY 2013 Plans:				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Obtain Milestone C on ACPRS and initiate pre-planned product improvement effort.			
Title: SBIR+STTR	0.129	0.000	0.000
Articles:	0		
Description: SBIR+STTR			
FY 2012 Accomplishments: SBIR+STTR			
Accomplishments/Planned Programs Subtotals	4.094	2.550	1.789

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• MA7806: <i>Precision Airdrop, OPA</i>	16.207	5.935	9.500		9.500	7.209	7.395	7.400	5.628	Continuing	Continuing
3,											
• 643804 K39: <i>Field Sustainment Support AD,</i>	2.857	2.970	2.161		2.161	3.061	3.434	2.727	2.801	Continuing	Continuing
• 643804 VR8: <i>Combat Service Support Systems AD,</i>	1.977	2.023	1.613		1.613	2.405	2.619	2.415	2.415	Continuing	Continuing
• 654804 VR7: <i>Combat Service Support Systems,</i>	2.465	1.745	1.193		1.193	1.965	2.054	1.915	1.915	Continuing	Continuing

Remarks

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Management Support	Various	PM FSS, Natick:Natick, MA	1.823	0.370		0.400		0.431		-		0.431	0.000	3.024	Continuing
SBIR+STTR	TBD	Various:Various	0.000	0.129		-		-		-		-	0.000	0.129	0.000
Subtotal			1.823	0.499		0.400		0.431		0.000		0.431	0.000	3.153	

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Soldier Support Equipment	Various	PM FSS, Natick:Various	3.867	-		-		-		-		-	0.000	3.867	0.000
ALVADS-L&H	Various	Various:Various	14.003	-		0.400		1.108		-		1.108	0.000	15.511	Continuing
JPADS P3I	Various	Various:Various	5.270	0.500	Dec 2011	-		-		-		-	0.000	5.770	Continuing
LCADS P3I efforts	Various	Various:Various	0.750	0.200	Dec 2011	-		-		-		-	0.000	0.950	Continuing
Subtotal			23.890	0.700		0.400		1.108		0.000		1.108	0.000	26.098	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Soldier Support Equipment	Various	Yuma Proving Ground (YPG), AZ, AEC:AZ	9.079	0.671	Dec 2011	-		-		-		-	0.000	9.750	Continuing
JPADS P3I	Various	Yuma Proving Ground, AZ:Yuma, AZ	0.000	0.500	Dec 2011	-		-		-		-	0.000	0.500	0.000
JPADS 10K OT	Various	GSA:GSA	0.108	0.828	Dec 2011	-		-		-		-	0.000	0.936	Continuing
ACPRS	Various	Yuma Proving Ground, AZ:Yuma, AZ	0.000	-		0.500		-		-		-	0.000	0.500	0.000

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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			■																									
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 (ALVADS) DV Testing											■	■																
Conduct Developmental Testing/Operational Testing DT/OT on ALVADS-L															■	■												
Obtain MS C for Space Heater Convective 90K British Thermal Unit per hour							■																					
Conduct Design Validation ALVADS-L							■	■																				
Conduct follow on testing ACPRS P3I							■	■																				
Conduct MS C on ALVADS-L																												
Conduct MS C on ALVADS-H																												
Fabricate OT test assets/begin OT on HSCDS																												
Complete OT for HSCDS																												
Complete Milestone C/TC STD on HSCDS																												
Complete DT/OT/Milestone C on Next Generation LCADS																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
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 (ALVADS) DV Testing	1	2014	1	2015
Conduct Developmental Testing/Operational Testing DT/OT on ALVADS-L	2	2015	3	2016
Obtain MS C for Space Heater Convective 90K British Thermal Unit per hour	4	2012	4	2012
Conduct Design Validation ALVADS-L	1	2013	2	2013
Conduct follow on testing ACPRS P3I	1	2013	4	2013
Conduct MS C on ALVADS-L	4	2016	4	2016
Conduct MS C on ALVADS-H	4	2016	4	2016
Fabricate OT test assets/begin OT on HSCDS	2	2016	4	2016
Complete OT for HSCDS	1	2017	4	2017
Complete Milestone C/TC STD on HSCDS	2	2018	2	2018
Complete DT/OT/Milestone C on Next Generation LCADS	3	2017	4	2018

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
L41: <i>Water And Petroleum Distribution - Ed</i>	-	2.012	3.839	2.650	-	2.650	4.186	4.106	3.789	3.817	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 2012	FY 2013	FY 2014
Title: Water System Capability Improvements.	0.300	0.250	0.000
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: 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.			
FY 2013 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			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
(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>Title: Fuel System Supply Point (FSSP) Improvements.</p> <p>Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments: Common Pump testing.</p> <p>FY 2013 Plans: Market Investigation for Family of Meters and On Board Truck Capability.</p> <p>FY 2014 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>		0.550 0	0.624 0	0.500
<p>Title: 3K Tactical Water Purification System (TWPS).</p> <p>Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2013 Plans: Initiate the development of a 3K TWPS Technical Data Package (TDP); Begin fabrication.</p>		0.000	0.535 0	0.000
<p>Title: Integration of component level improvements at the system level for the Fuel System Supply Point (FSSP).</p> <p>Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2013 Plans: The Fuel System Supply Points (FSSPs) 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. In line fuel monitoring testing.</p> <p>FY 2014 Plans:</p>		0.000	0.700 0	0.540

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
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. Complete testing.				
Title: Expeditionary Water Packaging System (EWPS).		0.600	0.524	0.960
	Articles:	0	0	
Description: Funding is provided for the following effort				
FY 2012 Accomplishments: Continue development of Expeditionary Water Packaging System (EWPS).				
FY 2013 Plans: Test automated EWPS and finalize Purchase Description (PD) and prepare Request for Proposal (RFP).				
FY 2014 Plans: Complete testing of automated EWPS. Prepare Milestone C decision documents and prepare for review. Develop production contract and supporting documentation.				
Title: Modular Tactical Refueling System (MTRS)		0.500	0.700	0.650
	Articles:	0	0	
Description: Funding is provided for the following effort.				
FY 2012 Accomplishments: Test and evaluation of the Modular Tactical Refueling System (MTRS).				
FY 2013 Plans: Assemble two Modular Tactical Refueling Systems (MTRS) for testing.				
FY 2014 Plans: Complete test, 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: Camel II (800 gallon watertank)		0.000	0.506	0.000
	Articles:		0	
Description: Perform operational testing on Camel II prototypes				
FY 2013 Plans:				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Perform operational testing on Camel II.			
Title: SBIR and STIR	0.062	0.000	0.000
Articles:	0		
Description: Funding is provided for the following effort.			
FY 2012 Accomplishments: SBIR and STIR			
Accomplishments/Planned Programs Subtotals	2.012	3.839	2.650

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• 0603804/K41: <i>RDTE, Logistics and Engineer Equipment - Advanced Development</i>	3.990	2.706	2.263		2.263	3.617	3.314	3.022	3.544	Continuing	Continuing
• MA6000: <i>OPA 3, Distribution Systems, Petroleum & Water</i>	75.457	38.385	60.612		60.612	63.364	66.259	61.996	56.038	Continuing	Continuing

Remarks

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SBIR/STTR	TBD	TBD:TBD	0.000	0.062		-		-		-		-	0.000	0.062	0.000
Subtotal			0.000	0.062		0.000		0.000		0.000		0.000	0.000	0.062	0.000

Remarks
not applicable

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Water Systems Capability Improvements	Various	TARDEC:Warren, MI	0.124	0.060	Feb 2012	0.125		-		-		-	0.000	0.309	Continuing
FSSP Improvements	Various	TARDEC:Warren, MI	2.211	-		0.824		0.540	Jan 2014	-		0.540	0.000	3.575	Continuing
Water Systems Capability Improvements	Various	TBD:TBD	0.101	0.053	Feb 2012	0.025		-		-		-	0.000	0.179	Continuing
Expeditionary Water Packaging System (EWPS)	Various	TARDEC:Warren, MI	0.150	0.400	Feb 2012	0.424		0.960	Oct 2014	-		0.960	0.000	1.934	Continuing
3K Tactical Water Purification System (TWPS)	Various	NFESC:Pt. Huneme, CA	0.000	-		0.200		-		-		-	0.000	0.200	Continuing
3K Tactical Water Purification System (TWPS)	MIPR	TARDEC:Warren, MI	0.000	-		0.335		-		-		-	0.000	0.335	0.000
Modular Tactical Refueling System (MTRS)	MIPR	TARDEC:Warren, MI	0.000	0.237	Feb 2012	0.200		0.650	Jan 2014	-		0.650	0.000	1.087	0.000
Subtotal			2.586	0.750		2.133		2.150		0.000		2.150	0.000	7.619	

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Fuel System Supply Point (FSSP)	Various	TARDEC:Warren, MI	0.122	-		-		0.500	Jan 2014	-		0.500	0.000	0.622	Continuing
Water Purification Systems Improvements	Various	TARDEC:Warren, MI	0.000	-		0.100		-		-		-	0.000	0.100	Continuing
Subtotal			0.122	0.000		0.100		0.500		0.000		0.500	0.000	0.722	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Fuel System Supply Point (FSSP)	MIPR	Yuma:Yuma Proving Ground, AZ	0.000	0.650	Feb 2012	0.500		-		-		-	0.000	1.150	Continuing
Water Systems Capability Improvements	Various	TARDEC:Warren, MI	0.265	0.050	Feb 2012	-		-		-		-	0.000	0.315	Continuing
Water Systems Capability Improvements	Various	NFESC:Port Hueneme, CA	0.626	0.100	Feb 2012	-		-		-		-	0.000	0.726	Continuing
Expeditionary Water Packaging System (EWPS)	Various	Aberdeen Proving Ground:APG, MD	0.630	0.200	Feb 2012	0.100		-		-		-	0.000	0.930	Continuing
Camel II	MIPR	Yuma Proving Ground:YPG, AZ	0.000	-		0.506		-		-		-	0.000	0.506	0.000
Modular Tactical Refueling System (MTRS)	Various	Yuma:Yuma Proving Ground, AZ	0.000	0.200	Feb 2012	0.500		-		-		-	0.000	0.700	Continuing
Subtotal			1.521	1.200		1.606		0.000		0.000		0.000	0.000	4.327	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		4.229	2.012	3.839	2.650	0.000	2.650	0.000	12.730

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
Fuel System Supply Points (FSSPs) Tank Gauging																												
Modular Tactical Refueling System (MTRS)																												
3K Tactical Water Purification System (3K TWPS)																												
Water Quality Monitoring																												
Unit Water Pod (Camel II)																												
Small Unit Water Purifier (SUWP)																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
Fuel System Supply Points (FSSPs) Tank Gauging	4	2013	4	2014
Modular Tactical Refueling System (MTRS)	1	2013	4	2014
3K Tactical Water Purifictin System (3K TWPS)	3	2015	4	2016
Water Quality Monitoring	1	2015	4	2017
Unit Water Pod (Camel II)	2	2013	3	2013
Small Unit Water Purifier (SUWP)	4	2015	4	2018

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
L43: <i>ENGINEER SUPPORT EQUIPMENT - ED</i>	-	1.061	1.916	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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/Special 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). Funding will develop Supervisor, Propulsion, Emergency and Recovery Set (SPEaRS), which supports Self Contained Underwater Breathing apparatus (SCUBA) teams conducting underwater reconnaissance, demolition, repair, light salvage and recovery missions to a maximum depth of 130 feet and includes a swift water package (Diver Propulsion System). This program will reduce the logistical footprint by eliminating obsolete equipment and reducing the number of programs.

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

	FY 2012	FY 2013	FY 2014
Title: Document Development	0.045	0.050	0.000
Articles:	0	0	
Description: Development of various capabilities documents and other documents			
FY 2012 Accomplishments: Coordinate to have ICDs, CDDs, and CPDs written for various programs			
FY 2013 Plans:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Continue development of ICDs, CDDs, and CPDs for various programs				
Title: Underwater Construction Sets				
Articles:		0.250 0	0.350 0	0.000
Description: Research, Development, and Testing of Underwater Construction Sets				
FY 2012 Accomplishments: Procurement of Underwater Construction Set test articles				
FY 2013 Plans: Procure and test Underwater Construction Set articles				
Title: Air Compressors for the Diving Program				
Articles:		0.175 0	0.000	0.000
Description: Air Compressors for the Diving Program				
FY 2012 Accomplishments: Procurement of air compressor test articles				
Title: Fire Protection Equipment (FPE)				
Articles:		0.118 0	0.170 0	0.000
Description: Fire Protection Equipment				
FY 2012 Accomplishments: Procure FPE items				
FY 2013 Plans: Procure Type II and Type III FPE items				
Title: Deep Sea Set				
Articles:		0.000	0.221 0	0.000
Description: Development of the Deep Sea Set				
FY 2013 Plans: Create Computer Model of existing set /add enhancements to model /develop TDP in support of make-or-buy decision				
Title: Assault Boats and Outboard Motors		0.160	0.625	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Articles:	0	0		
Description: Development of various Assault Boats and Outboard Motors				
FY 2012 Accomplishments: Procurement of Assault Boats and Outboard Motors test articles				
FY 2013 Plans: Testing of 7-man and 15-man boats and testing of motors				
Title: Engineering and Quality Assurance	Articles:	0.156 0	0.300 0	0.000
Description: Engineering and Quality Assurance of engineering SKOs				
FY 2012 Accomplishments: Engineering and Quality Assurance dedicated to the development and quality of Assault Boats, Outboard Motors, Diving Equipment, and other engineering sets				
FY 2013 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				
Title: Vertical Skills Engineer Construction Kit (VSECK)	Articles:	0.020 0	0.125 0	0.000
Description: Research, Development, and Testing of Vertical Skills Engineer Construction Kit (VSECK)				
FY 2012 Accomplishments: Purchase and analysis of VSECK market samples				
FY 2013 Plans: Procure and test VSECK				
Title: Detainee Kit	Articles:	0.044 0	0.075 0	0.000
Description: Research, Development, and Testing of Detainee Kit				
FY 2012 Accomplishments:				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Purchase and analysis of Detainee Kit market samples			
FY 2013 Plans: Procure and test Detainee Kits			
Title: Diver Propulsion System			
Articles:	0.060 0	0.000	0.000
Description: Purchase of Diver Propulsion Systems			
FY 2012 Accomplishments: Purchase Diver Propulsion test articles			
Title: SBIR/STTR			
Articles:	0.033 0	0.000	0.000
Description: Withheld for SBIR/STTR			
FY 2012 Accomplishments: SBIR/STTR withhold			
Accomplishments/Planned Programs Subtotals	1.061	1.916	0.000

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPA 3 ML5325: OPA 3 ML5325, Items Less than \$5.0M (Engineering Support)	12.482	14.093	5.859		5.859	6.359	6.209	6.359	6.359	Continuing	Continuing
• OPA 3 R70110: OPA 3 R70110, Hydraulic Electric Pneumatic Petroleum Operated Equipment (HEPPOE)	28.949	5.889	13.350		13.350	13.350	13.350	13.350	9.700	Continuing	Continuing
• OPA 3 R70120: OPA 3 R70120, Urban Operations, Platoon Set	13.760	13.434	11.641		11.641	11.641	11.641	11.641	11.641	Continuing	Continuing
• OPA 3 R70130: OPA 3 R70130, Urban Operations, Squad Set	11.481	12.250	13.150		13.150	13.139	10.199	3.709	2.917	Continuing	Continuing

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
Remarks											

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SBIR/STTR	TBD	Various:Various	0.000	0.033		-		-		-		-	0.000	0.033	0.000
Subtotal			0.000	0.033		0.000		0.000		0.000		0.000	0.000	0.033	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
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	0.167	Dec 2011	0.250	Dec 2012	-		-		-	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	0.000	0.160	Dec 2011	-		-		-		-	Continuing	Continuing	Continuing
Market Samples for Detainee Kit	C/FP	PM SKOT:Harrison, MI	0.000	0.044	Dec 2011	0.050	Nov 2012	-		-		-	Continuing	Continuing	Continuing
Market Samples of Vertical Skills Engineer Construction Kit (VSECK)	C/FP	PM SKOT:Harrison, MI	0.000	0.020	Feb 2012	0.100	Dec 2012	-		-		-	Continuing	Continuing	Continuing
Deep Sea Set Computer Modeling and TDP Development	MIPR	ECBC:Rock Island, IL	0.000	-		0.221	Oct 2012	-		-		-	Continuing	Continuing	Continuing
Procure Fire Protection Equipment (Type I, II and III)	C/FP	PM SKOT:Harrison, MI	0.000	0.118	Dec 2011	0.170	Dec 2012	-		-		-	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Diver Propulsion System Market Samples	C/FP	Patriot 3 Maritime: Fredricksburg, VA	0.000	0.060	Feb 2012	-		-		-		-	Continuing	Continuing	Continuing
XLDS	SS/FP	TBS:TBS	0.000	0.050	Feb 2012	-		-		-		-	0.000	0.050	0.000
Develop Air Compressors for Diving Program	C/FP	TBS:TBS	0.000	0.175	Dec 2011	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			1.025	0.794		0.791		0.000		0.000		0.000			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
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	Dec 2011	0.050	Oct 2012	-		-		-	Continuing	Continuing	Continuing
Engineering and Quality Assurance of engineering SKOs (Soldier Portable)	MIPR	ECBC/ARDEC: Rock Island, IL	0.000	0.089	Dec 2011	0.200	Nov 2012	-		-		-	Continuing	Continuing	Continuing
Engineering and Quality Assurance (Boats and Motors)	MIPR	ECBC: Rock Island, IL	0.000	0.100	Dec 2011	0.100	Oct 2012	-		-		-	Continuing	Continuing	Continuing
Subtotal			0.181	0.234		0.350		0.000		0.000		0.000			

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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

Procurement of test articles and testing of Assault Boats & Outboard Motors	[REDACTED]																											
Procurement of test articles & testing of Soldier Portable Sets & Support Equip	[REDACTED]																											

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
Procurement of test articles and testing of Assault Boats & Outboard Motors	2	2012	4	2014
Procurement of test articles & testing of Soldier Portable Sets & Support Equip	2	2013	4	2014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
L46: <i>Maintenance Support Equipment</i>	-	3.064	3.697	1.232	-	1.232	2.045	1.976	1.829	1.903	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 Mobile Maintenance Equipment Shop Set Shelters for the next generation armored vehicle in order to lower the weight of enclosure to accommodate required tool load. Efforts will continue on deploying SKOs to support rapid emerging missions including joint efforts. Support equipment items including Special Tool Sets and Load Banks will be acquired and tested. This project will fund efforts to include development of the Next Generation Shop Equipment Welding (SEW), additional modules and 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 bottle refill 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 2012	FY 2013	FY 2014
<p>Title: Develop the Next Generation Shop Equipment Welding (SEW)</p> <p align="right">Articles:</p>	0.000	0.900 0	0.000
<p>Description: Design, Build, and Test the Next Generation SEW, incorporating new technology and a new platform</p> <p>FY 2013 Plans: Concept design and development of the Next Generation SEW on a new platform</p>			
<p>Title: Develop Next Generation Standard Automotive Tool Set (SATS)</p> <p align="right">Articles:</p>	0.000	0.403 0	0.485
<p>Description: Design, Develop, Build, and Test SATS Future Field Modules</p> <p>FY 2013 Plans:</p>			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Develop Next Generation SATS prototypes				
FY 2014 Plans: Procure Next Generation SATS prototypes, SATS future field modules and special tools.				
Title: Metalworking & Machining Shop Set (MWMSS)		0.175	0.100	0.000
		Articles: 0	0	
Description: Design, Develop, Build, and Test Metalworking & Machining Shop Set (MWMSS) configurations				
FY 2012 Accomplishments: Additional Testing of MWMSS				
FY 2013 Plans: Additional Testing/Re-testing MWMSS				
Title: Mobile Maintenance Equipment Shop Set		0.300	0.389	0.522
		Articles: 0	0	
Description: Modernization / Redesign efforts of mobile shelters for next generation of vehicles				
FY 2012 Accomplishments: Purchase of a next generation vehicle chassis, and integration and testing of the next generation vehicle platform variant				
FY 2013 Plans: Vehicular SKO Modernization to include SECM				
FY 2014 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				
Title: Support for Requirements Generation		0.122	0.125	0.125
		Articles: 0	0	
Description: Support for requirements generation of future SKOs				
FY 2012 Accomplishments: Document development support for future requirements				
FY 2013 Plans:				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Document development supporting future requirements SKOs				
FY 2014 Plans: Document development supporting future requirements SKOs				
Title: Rapid Deployment SKOs		0.000	0.275	0.050
	Articles:		0	
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 Plans: Develop and test various Soldier Portable Tool Kits based on the maintenance requirements of current and future platforms.				
FY 2014 Plans: Develop and test various Soldier Portable Tool Kits based on the maintenance requirements of current and future platforms.				
Title: Engineering and Quality Assurance		0.306	0.450	0.000
	Articles:	0	0	
Description: Engineering and Quality Assurance in support of SKOs				
FY 2012 Accomplishments: Engineering and Quality Assurance of the Armament Shop Set (ARSS), Special Tool Sets, and other maintenance SKOs				
FY 2013 Plans: Engineering and Quality Assurance dedicated to the development and quality of maintenance SKOs				
Title: Armament Shop Set (ARSS)		2.065	1.055	0.000
	Articles:	0	0	
Description: Armament Shop Set upgrades				
FY 2012 Accomplishments: Purchase of ARSS prototypes				
FY 2013 Plans: Test of ARSS prototypes and development of Technical Manuals				
Title: Acquisition of Support Equipment		0.000	0.000	0.050

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Description: Support Equipment			
FY 2014 Plans: Procure and test Support Equipment (standalone lathes, mills, load banks, etc.) formerly known as nonstandard			
Title: SBIR/STTR			
Description: Withheld for SBIR/STTR			
FY 2012 Accomplishments: SBIR/STTR withhold			
Articles:	0.096 0	0.000	0.000
Accomplishments/Planned Programs Subtotals	3.064	3.697	1.232

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPA 3 M61500: OPA 3 M61500, Shop Equipment, Contact Maintenance (SECM)	20.428									Continuing	Continuing
• OPA 3 MA9650: OPA 3 MA9650, Standard Automotive Tool Set (SATS)	8.377									Continuing	Continuing
• OPA 3 G32101: OPA 3 G32101, Items Less Than \$5.0M (MAINTENANCE EQUIPMENT)	3.852	0.030	3.860		3.860	3.861	3.858	3.859	3.859	Continuing	Continuing
• OPA 3 G05302: OPA 3 G05302, Forward Repair System (FRS)	8.376									0.000	8.376
• OPA 3 G39200: OPA 3 G39200, Hydraulic Systems Test and Repair Unit (HSTRU)	4.520	2.923	0.400		0.400					Continuing	Continuing
• OPA 3 G05315: OPA 3 G05315, Metalworking and Machining Shop Set (MWMSS)			15.000		15.000	15.237	17.200	15.231	15.231	Continuing	Continuing

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA 3 G05330: <i>OPA 3 G05330, Armament Repair Shop Set</i>			4.027		4.027	12.420	12.420	14.420	12.400	Continuing	Continuing

Remarks

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SBIR/STTR	TBD	Various:Various	0.000	0.096		-		-		-		-	0.000	0.096	0.000
Subtotal			0.000	0.096		0.000		0.000		0.000		0.000	0.000	0.096	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
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	-		-		0.125	Oct 2013	-		0.125	Continuing	Continuing	Continuing
Next Generation Shop Equipment Welding (SEW) concept design and development	MIPR	ECBC:Rock Island, IL	0.000	-		0.900	Nov 2012	-		-		-	Continuing	Continuing	Continuing
Modernization/Redesign efforts of Truck/Trailer transported shelters for next generation vehicles	MIPR	ECBC:Rock Island, IL	0.000	0.300	Dec 2011	0.389	Dec 2012	0.522	Dec 2013	-		0.522	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.	MIPR	ECBC:Rock Island, IL	0.100	-		0.150	Oct 2012	0.050	Dec 2013	-		0.050	Continuing	Continuing	Continuing
Procure Special Tools in support of Ground Combat System	MIPR	PM SKOT:Harrison, MI	0.000	-		-		-		-		-	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Armament Repair Shop Set (ARSS) market research and prototypes	MIPR	ECBC-PIF:Edgewood, MD	0.050	1.969	Feb 2012	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			1.593	2.269		1.439		0.697		0.000		0.697			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Life Cycle Configuration Analyses & Support to Initial Capabilities Document Development	MIPR	PM SKOT Rock Island/ CASCOM / Maneuver Support Center (MANSCEN): (IL, VA, MO)	0.496	0.122	Feb 2012	0.125	Dec 2012	-		-		-	Continuing	Continuing	Continuing
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	0.402	Dec 2011	0.450	Nov 2012	-		-		-	Continuing	Continuing	Continuing
Subtotal			1.374	0.524		0.575		0.000		0.000		0.000			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test Special Tool Kits	MIPR	ECBC / ATEC:(IL, MD)	0.000	-		0.125		-		-		-	Continuing	Continuing	Continuing
Testing of the Metalworking & Machining Shop Set (MWMSS)	MIPR	ATEC:Aberdeen, MD	2.446	0.175	Dec 2011	0.100	Dec 2012	-		-		-	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
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 Modular Intermodal Containerizing of Soldier Portable & Special Tools Sets	<div style="background-color: black; width: 100%; height: 100%;"></div>
--	---

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Joint Modular Intermodal Containerizing of Soldier Portable & Special Tools Sets	1	2014	4	2017

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
L47: <i>Improved Environmental Control Units Ed</i>	-	0.000	2.976	2.968	-	2.968	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 and FY14 funds Engineering and Manufacturing Development (EMD) Phase activities for the 9, 18 and 36K development, as well as further IECU variants which include multiple trailer-mounted systems and 18K vertical configurations (current family under development does not have a vertical 18; additional users have been identified as requiring this configuration). In addition, the field has identified an emerging requirement for an integrated fuel-fired heating/cooling system. These further variants will further standardize cooling units in the field, enable cooling of larger shelters and structures, offer increased mobility, and may be used to cool multiple tents with one unit.

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

	FY 2012	FY 2013	FY 2014
Title: Technology Development	0.000	2.000	0.524
Articles:		0	
Description: Engineering and Manufacturing Development (EMD) for 9/18/36K BTUH IECU, multiple trailer-mounted variants, 18K Vertical configuration and integrated heating/cooling systems.			
FY 2013 Plans:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Support continuing EMD effort for 9/18/36K BTUH IECU. Complete final engineering requirements for 9/18/36K IECUs. Develop prototypes for multiple trailer-mounted variants, 18K Vertical configuration and integrated heating/cooling units to meet emerging user needs. FY 2014 Plans: Support continuing EMD effort for 9/18/36K BTUH IECU. Complete final engineering requirements for 9/18/36K IECUs. Develop prototypes for multiple trailer-mounted variants, 18K Vertical configuration and integrated heating/cooling units to meet emerging user needs.				
Title: Government System Test and Evaluation Description: Testing for prototype performance for the trailer mounted variants of the IECUs. FY 2013 Plans: Testing for prototype performance for the trailer mounted variants of the IECUs. FY 2014 Plans: Conduct reliability testing, Limited User Test, and logistics verification for 18K Vertical IECU, as well as trailer mounted variants. Conduct performance tests on integrated heating/cooling units.		Articles: 0.000	0.199 0	1.500
Title: Other Contract and Government Agency Description: Support engineering, logistics, and testing efforts for multiple trailer-mounted variants, as well as 18 K Vertical configuration and integrated heating/cooling units. Support EMD effort on 9/18/36K IECU family. FY 2013 Plans: Support engineering, logistics, and testing efforts for multiple trailer-mounted variants, as well as 18K Vertical configuration and integrated heating/cooling units. Support EMD effort on 9/18/36K IECU family. FY 2014 Plans: Support engineering, logistics, and testing efforts for multiple trailer-mounted variants, as well as 18K Vertical configuration and integrated heating/cooling units. Support EMD effort on 9/18/36K IECU family.		Articles: 0.000	0.344 0	0.444
Title: Government Program Management		Articles: 0.000	0.433 0	0.500

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Description: Oversight and management of engineering, logistics, contracts, and testing efforts for 9/18/36 IECU family, multiple trailer-mounted variants, as well as 18K Vertical configurations. Transition to production. Provide oversight and management of integrated heating/cooling units.</p> <p>FY 2013 Plans: Oversight and management of engineering, logistics, contracts, and testing efforts for 9/18/36K IECU family, multiple trailer-mounted variants, as well as 18K Vertical configurations. Transition to production. Provide oversight and management of integrated heating/cooling units.</p> <p>FY 2014 Plans: Oversight and management of engineering, logistics, contracts, and testing efforts for 9/18/36 IECU family, multiple trailer-mounted variants, as well as 18K Vertical configurations. Transition to production. Provide oversight and management of integrated heating/cooling units.</p>			
Accomplishments/Planned Programs Subtotals	0.000	2.976	2.968

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

<u>Line Item</u>	FY 2012	FY 2013	FY 2014 <u>Base</u>	FY 2014 <u>OCO</u>	FY 2014 <u>Total</u>	FY 2015	FY 2016	FY 2017	FY 2018	<u>Cost To Complete</u>	<u>Total Cost</u>
• MF9303: <i>OPA 3, Improved Environmental Control Units , MF9303</i>	10.109	10.689	7.269		7.269	22.351	24.321	25.671		Continuing	Continuing

Remarks

D. Acquisition Strategy
Complete Engineering and Manufacturing Development (EMD) for the 9/18/36K IECU variants and transition to production. Begin EMD for level efforts in support of multiple trailer-mounted IECU variants as well as a vertical configuration of the 18K IECU. The initial prototypes of the trailer-mounted variants will be assembled in house, with eventual production via depot-level integration of GFE from existing production contracts. The 18K vertical EMD prototype effort will be acquired in a single-contract, single-contractor award, via a CPFF 2 year EMD contract. A follow-on production contract will be planned for later acquisition. Initial prototypes of the integrated fuel-fired heating and cooling systems will be procured off-the-shelf through third party vendors for assessment. This assessment will support development of a PD for eventual competitive procurement.

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
9,18 and 36K IECU	Various	PM-MEP:various	1.124	-		-		0.050	Nov 2013	-		0.050	0.000	1.174	Continuing
Trailer Variants	Various	PM-MEP:various	0.000	-		0.433	Nov 2012	0.075	Nov 2013	-		0.075	0.000	0.508	Continuing
18K Vertical	Various	PM-MEP:various	0.000	-		-		0.050	Nov 2013	-		0.050	0.000	0.050	0.000
Integrated heating/cooling units	Various	PM-MEP:various	0.000	-		-		0.025	Nov 2013	-		0.025	0.000	0.025	0.000
SBIR/STTR	Various	various:various	0.137	-		-		-		-		-	0.000	0.137	0.000
Subtotal			1.261	0.000		0.433		0.200		0.000		0.200	0.000	1.894	

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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
Trailer Mounted variants	MIPR	CERDEC Night Vision Lab:Ft Belvoir, VA	0.000	-		-		0.400	Mar 2014	-		0.400	0.000	0.400	0.000
18K Vertical	C/CPFF	TBD:TBD	0.000	-		2.000	Jun 2013	0.600	Mar 2014	-		0.600	0.000	2.600	0.000
Subtotal			2.064	0.000		2.000		1.000		0.000		1.000	0.000	5.064	

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
9, 18 and 36K IECU	MIPR	CERDEC:Fort Belvoir, VA	1.642	-		-		0.500	Mar 2014	-		0.500	0.000	2.142	0.000
18K Vertical	Various	CERDEC:Fort Belvoir, VA	3.507	-		-		0.200	Mar 2014	-		0.200	0.000	3.707	0.000
Trailer variants	MIPR	CERDEC:Fort Belvoir, VA	0.000	-		0.344	Oct 2012	0.300	Nov 2013	-		0.300	0.000	0.644	0.000

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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	██████████																											
Conduct User Evaluation					██████████																							
Logistics Demonstration							██████████																					
Milestone C/LRIP Decision						██████																						
LRIP/TC Std/FMR Work					██████████████████																							
Full Rate Production Decision											██████																	
Trailer Variants IECU					██████████████████																							
Preliminary Design Review					██████																							
Design and Fabrication					██████████																							
CDR Trailers							██████																					
Test Phase							██████████████																					
Production Readiness Review											██████																	
18K Vertical Development					██████████████████																							
Preliminary Design Review II							██████																					
Design and Fabrication II							██████████████																					
Test Phase II											██████████																	
User Test																												
Production Readiness Review II																												
Integrated Heating/Cooling Units					██████████████████																							
Procure Off-The-Shelf Units											██████																	
Test Systems											██████████																	
Develop PD																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Production Qualification Test	2	2012	2	2013
Conduct User Evaluation	1	2013	2	2013
Logistics Demonstration	2	2013	4	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
Trailer Variants IECU	1	2013	4	2014
Preliminary Design Review	1	2013	1	2013
Design and Fabrication	1	2013	2	2013
CDR Trailers	3	2013	3	2013
Test Phase	3	2013	2	2014
Production Readiness Review	2	2014	2	2014
18K Vertical Development	1	2013	2	2015
Preliminary Design Review II	3	2013	3	2013
Design and Fabrication II	3	2013	3	2014
Test Phase II	2	2014	4	2014
User Test	1	2015	1	2015
Production Readiness Review II	2	2015	2	2015
Integrated Heating/Cooling Units	1	2013	4	2014
Procure Off-The-Shelf Units	4	2013	4	2013
Test Systems	1	2014	3	2014
Develop PD	3	2014	4	2014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
L50: <i>JOINT LIGHT TACTICAL VEHICLES (JLTV) - SDD</i>	-	84.500	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 U.S. Army and the U.S. Marine Corps. 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.

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

	FY 2012	FY 2013	FY 2014
Title: Joint Light Tactical Vehicles (JLTV) Program Management Support	4.910	0.000	0.000
Articles:	0		
Description: Funding is provided for the support of program management government operations.			
FY 2012 Accomplishments: Various costs to provide effort during the Engineering and Manufacturing Development (EMD) phase and contract source selection board.			
Title: Engineering and Manufacturing Development (EMD) Prototype Contract and Support for Development and Fabrication.	73.026	0.000	0.000
Articles:	0		
Description: Funding is provided for EMD prototype Joint Light Tactical Vehicle development and fabrication.			
FY 2012 Accomplishments:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Funding is provided for EMD prototype Joint Light Tactical Vehicle development and fabrication.			
Title: Engineering and Manufacturing Developmental Test and Evaluation <div style="text-align: right;">Articles:</div>	1.763 0	0.000	0.000
Description: Funding is provided for Engineering and Manufacturing Development test support to include the start of coupon testing. FY 2012 Accomplishments: Engineering and Manufacturing Development testing.			
Title: Government Furnished Equipment and Management. <div style="text-align: right;">Articles:</div>	4.801 0	0.000	0.000
Description: Government furnished equipment for Joint Light Tactical Vehicles (JLTV) Engineering, Manufacturing, and Development contract phase. FY 2012 Accomplishments: Government furnished equipment for Joint Light Tactical Vehicles (JLTV) Engineering and Manufacturing Development contract phase.			
Accomplishments/Planned Programs Subtotals	84.500	0.000	0.000

C. Other Program Funding Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PM JLTV PROJECT VU9: <i>Joint Light Tactical Vehicles (JLTV), 0605812A, Army RDTE Project VU9</i>		72.295	84.230		84.230	34.700	33.224	26.123	3.281	Continuing	Continuing
• PM JLTV PRODUCTION D15603: <i>Joint Light Tactical Vehicles (JLTV), D15603, Army OPA 1</i>						178.305	312.866	606.299	846.919	Continuing	Continuing
• PM JLTV PROJECT 3209 0603635M: <i>Marine Corps Ground</i>	45.945									0.000	45.945

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
<i>Combat/Support Systems, RDTE</i> <i>Project 3209 0603635M</i>											
• PM JLTV PROJECT 3209		44.500	50.362		50.362	16.606	33.058	23.938	2.372	Continuing	Continuing
<i>0605812M: Marine Corps Ground</i> <i>Combat/Support Systems, RDTE</i> <i>Project 3209 0605812M</i>											
• PM JLTV PRODUCTION 5095:						30.521	99.536	143.062	520.468	Continuing	Continuing
<i>Marine Corps Ground Combat/</i> <i>Support Systems, Production 5095</i>											

Remarks

D. Acquisition Strategy

Joint Light Tactical Vehicles (JLTV) is a Joint Services Program with the U.S. Army and U.S. 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 approved on 9 August 2012.

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 Warfighter Information Network-Tactical (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 awarded three firm-fixed price contracts for the EMD phase on 22 August 2012. 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.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contract Service Support	SS/CPFF	Booz-Allen Hamilton,;McLean, VA	0.000	2.681	Apr 2012	-		-		-		-	Continuing	Continuing	Continuing
Contract Service Support	SS/CPFF	Camber Corporation,;Huntsville, AL	0.000	0.251	Sep 2012	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			0.000	2.932		0.000		0.000		0.000		0.000			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Contract	C/FFP	Oshkosh Corporation,;Oshkosh, WI	0.000	25.703	Aug 2012	-		-		-		-	30.175	55.878	55.878
JLTV Engineering and Manufacturing Development Contract	C/FFP	AM General,;South Bend, IN	0.000	23.515	Aug 2012	-		-		-		-	40.365	63.880	63.880
Engineering and Manufacturing Development Contract	C/FFP	Lockheed Martin,;Grand Prairie, TX	0.000	14.548	Aug 2012	-		-		-		-	50.452	65.000	65.000
Subtotal			0.000	63.766		0.000		0.000		0.000		0.000	120.992	184.758	184.758

Remarks
The Joint Light Tactical Vehicle (JLTV) is a Joint Services Program with the U.S. Army and U.S. Marine Corps as the two main components. Contract awards will continue to be funded through FY 2015 under U.S. Army PE 0605812A Project VU9 and U.S. Marine Corps under PE 0605812M Project 3209.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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	0.000	4.240	Dec 2011	-		-		-		-	Continuing	Continuing	0.000
JLTV Program Prototype for Engineering and Manufacturing Development (EMD) Phase	MIPR	Tank-Automotive Research, Development, and Engineering Center - TARDEC,:Warren, MI	0.000	3.948	Feb 2012	-		-		-		-	Continuing	Continuing	0.000
JLTV Prototype for EMD Phase - Cost and Systems, Legal, Budget, Safety, Security, Contracting, ILSC	MIPR	TACOM Life Cycle Management Command (LCMC),:Warren, MI	0.000	2.170	Feb 2012	-		-		-		-	Continuing	Continuing	0.000
Government Furnished Equipment (GFE) / GFE Management	Various	Various:Various	0.000	4.801	Feb 2012	-		-		-		-	0.000	4.801	0.000
JLTV Source Selection Evaluation Board	MIPR	Various:Various	0.000	0.210	Mar 2012	-		-		-		-	0.000	0.210	0.000
Engineering and Manufacturing Development (EMD) Analysis and Evaluation	MIPR	Tank-Automotive Research, Development, and Engineering Center - TARDEC,:Warren, MI	0.000	0.670	Jul 2012	-		-		-		-	0.000	0.670	0.000
Subtotal			0.000	16.039		0.000		0.000		0.000		0.000			0.000

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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) Request For Proposal release		■																										
Source Selection Evaluation Board (SSEB)		■	■	■																								
Milestone B (MS B)				■																								
EMD Contract Award				■																								
EMD Contract			■	■	■	■	■	■																				
EMD Test and Validation / Report					■	■	■	■																				

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 and Manufacturing Development (EMD) Request For Proposal release	2	2012	2	2012
Source Selection Evaluation Board (SSEB)	2	2012	4	2012
Milestone B (MS B)	4	2012	4	2012
EMD Contract Award	4	2012	4	2012
EMD Contract	4	2012	4	2013
EMD Test and Validation / Report	1	2013	4	2013

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
VR7: <i>Combat Service Support Systems</i>	-	2.465	1.745	1.193	-	1.193	1.965	2.054	1.915	1.915	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 2012	FY 2013	FY 2014
<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 re-icing in route.</p> <p>FY 2012 Accomplishments: Conduct testing and develop documentation for Milestone C Type Classification.</p> <p>FY 2013 Plans: Complete Milestone C and award the production contract.</p>	0.600 0	0.600 0	0.000
<p>Title: Modular Ballistic Protection System (MBPS)</p> <p align="right">Articles:</p>	0.571 0	0.378 0	0.368

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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	FY 2013	FY 2014
<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> <p>FY 2012 Accomplishments: Conduct Operational Testing (OT) on Tent Extendable Modular Personnel (TEMPER) version of the MBPS.</p> <p>FY 2013 Plans: Conduct OT for MBPS stand-alone variant, prepare for Milestone C and transition to production.</p> <p>FY 2014 Plans: Award development contract to procure test items for MBPS stand-alone variant. Prepare documentation to support Milestone C production decision and initiate transition to production.</p>				
<p>Title: Family of Space Heaters</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2012 Accomplishments: Execute Pre-Planned Product Improvement (P3I) effort on the family of Space Heaters to improve on fuel efficiency</p> <p>FY 2013 Plans: Complete Developmental and Operational Test on P3I improvements to Army Space Heater and update procurement specification.</p>		0.148 0	0.100 0	0.000
<p>Title: Net-Zero Energy Efficiency Solutions</p> <p align="right">Articles:</p> <p>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</p>		1.069 0	0.667 0	0.825

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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	FY 2013	FY 2014
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.			
<i>FY 2012 Accomplishments:</i> Complete Development of Energy Efficiency (E2) shelter kit solutions for Force Provider modules and conduct Developmental Testing (DT)			
<i>FY 2013 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.			
<i>FY 2014 Plans:</i> Conduct OT on Force Provider 150-Soldier module with integrated Advanced Medium-sized Mobile Power Source (AMMPS) Micro-grid. Obtain material release and transition into production. Provide technical support to Contingency Basing Infrastructure initiative to transition applicable technology to Force Provider.			
<i>Title:</i> SBIR+STTR			
<i>Articles:</i>	0.077 0	0.000	0.000
<i>Description:</i> SBIR+STTR			
<i>FY 2012 Accomplishments:</i> SBIR+STTR			
Accomplishments/Planned Programs Subtotals	2.465	1.745	1.193

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 <u>Base</u>	FY 2014 <u>OCO</u>	FY 2014 <u>Total</u>	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• 643804 K39: <i>Field Sustainment AD,</i>	2.857	2.970	2.161		2.161	3.061	3.434	2.727	2.801	Continuing	Continuing
• 643804 VR8: <i>Combat Service Support Systems AD,</i>	1.977	2.023	1.613		1.613	2.405	2.619	2.415	2.415	Continuing	Continuing
• 654804 L39: <i>Field Sustainment Support ED,</i>	4.094	2.550	1.789		1.789	2.753	2.588	2.269	2.456	Continuing	Continuing
Remarks											

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Project Management Support	Various	PM Force Sustainment Systems:Natick, MA	0.000	0.160		0.162		0.125		-		0.125	Continuing	Continuing	0.000
SBIR+STTR	TBD	Various:Various	0.000	0.077		-		-		-		-	0.000	0.077	0.000
Subtotal			0.000	0.237		0.162		0.125		0.000		0.125			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Soldier Support Equipment	TBD	Various:Various	0.000	1.246		0.897		0.453		-		0.453	Continuing	Continuing	0.000
Subtotal			0.000	1.246		0.897		0.453		0.000		0.453			0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Soldier Support Equipment	Various	Various:Various	0.000	0.982		0.686		0.615		-		0.615	Continuing	Continuing	0.000
Subtotal			0.000	0.982		0.686		0.615		0.000		0.615			0.000

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		0.000	2.465	1.745	1.193	0.000		1.193	0.000

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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 testing on HRTC2																												
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																												
Obtain Milestone C TC on Mobile Integrated Shop Shelter System																												
Conduct OT SoS Base Camp Efficiency & Environ Combat Outpost																												
Obtain MS C TC SoS Base Camp Efficiency & Environ Combat Outpost																												
Conduct Technology Improvements and development of other variants for ULCANS																												
Conduct DT & OT on Net-Zero Energy Efficiency Solution & transition to production																												
Transition Army Space Heater P3I effort into production																												
Conduct DV on Force Provider Renewable Energy Kits																												
Conduct DT/OT on Microgrid Loadshedding Kit for Force Provider																												
Conduct DT/OT on Force Provider Renewable Energy Kits																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 testing on HRTC2	4	2012	2	2013
Transition Zero-Footprint Base Camp capabilities into Joint Base Camp systems	1	2014	4	2016
Obtain Milestone C for MBPS stand alone	3	2015	3	2015
Transition MBPS capability into Base Camp systems	4	2015	1	2016
Obtain Milestone C TC on Mobile Integrated Shop Shelter System	2	2018	2	2018
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 Technology Improvements and development of other variants for ULCANS	1	2015	4	2018
Conduct DT & OT on Net-Zero Energy Efficiency Solution & transition to production	2	2013	4	2016
Transition Army Space Heater P3I effort into production	4	2013	4	2013
Conduct DV on Force Provider Renewable Energy Kits	3	2017	4	2017
Conduct DT/OT on Microgrid Loadshedding Kit for Force Provider	3	2017	1	2018
Conduct DT/OT on Force Provider Renewable Energy Kits	1	2018	4	2018

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

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

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	79.188	20.776	7.379	-	7.379	14.210	12.031	9.460	10.391	Continuing	Continuing
485: <i>Info Standards Interop Eng/ Joint Interop Cert</i>	-	19.135	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
593: <i>Joint Battle Command - Platform (JBC-P)</i>	-	60.053	20.776	7.379	-	7.379	14.210	12.031	9.460	10.391	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Program increase provides for software development, system engineering, and test and integration efforts that support the evolution of core JBC-P software to the interoperable mounted environment.

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.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

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

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	81.733	20.776	0.000	-	0.000
Current President's Budget	79.188	20.776	7.379	-	7.379
Total Adjustments	-2.545	0.000	7.379	-	7.379
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-2.545	-	7.379	-	7.379

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
485: <i>Info Standards Interop Eng/Joint Interop Cert</i>	-	19.135	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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).

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012
				FY 2013
				FY 2014
Title: C4ISR			Articles:	
		4.677	0.000	0.000
		0		
Description: Funds to support the following effort				
FY 2012 Accomplishments:				
Develop and update architecture standards and protocols necessary to ensure C4ISR systems interoperability				
Title: Army Warfighter Information Standards			Articles:	
		4.677	0.000	0.000
		0		
Description: Funds to support the following effort				
FY 2012 Accomplishments:				
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			Articles:	
		4.677	0.000	0.000
		0		
Description: Funds to support the following efforts				
FY 2012 Accomplishments:				
Identify, analyze, and provide solutions to gaps in technical architecture standards requirements				
Title: Army Net-Centric Enterprise Service			Articles:	
		4.794	0.000	0.000
		0		
Description: Funds to support the following effort				
FY 2012 Accomplishments:				
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			Articles:	
		0.310	0.000	0.000
		0		
Description: Funds to support the following effort				
FY 2012 Accomplishments:				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Knowledge Center Development - Build & update as necessary access to website repositories for key policies, directives, and architecture products			
Accomplishments/Planned Programs Subtotals	19.135	0.000	0.000

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

N/A

Remarks

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.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
593: <i>Joint Battle Command - Platform (JBC-P)</i>	-	60.053	20.776	7.379	-	7.379	14.210	12.031	9.460	10.391	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Joint Battle Command - Platform (JBC-P) program is the cornerstone of joint forces Command and Control (C2) Situational Awareness (SA) and communications. JBC-P provides secure Blue Force Tracking capability at the Platform and Command Post levels, reducing fratricide and enabling mission accomplishment across the entire spectrum of tactical military operations. JBC-P provides continuous near-real-time identification of friendly locations to populate the tactical Common Operating Picture (COP) and enables joint, Net-Centric C2/Battle Command by seamlessly passing/sharing relevant information vertically and horizontally, within all tactical levels of command and control.

The JBC-P program will field new hardware (ruggedized dismountable vehicle computer systems and ancillary equipment) and software capabilities, and will leverage the Army's previous equipment investments by installing the new JBC-P software on existing Force XXI Battle Command Brigade and Below (FBCB2) computer systems.

As part of the software-focused mounted computing environment (MCE) initiative, JBC-P will continue to evolve its core system design to employ open standards, defined processes, and common lower-level software components that will allow the JBC-P core software to support future application development and interoperability among other Mission Command (MC) applications and services in the mounted tactical environment.

Fiscal Year 2014 funds provide for software development, system engineering, and test and integration efforts that support the evolution of core JBC-P software to the interoperable mounted environment.

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

Title: Software Development	FY 2012	FY 2013	FY 2014
	28.900	8.915	3.912
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), other system attributes, and in support of Mounted Computing Environment, Multi-Level Security Domains for Network, Users, and Information.			
FY 2012 Accomplishments:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>Complete Software System Acceptance Test (SSAT) for product build 2 for Capability Set 13-14 software and deliver to PM. Complete engineering, design, development, coding and SSAT for Build 3 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 Multiservice Operational Test & Evaluation (MOT&E)) and deliver to PM. Complete engineering, design, development, coding of Handheld Product Development Kit (PDK) in support of NETT Warrior/JBC-P dismount requirements. Complete engineering, design and initiate coding for product build 5 to meet the KPPS 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.</p> <p>FY 2013 Plans: Complete engineering, design and coding for Core/PDK software. Complete engineering, design, and coding for product builds 5 & 6 to fully maintain the KPPs and other system attributes outlined in the Capability Development Document in lieu of Capabilities Production 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.</p> <p>FY 2014 Plans: Continue software design, development, and coding for JBC-P software build 6.0, and Mounted Computing Environment (MCE) 1.0. New software capabilities under development include logistics functions, common geospatial services, common overlay, and improved product development kit (PDK). Continue software code CM and documentation. Continue to conduct user juries to assess software maturity. Includes efforts in support of mounted computing environment (MCE) compliance and support of common software components across the COE technical reference model.</p>				
<p>Title: Software/Systems Engineering</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2012 Accomplishments:</p>		12.235 0	5.285 0	1.538

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<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. Commence system engineering for the migration of JBC-P baseline to MCE standards.</p> <p>FY 2014 Plans: Continue system engineering efforts for JBC-P Family of Systems, in support of Capability Set development, focusing on hardware/software integration, and further analysis and engineering of Position Location Information (PLI) sharing across platforms. Includes planning and engineering of future MCE capabilities including Shared Software Databus, Geospatial Services, Common Overlay, Single Security Services, and Common Authentication.</p>				
<p>Title: Prototype Manufacturing</p> <p align="right">Articles:</p> <p>Description: Design, Develop and Procure Prototypes for Remoteable Vehicle Computer Systems and Beacon Product, Embedded Encryption and Satellite Transceiver</p> <p>FY 2012 Accomplishments: Test and evaluation of beacon solution. Test and evaluation of commercial off-the-shelf/government off-the-shelf (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 Multiservice Operational Test and Evaluation for Capability Set 13-14. Conduct Milestone C decision review.</p>		5.620 0	0.000	0.000
<p>Title: Program Management</p> <p align="right">Articles:</p> <p>Description: JBC-P Program Management</p> <p>FY 2012 Accomplishments:</p>		3.423 0	1.861 0	0.885

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012
				FY 2013
				FY 2014
Provide 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.				
FY 2013 Plans: Provide 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.				
FY 2014 Plans: Provide technical, logistics and business oversight for software development activities. Monitor progress of performing organizations and prepare reports to higher headquarters. Develop and implement plans for process and product improvements. Includes Configuration & data management, CE working group infrastructure, operations, participation in Technical Advisory boards, system of systems engineering & the Platform Integrated Process (IPT) team efforts.				
Title: Test, Evaluation and Integration				Articles:
				9.875 0
				4.715 0
				1.044
Description: Develop and Conduct Integration Events (i.e., Tests and Assessments)				
FY 2012 Accomplishments: 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 Multiservice Operational Test and Evaluation (NIE 13.2) for Capability Set 13-14. Evaluate test data and provide reports to the Project Manager and Milestone Decision Authority for use in decision reviews.				
FY 2013 Plans: Conduct a customer test at NIE 13.1, a formal Developmental Test at Risk Reduction Event (RRE) 12, and the Multiservice Operational Test & Evaluation (MOT&E) at NIE 13.2.				
FY 2014 Plans: Test and Evaluation efforts in this timeframe include preparation for and participation in Risk Reduction Events (RRE) and Network Integration Exercises (NIE). Verification & Validation efforts of JBC-P and MCE software assets, HW/SW integration testing, DoD-provided network integration testing, and 3rd party application testing and certification.				
Accomplishments/Planned Programs Subtotals				60.053
				20.776
				7.379

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Joint Battle Command - Platform: <i>OPA W61990</i>	69.514	141.385	103.214		103.214	119.059	113.638	108.305	101.276	0.000	756.391

Remarks

Procurement funding in Fiscal Year 2013 through 2018 (Base funding) is designated for the procurement, fielding, and program management of JBC-P Family of Systems including JBC-P, JBC-P Log, and the implementation of the Mounted Computing Environment (MCE).

D. Acquisition Strategy

The JBC-P Capabilities Development Document (CDD) 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 July 2012. The program entered Milestone B (Engineering and Manufacturing Development phase) in September 2009. The Milestone Decision Authority (MDA) approved a Milestone C, conditional on positive Limited User Test (LUT) results, in July 2012.

The PM will conduct Multiservice Operational Test & Evaluation (MOT&E) as part of Network Integration Evaluation (NIE) 13.2 in 3QFY13. The MOT&E will test the JBC-P system software on existing FBCB2 hardware (non-dismountable vehicle systems) and future production-representative hardware (dismountable vehicle systems). Upon successful completion of MOT&E, PM JBC-P will request the MDA issue a Full Rate Production (FRP) 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JBC-P Software Development	MIPR	SED, Redstone Arsenal:Huntsville, AL	24.600	28.900		8.915		3.396		-		3.396	21.213	87.024	0.000
JBC-P Software/System Engineering	MIPR	SED, Redstone Arsenal:Huntsville, AL	16.605	12.235		5.285		1.538		-		1.538	9.607	45.270	0.000
Design, Develop, First Article Test, and Procure Hardware Prototypes	Various	Multiple:Multiple	1.605	5.620		-		-		-		-	0.000	7.225	0.000
Subtotal			42.810	46.755		14.200		4.934		0.000		4.934	30.820	139.519	0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PM Support (Gov't-Core)	Sub Allot	PM JBC-P:Aberdeen Proving Ground (APG), MD	0.800	1.100		1.861		0.385		-		0.385	2.405	6.551	0.000
PM Support (Gov't-Matrix)	IA	PM JBC-P:Aberdeen Proving Ground (APG), MD	0.305	1.060		-		0.300		-		0.300	1.874	3.539	0.000
PM Support (SETA Contractor)	C/CPFF	PM JBC-P:Aberdeen Proving Gound (APG), MD	1.130	1.263		-		0.200		-		0.200	1.249	3.842	0.000
Subtotal			2.235	3.423		1.861		0.885		0.000		0.885	5.528	13.932	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Develop and Conduct Tests and Assessments	MIPR	Multiple:Multiple	8.605	9.875		4.715		1.560		-		1.560	9.744	34.499	0.000

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
RRE 10		■																										
RRE 11			■																									
RRE 12 (Formal DT)						■																						
NIE 12.2			■																									
NIE 13.1 (Customer Test)					■																							
NIE 13.2 (MOT&E)							■																					
NIE 14.1										■																		
NIE 14.2 (FOT&E)												■																
MS C			■																									
Full Rate Production (FRP)/SW Fielding Decision								■																				
FRP Delivery Order 1 Award (Dis Vehicle Sys: 344)																												
FRP DO Award Year 2 (DV: 498)																												
FRP DO Award Year 3 (DV: 362; Veh: 1,659)																												
FRP DO Award Year 4 (DV: 447; Veh: 1,220)																												
FRP DO Award Year 5 (DV: 390; Veh: 1,150)																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
RRE 10	2	2012	2	2012
RRE 11	3	2012	3	2012
RRE 12 (Formal DT)	2	2013	2	2013
NIE 12.2	3	2012	3	2012
NIE 13.1 (Customer Test)	1	2013	1	2013
NIE 13.2 (MOT&E)	3	2013	3	2013
NIE 14.1	1	2014	1	2014
NIE 14.2 (FOT&E)	3	2014	3	2014
MS C	3	2012	3	2012
Full Rate Production (FRP)/SW Fielding Decision	4	2013	4	2013
FRP Delivery Order 1 Award (Dis Vehicle Sys: 344)	4	2013	4	2014
FRP DO Award Year 2 (DV: 498)	1	2014	1	2015
FRP DO Award Year 3 (DV: 362; Veh: 1,659)	1	2015	1	2016
FRP DO Award Year 4 (DV: 447; Veh: 1,220)	1	2016	1	2017
FRP DO Award Year 5 (DV: 390; Veh: 1,150)	1	2017	1	2018

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

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

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	26.316	43.395	39.468	-	39.468	46.553	48.381	46.256	47.738	Continuing	Continuing
812: <i>Mil HIV Vac&Drug Dev</i>	-	3.742	3.232	3.902	-	3.902	4.678	4.695	4.616	5.591	Continuing	Continuing
832: <i>Field Medical Systems Engineering Development</i>	-	14.336	23.971	23.049	-	23.049	26.936	28.955	28.466	28.413	Continuing	Continuing
849: <i>Infec Dis Drug/Vacc Ed</i>	-	8.238	13.771	12.517	-	12.517	14.939	14.325	13.059	13.619	Continuing	Continuing
VS8: <i>MEDEVAC Mission Equipment Package (MEP) - End Dev</i>	-	0.000	2.421	0.000	-	0.000	0.000	0.406	0.115	0.115	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

FY14 funding adjustment was meet critical Army budget requirements.

A. Mission Description and Budget Item Justification

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

(PROJ 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

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

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

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.

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)	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	27.132	43.395	46.634	-	46.634
Current President's Budget	26.316	43.395	39.468	-	39.468
Total Adjustments	-0.816	0.000	-7.166	-	-7.166
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.816	-			
• Adjustments to Budget Years	-	-	-7.166	-	-7.166

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
812: <i>Mil HIV Vac&Drug Dev</i>	-	3.742	3.232	3.902	-	3.902	4.678	4.695	4.616	5.591	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 2012	FY 2013	FY 2014
Title: Military HIV Vaccine and Drug Development	3.742	3.232	3.902
Articles:	0	0	
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 2012 Accomplishments: Performed 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: Refine vaccine administration schedule as well as clinical trial design based on data from previous clinical trials. Adjust plan for increment 1 future efficacy trial planned to begin in late 2014.			
FY 2014 Plans: Will continue to refine vaccine administration schedule as well as clinical trial design based on data from previous clinical trials. Will adjust plan for Regional well-controlled clinical trial large enough to demonstrate vaccine efficacy which initiated mid-2013 and			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
future Prime/Boost Regional Phase 3 Study to Confirm Safety and Effectiveness in a Diverse Population, planned to begin in early 2018.			
Accomplishments/Planned Programs Subtotals	3.742	3.232	3.902

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

N/A

Remarks

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Medical Product Development Management Services Cost	Various	Various:Various	1.124	0.215		0.299		0.823		-		0.823	Continuing	Continuing	0.000
Subtotal			1.124	0.215		0.299		0.823		0.000		0.823			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Medical Product Development Cost	Various	Henry M. Jackson Foundation,:Various	27.742	2.537		2.145		0.953		-		0.953	Continuing	Continuing	Continuing
Subtotal			27.742	2.537		2.145		0.953		0.000		0.953			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Medical Product Development Support Cost	Various	Various:Various	0.580	0.046		0.031		0.878		-		0.878	Continuing	Continuing	0.000
Subtotal			0.580	0.046		0.031		0.878		0.000		0.878			0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Medical Product Development T&E Cost	Various	Henry M. Jackson Foundation,:Various	23.446	0.944		0.757		1.248		-		1.248	Continuing	Continuing	Continuing
Subtotal			23.446	0.944		0.757		1.248		0.000		1.248			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>			
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	52.892	3.742	3.232	3.902	0.000	3.902				

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

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

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>		
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
832: <i>Field Medical Systems Engineering Development</i>	-	14.336	23.971	23.049	-	23.049	26.936	28.955	28.466	28.413	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 effectiveness 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 is also 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; Se Qual Technologies, Inc.; Enginivity, Inc.; Ultrasound Diagnostics, Inc.; HemCon Medical Technologies,; 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 2012	FY 2013	FY 2014
Title: Field Medical Systems Engineering Development PM Medical Devices	5.847	0.200	0.943
Articles:	0	0	
Description: This project funds the engineering and manufacturing development of medical products for enhanced combat casualty care managed by PM Medical Devices.			
FY 2012 Accomplishments: The Burn Resuscitation Decision Device: conducted final environmental, operational and clinical testing on device for MS C submission. Wireless Medical Monitoring transitioned from Congressional Special Interest (CSI) project to an Army Core funded project and undergone a Milestone C review as well as prototype field testing. Plasma Knife: transitioned from 836 6.4 funding line			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>into 832 6.5 funding line. Finalized results of clinical and operational testing. Identified and addressed all refinements and undergo Milestone C review in 4Q.</p> <p>FY 2013 Plans: Simplified Automated Ventilator (SAVe): No further R&D funding required as this is now a commercial product. The Burn Resuscitation Decision Device: Prepare 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 was transitioned 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 commercial product. Noise-Immune Stethoscope: finalized and conducted 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 expected in March 2012. Continue development with a target to field in FY 2015. Replacement for the M-138 Steam Sterilizer: FY 2013 funding for testing of the device. 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. Replacement for the M-138 Steam Sterilizer: FY 2013 funding for testing of the device. 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> <p>FY 2014 Plans: Oxygen Generator (15 LPM) System: Instead of ARMY only Request for Proposals (RFP) scheduled for March 2012, will cooperate with the Air Force 15 LPM developmental effort. Funding will only be for airworthiness certification and other Army-unique requirements; Air Force has funding to complete the project for their needs. Replacement for the M-138 Steam Sterilizer: Will continue planned testing of device designed and developed in previous years. Medical Equipment Sets COTS Modernization of Life Cycle Equipment: will continue development and testing to ensure the most current and cost effective devices are being utilized. Equipment is selected for modernization based on its own life cycle plan as part of a Sets, Kits and Outfits (SKO). Modernization also occurs if a product will be discontinued, new models will be available and new technology will be developed to meet the users need. TBI Diagnostic Assay System Increment II Point of Care Device: will plan to enter pivotal clinical trial and obtain FDA approval once transition from project 836.</p>				
<p>Title: Field Medical Systems Engineering Development PM Pharmaceuticals</p> <p align="right">Articles:</p> <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 Accomplishments:</p>		4.899 0	17.599 0	16.888

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>Freeze-Dried Plasma: Began enrollment in a multi-center limited human safety/effectiveness clinical trial; and started improvement of manufacturing & laboratory capabilities to meet Food and Drug Administration requirements; and evaluated stability profile of the product. Cryopreserved Platelets (CPP) (formerly Platelet Derived Hemostatic Agent (PDHA): Continued enrollment/follow-up in a human safety/effectiveness 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>FY 2014 Plans: Cryopreserved Platelets: will complete Phase 2 safety and effectiveness clinical trial in cancer patients with platelet deficiency and continue development of Phase 3 clinical testing network and protocols, if Phase 3 Pivotal clinical trial is required by the U.S. Food and Drug Administration. Freeze-Dried Plasma Program: will continue development and validation of a sustainable current Good Manufacturing Practices manufacturing process in support of U.S. Food and Drug Administration licensure; and will initiate Phase 2b expanded safety and effectiveness clinical studies.</p>				
<p>Title: Field Medical Systems Engineering Development PM Integrated Clinical Systems (ICS)</p> <p align="right">Articles:</p> <p>Description: This project funded 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 Accomplishments: Conducted final testing of Phase IV of Remote Access Device (RDA). Developed 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) conducted an in process review for the RDA project in March 2011 .</p>		0.737 0	0.000	0.000
<p>Title: Field Medical Systems Engineering Development PM Medical Support Systems</p> <p align="right">Articles:</p>		2.853 0	6.172 0	5.218

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
---	----------------	----------------	----------------

Description: This project funds 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.

FY 2012 Accomplishments:

Collaborated with PM HBCT on medical equipment for the future treatment vehicle variant. Tested and evaluated the shock and litter isolation system for potential addition to Ground Ambulance and Air Ambulance Medical Equipment Sets (MES). Transitioned to Force Provider by fielding a Force Provider CSH. Fully tested the new 2-sided ISO shelter under the Joint shelter Program and finalized acquisition strategy in coordination with Program Manager's Force Provider program. Continued to develop Medical Evacuation Vehicles in coordination with Program Executive Office Combat Service Support vehicle developers.

FY 2013 Plans:

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, transition cold chain technology, trauma tiered medical bag, water/waste water management system, and quad fold litter from 836 and complete operational evaluation. Continue modernization of medical equipment sets for preventive medicine, air and ground medical evacuation, and fresh water/waste water combat support hospital support. Transition ISO panel from 836 and complete operational testing. Transition from 836 and complete final operational evaluation of Force Provider CSH. Complete operational/technical testing of Future Medical Shelter System (hard-wall 1-sided and 2-sided shelters) for a materiel procurement decision. Continue collaboration with PEO Combat Service/Combat Service Support on finalization of MRAP medical vehicle evacuation platforms including a redesign of the Casualty Evacuation (CASEVAC) medical equipment set.

FY 2014 Plans:

As part of the medical equipment sets, will continue to perform form, fit and function of field medical sink, and will continue to evaluate commercial litters and cold chain storage devices. Will continue to evaluate modernization efforts and conduct airworthiness testing for medical equipment sets Medical Evacuation and Treatment Vehicles Medical Equipment Set and Mission Essential Package with products covering preventive medicine, air and ground medical evacuation, and fresh water/waste water systems. Will complete operational testing of the ISO operating room shelter and finalize Force Provider soft-walled shelter for procurement. Will continue collaboration with Program Executive Office Combat Support/Combat Support Service (PEO CS/CSS) and Program Executive Office Ground Combat Systems (PEO GCS) on development efforts for emerging medical vehicle evacuation/ casualty evacuation (CASEVAC) variants. Medical variants that will be collaborated on with PEO CS/CSS consist of medical shelters, Mine Resistant Ambush Protected (MRAP), Armored Multipurpose Vehicle (AMPV), and Joint Light Tactical Vehicle (JLTV). Will collaborate with PEO GCS on medical variants for the Heavy Brigade Combat Team (HBCT). Will complete operational testing of the Environmental Sentinel Biomonitor (ESB) when it transitions from project 836 and conduct a milestone C

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
(Engineering, Manufacturing and Development phase review). The ESB will assist preventative medicine personnel certify water capabilities by providing a presumptive screening capability that can rapidly identify toxicity in water.			
Accomplishments/Planned Programs Subtotals	14.336	23.971	23.049

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

N/A

Remarks

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Medical Product Development Management Services Cost	Various	Various:Various	22.060	0.418		2.577		3.903		-		3.903	Continuing	Continuing	Continuing
Subtotal			22.060	0.418		2.577		3.903		0.000		3.903			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Freeze-dried Human Plasma	Various	HemCon Medical Technologies, Inc.;Tigard OR	17.525	5.796		6.000		6.727		-		6.727	Continuing	Continuing	Continuing
Hypertonic Saline Dextran	Various	National Institutes of Health, National Heart, Lung and Blood Institute (NHLBI):Various	15.100	-		-		-		-		-	Continuing	Continuing	Continuing
Medical Product Development Cost	Various	Various:Various	3.260	-		0.250		0.608		-		0.608	Continuing	Continuing	Continuing
Extended Life Red Blood Cell Product	Various	Hemerus Medical, LLC.;Various	3.140	-		-		-		-		-	Continuing	Continuing	Continuing
Cryopreserved Platelets	Various	Clinical Research Management, Inc:Hinckley, OH	0.000	-		-		1.200		-		1.200	0.000	1.200	0.000
Cryopreserved Platelets	Various	Multiple DoD activities and Dartmouth Hitchcock Med Ctr:North Potomac, MD	0.000	7.300		9.108		-		-		-	Continuing	Continuing	Continuing
Cryopreserved Platelets	Various	TBD:TBD	0.000	-		-		1.450		-		1.450	0.000	1.450	0.000
TBI Diagnostic Assay System - Increment II (benchtop/POC/ Bandits)	Various	Banyan BioMarkers, Inc:Alachua, FL	0.000	-		-		0.373		-		0.373	0.000	0.373	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

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

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			39.025	13.096		15.358		10.358		0.000		10.358			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Regulatory Support	Various	Clinical Research Management, Inc.,: Various	5.557	-		-		-		-		-	Continuing	Continuing	Continuing
Medical Product Development Support Cost	Various	Various: Various	4.328	0.418		1.108		4.665		-		4.665	Continuing	Continuing	Continuing
Medical Equipment Sets Development	Various	Various: Various	0.000	-		-		0.456		-		0.456	0.000	0.456	0.000
Subtotal			9.885	0.418		1.108		5.121		0.000		5.121			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Medical Product Development T&E Cost	Various	Various: Various	7.292	0.404		4.928		2.403		-		2.403	Continuing	Continuing	Continuing
Cryopreserved Platelets	TBD	TBD: TBD	0.000	-		-		1.150		-		1.150	0.000	1.150	0.000
Medical Equipment Sets Development	Various	Various: Various	0.000	-		-		0.114		-		0.114	0.000	0.114	0.000
Subtotal			7.292	0.404		4.928		3.667		0.000		3.667			

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			78.262	14.336	23.971	23.049	0.000	23.049			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
Burn Resuscitation Decision Device (MS-C) Proof of Concept		■																										
Wireless Medical Monitoring (MS-C) Proof of Concept							■																					
Cryopreserved Platelets (CPP) safety and effectiveness clinical studies																												
Freeze-dried Plasma Phase 2b safety and effectiveness clinical studies																												
Environmental Sentinel Biomonitor MS-C Proof of Concept											■																	

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Burn Resuscitation Decision Device (MS-C) Proof of Concept	2	2012	2	2012
Wireless Medical Monitoring (MS-C) Proof of Concept	4	2012	4	2012
Cryopreserved Platelets (CPP) safety and effectiveness clinical studies	1	2015	4	2017
Freeze-dried Plasma Phase 2b safety and effectiveness clinical studies	2	2014	2	2016
Environmental Sentinel Biomonitor MS-C Proof of Concept	2	2014	2	2014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
849: <i>Infec Dis Drug/Vacc Ed</i>	-	8.238	13.771	12.517	-	12.517	14.939	14.325	13.059	13.619	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

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 determining if insects are infected with pathogenic organisms capable of infecting service members insect control/preventive medicine measures to limit exposure and disease transmission . It funds research that supports conclusive human clinical trials for large-scale human effectiveness (capacity to produce a desired size of an effect under ideal or optimal conditions) 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)

Title: Infectious Disease Drug and Vaccine Engineering Development	FY 2012	FY 2013	FY 2014
	8.238	13.771	12.517
Articles:	0	0	
Description: Funding for research and development efforts for Drugs and Vaccines.			
FY 2012 Accomplishments:			
Conducted Clinical trials, developmental testing, and reviews of malarial/antimarial vaccines, drugs, diagnostics and insect repellents. Down-selected from candidate anti-malaria drugs (e.g. Tafenoquine and other drugs) to prepare for clinical trial activities for a safety/effectiveness human clinical trial (treatment indication) in a malaria endemic country. Conducted 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, began the clinical study report on the Tunisia large scale human safety/effectiveness trial, began enrollment efforts in the second large scale (> 300 subjects) human			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>safety/effectiveness trial in Central/South America. For Dengue Tetravalent Vaccine (DTV), began study close out activities for expanded safety and effectiveness trial in children in Thailand; began a new DTV large scale (> 300 subjects) human trial in Thailand and Philippines to expand safety data and demonstrate effectiveness 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> <p>FY 2014 Plans: Dengue Tetravalent Vaccine (DTV): Will continue patient follow up and serology (study of blood serum) and immunology (study of body's immune system) testing to determine persistence of protection for phase 3 (safety and effectiveness Clinical trials on >300 subjects) endemic region studies, continue performance of military-specific needs US adult clinical studies, and continue studies to determine if the vaccine will protect against the disease. Malaria Prophylaxis Drug (drug to prevent from contracting Malaria): continue Pivotal clinical trials and begin efforts to determine if licensing in Austratlia is feasible. Topical Antileishmanial Cream (TLC, Paromomycin/Gentamicin): Will complete New World Phase 3 (safety and effectiveness clinical trials > 300 subjects) clinical trial and Treatment Protocol for Phase 3 site(s), and will complete Pivotal clinical trials in Tunisia and the U.S. Dengue Joint Biological Agent identification and Diagnostic System (JBAIDS): An updated Analysis of Alternatives (AoA and requirements analysis helped to determine that the Dengue JBAIDS capability does not meet user needs; therefore, the project has been terminated. Leishmania Rapid Diagnostic Device (LRDD): will conduct milestone C (Engineering, Manufacturing and Development phase review) review, obtain FDA approval, and begin fielding. The Leishmania Skin Test (LST) project: The response from the FDA indicating they would only support limited clinical utility and require additional product characterization and additional clinical trial requirements helped to determine that the LST capability does not meet user needs; therefore, the project has been terminated. Antimalarial Drug, Artesunate Intravenous: Plan to obtain FDA approval and begin fielding to prevent deaths from severe or complicated Malaria. Phase 3 (Safety and Effectiveness Clinical trials on 250 to 3000 subjects). Preventive Medicine advanced detection devices: for the control/mitigation of arthropod (insect) borne diseases, will begin field testing and evaluation. Preventive Medicine advanced pesticides : will begin field testing and evaluation. Preventive Medicine</p>				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
spatial repellents: will begin field testing and evaluation. Preventive Medicine arthropod collection devices: will begin field testing and evaluation. Infectious Disease Diagnostic products: will begin field testing and evaluation of several product candidates to include: Scrub Typhus, Rickettsiae, and Sand Fly Fever.				
Accomplishments/Planned Programs Subtotals		8.238	13.771	12.517
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
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.				

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Medical Product Development Management Services Cost	Various	Various:Various	12.558	1.931		2.172		2.220		-		2.220	Continuing	Continuing	Continuing
Subtotal			12.558	1.931		2.172		2.220		0.000		2.220			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Medical Product Development Cost	Various	Various:Various	21.423	3.171		4.034		5.107		-		5.107	Continuing	Continuing	Continuing
Topical Antileishmanial Drug	TBD	TBD:TBD	0.000	-		2.400		-		-		-	0.000	2.400	0.000
Subtotal			21.423	3.171		6.434		5.107		0.000		5.107			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Medical Product Development Support Cost	Various	Various:Various	10.951	0.992		2.620		2.624		-		2.624	Continuing	Continuing	Continuing
Subtotal			10.951	0.992		2.620		2.624		0.000		2.624			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Medical Product Development T&E Cost	Various	Various:Various	31.778	2.144		2.545		1.182		-		1.182	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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

DTV Phase 3 Adult Indication Studies																												
DTV Adult Indication Decision																												
DTV Milestone C (MS-C) Engineering, Manufacturing and Development phase review																												
DTV Biologic Licensing Application (BLA) Submission																												
Malaria Prophylaxis Phase 3 Safety and Effectiveness Pivotal Clinical Trial																												
Malaria Prophylaxis (MS-C) Engineering, Manufacturing and Development phase rev																												
Paromomycin/Gentamicin TLC (MS-C) Engineering, Manufacturing and Development pha																												
Paromomycin/Gentamicin TLC New Drug Application (NDA)																												
Paromomycin/Gentamicin TLC FDA Approval																												
Paromomycin/Gentamicin TLC (Fielding / Delivery)																												
Leishmania Rapid Diagnostic Device (MS-C) Engineering, Manufacturing and Develop																												
Leishmania Rapid Diagnostic Device FDA Approval																												
Leishmania Rapid Diagnostic Device (Fielding / Delivery)																												
Antimalarial Drug, Artesunate Intravenous New Drug Application (MS-C)																												

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
Antimalarial Drug, Artesunate Intravenous FDA Approval																												
Antimalarial Drug, Artesunate Intravenous (Fielding / Delivery)																												
Arthropod Detection Devices (Field Studies)																												
Arthropod Detection Devices (MSC)																												
Arthropod Detection Devices (Fielding / Delivery)																												
Advanced Pesticides (Field Studies)																												
Advanced Pesticides (MSC)																												
Advanced Pesticides (Fielding / Delivery)																												
Spatial Repellents (Field Studies)																												
Spatial Repellents (MSC) Engineering, Manufacturing and Development phase review																												
Spatial Repellents (Fielding / Delivery)																												
Arthropod Collection (Field Studies)																												
Arthropod Collection (MSC)																												
Arthropod Collection (Fielding / Delivery)																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
DTV Phase 3 Adult Indication Studies	2	2012	2	2015
DTV Adult Indication Decision	4	2013	4	2013
DTV Milestone C (MS-C) Engineering, Manufacturing and Development phase review	4	2016	4	2016
DTV Biologic Licensing Application (BLA) Submission	4	2017	4	2017
Malaria Prophylaxis Phase 3 Safety and Effectiveness Pivotal Clinical Trial	4	2013	4	2015
Malaria Prophylaxis (MS-C) Engineering, Manufacturing and Development phase rev	4	2017	4	2017
Paromomycin/Gentamicin TLC (MS-C) Engineering, Manufacturing and Development pha	2	2015	2	2015
Paromomycin/Gentamicin TLC New Drug Application (NDA)	4	2015	4	2015
Paromomycin/Gentamicin TLC FDA Approval	4	2016	4	2016
Paromomycin/Gentamicin TLC (Fielding / Delivery)	1	2017	4	2018
Leishmania Rapid Diagnostic Device (MS-C) Engineering, Manufacturing and Develop	1	2014	1	2014
Leishmania Rapid Diagnostic Device FDA Approval	2	2014	2	2014
Leishmania Rapid Diagnostic Device (Fielding / Delivery)	4	2014	4	2015
Antimalarial Drug, Artesunate Intravenous New Drug Application (MS-C)	1	2013	1	2013
Antimalarial Drug, Artesunate Intravenous FDA Approval	1	2014	1	2014
Antimalarial Drug, Artesunate Intravenous (Fielding / Delivery)	1	2014	4	2017
Arthropod Detection Devices (Field Studies)	1	2014	2	2016
Arthropod Detection Devices (MSC)	2	2016	2	2016
Arthropod Detection Devices (Fielding / Delivery)	3	2016	3	2017
Advanced Pesticides (Field Studies)	4	2013	2	2016
Advanced Pesticides (MSC)	3	2016	3	2016

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

Events	Start		End	
	Quarter	Year	Quarter	Year
Advanced Pesticides (Fielding / Delivery)	3	2016	4	2017
Spatial Repellents (Field Studies)	3	2014	1	2017
Spatial Repellents (MSC) Engineering, Manufacturing and Development phase review	2	2017	2	2017
Spatial Repellents (Fielding / Delivery)	2	2017	4	2017
Arthropod Collection (Field Studies)	4	2013	3	2015
Arthropod Collection (MSC)	4	2015	4	2015
Arthropod Collection (Fielding / Delivery)	1	2016	3	2016

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
VS8: <i>MEDEVAC Mission Equipment Package (MEP) - End Dev</i>	-	0.000	2.421	0.000	-	0.000	0.000	0.406	0.115	0.115	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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, Article Quantities in Each)

	FY 2012	FY 2013	FY 2014
Title: MEDEVAC Mission Sensor Forward Looking Infrared Radar (FLIR)	0.000	2.421	0.000
Articles:		0	
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: 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	0.000	2.421	0.000

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

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	PE 0604807A: <i>Medical Materiel/Medical Biological Defense Equipment - Eng Dev</i>	VS8: <i>MEDEVAC Mission Equipment Package (MEP) - End Dev</i>

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

Remarks

D. Acquisition Strategy

Develop in-house or industrial prototypes in government-managed programs to meet military MEDEVAC 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0604807A: Medical Materiel/Medical Biological Defense Equipment - Eng Dev	PROJECT VS8: MEDEVAC Mission Equipment Package (MEP) - End Dev
--	---	---

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost To Complete	Total Cost	Target Value of Contract
MEDEVAC Mission Sensor Forward Looking Infrared	TBD	Redstone Arsenal, AL	0.000	-		1.800		-		-		-		0.000	1.800	0.000
Subtotal			0.000	0.000		1.800		0.000		0.000		0.000		0.000	1.800	0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost To Complete	Total Cost	Target Value of Contract
Medical Product Development Support Cost	SS/UCA	Redstone Arsenal, AL	0.000	-		0.621		-		-		-		0.000	0.621	0.000
Subtotal			0.000	0.000		0.621		0.000		0.000		0.000		0.000	0.621	0.000

	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total		Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000		2.421		0.000		0.000		0.000		0.000	2.421	0.000

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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	<div style="background-color: black; width: 100px; height: 15px; margin: 0 auto;"></div>
-----------------------------------	--

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MEDEVAC Mission Sensor (MMS) FLIR	2	2013	4	2013

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	73.955	104.971	92.285	-	92.285	50.603	16.400	4.000	4.000	Continuing	Continuing
415: <i>Mine Neutral/Detection</i>	-	65.228	90.861	65.085	-	65.085	33.218	12.000	4.000	4.000	Continuing	Continuing
434: <i>Anti-Personnel Landmine Alternatives (NSD)</i>	-	8.727	14.110	27.200	-	27.200	17.385	4.400	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

FY12: Difference from previous President's Budget (FY 2013) to Current BES/President's Budget (FY 2014) are the adjustments for the Small Business Innovation Research (SBIR), SBIR Technology Transfer Research (STTR), and Federal Funded Research and Development Centers (FFRDC).

FY 2014: Budget supports Project 415, Mine Neutral/Detection and Project 434, Anti-Personnel Landmine Alternatives (NSD).

A. Mission Description and Budget Item Justification

This program element (PE) provides for the technology development and demonstration of networked munitions, countermine systems, and counter improvised explosive devices. 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, in accordance with landmine policy. A more cost effective anti-vehicular capability will be developed under a Spider Increment IA program starting in FY 2012.

Project 415, Mine Neutralization/Detection provides for development of next generation standoff detection capability programs such as Husky Mounted Detection System (HMDS), Route Clearance & Interrogation System (RCIS), Vehicle Optics Sensor System (VOSS), Route Clearance Vehicles (RCV), 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, Spider Networked Munitions (NM) is an integrated system of effects (lethal and non-lethal Anti Personnel (AP), existing anti-vehicle (AV) munition), 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 1A will build upon the existing Spider system, develop additional capabilities to enhance the Spider Remote Control Station and demonstrate the ability to employ legacy Government-Off-The-Shelf (GOTS) lethal and non-lethal AP, lethal AV munitions, and the Spider Non-Lethal Launcher (NLL).

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>
--	--

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	76.248	104.983	67.977	-	67.977
Current President's Budget	73.955	104.971	92.285	-	92.285
Total Adjustments	-2.293	-0.012	24.308	-	24.308
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-2.293	-	24.308	-	24.308

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>Mine Neutral/Detection</i>
--	--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
415: <i>Mine Neutral/Detection</i>	-	65.228	90.861	65.085	-	65.085	33.218	12.000	4.000	4.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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) is a mission equipment package mounted on Husky route clearance vehicles in support of Route Clearance Platoons. The HMDS provides a Ground Penetrating Radar (GPR) to detect surface-laid and shallow-buried explosive hazards, including landmines and improvised explosive devices (IEDs); a large-loop metal detector for deep-buried detection (DBD) of metallic explosive hazards and caches; a semi-autonomous control payload for the Husky vehicle and its detection payloads; and associated training devices.

The Route Clearance & Interrogation System (RCIS) is a two vehicle system plus designated control vehicles which provides a standoff capability to detect and neutralize the full spectrum of explosive hazards using semi-autonomous, teleoperated controls on the existing base vehicles of the High Mobility Engineering Excavator (HMEE) and the RG31. RCIS Type 1 will be based on the 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 FY 2013, funding will also be used for interoperability and comparative testing to support a letter of sufficiency for the MTRS Inc II program.

The Vehicle Optics 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 Explosive Ordinance Disposal (EOD) Companies.

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

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>Mine Neutral/Detection</i>
--	--	--

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.

The following Route Clearance Vehicles (RCV) enablers will require a full system integration design cycle to ensure suitability and compatibility with various RCV's:

- 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.
- MMPV Type II ROLLER/WNS kits
- Husky WNS
- Storage optimization

The Military Working Dogs (MWD) 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.

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 mine and explosive hazards stand-off detection, marking and neutralization capability for the dismounted soldier. AMDS consists of payload modules to be mounted on man-portable unmanned ground vehicles. The payloads are for surface laid and buried threats to include mines and explosive hazards. AMDS will transition from Technical Development to Engineering and Manufacturing Development (EMD) in FY 2013.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Title: AMDS</p> <p align="right">Articles:</p> <p>Description: AMDS</p> <p>FY 2013 Plans: Program documentation preparation, pre-Engineering and Manufacturing Development (EMD) In-Process Review (IPR), and Milestone (MS) B.</p> <p>FY 2014 Plans: EMD Contract Award, Preliminary Design Review (PDR).</p>	0.000	14.445 0	21.335
Title: HMDS Program of Record (POR) and HMDS Increment A GPR Testing.	36.580	40.522	8.250

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<i>Articles:</i>		0	0	
Description: HMDS POR Activities.				
FY 2012 Accomplishments: HMDS Materiel Development Decision (MDD). Pre-EMD review for Increment A. Pre-award activities for Increment A. Testing of individual sensors.				
FY 2013 Plans: HMDS Increment A: Source selection and contract award for EMD. HMDS Increment B: Risk reduction effort for semi-autonomous payload.				
FY 2014 Plans: Contract and other activities for HMDS Increment A GPR Testing.				
Title: HMDS Increment A GPR Type Classification and Materiel Release.		0.000	0.000	9.350
Description: HMDS Increment A GPR Type Classification and Materiel Release.				
FY 2014 Plans: Contract for Increment A GPR data and logistics / complete type classification and materiel release activities.				
Title: HMDS Increment A Development / Integration of DBD and Training Devices.		0.000	0.000	17.300
Description: HMDS Increment A Development / Integration of DBD and Training Devices.				
FY 2014 Plans: Increment A contract for integration and testing of Deep Buried Detection (DBD) sensor and DBD Trainer with existing urgently fielded GPR and GPR Trainer. Pre-award activities for Increment B contract.				
Title: HMDS Increment B Integration of Semi-autonomous Control.		0.000	0.000	2.000
Description: HMDS Increment B Integration of Semi-autonomous Control.				
FY 2014 Plans: Pre-award activities for Increment B.				
Title: Military Working Dog Support.		0.703	0.000	0.000
<i>Articles:</i>		0		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Description: Military Working Dog Support.				
FY 2012 Accomplishments: Military Working Dog Support Equipment - Engineering Support & Testing.				
Title: Military Working Dog Kit Development.		0.326	0.000	0.000
		0		
Description: FY 2011 Military Working Dog Kit Development.				
FY 2012 Accomplishments: FY 2012 Military Working Dog Kit Development.				
Title: Military Working Dog Program Mgmt. Support.		0.220	0.000	0.000
		0		
Description: FY2011: Military Working Dog Support.				
FY 2012 Accomplishments: Military Working Dog - Program Mgmt.				
Title: AMPS MDD and MS B Preparation.		7.719	0.000	0.000
		0		
Description: AMPS MDD and MS B Preparation.				
FY 2012 Accomplishments: AMPS MDD and MS B Preparation.				
Title: EHP		9.956	21.300	0.000
		0	0	
Description: FY 2012: EHP Contract Award.				
FY 2012 Accomplishments: EHP Contract Award.				
FY 2013 Plans:				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
EHP Debris Blower and Wire Neutralization System (WNS) Technical Insertion Contract Awards.				
Title: RCIS				
		Articles:		
Description: FY 2012: RCIS MDD, Program Documentation Prep.		5.364	7.960	3.100
FY 2012 Accomplishments: RCIS MDD, Program Documentation Prep.		0	0	
FY 2013 Plans: RCIS MDD, Program Documentation Prep.				
FY 2014 Plans: MS B Preparation and Contract Award and Interoperability, Man Transportable Robotic Systems (MTRS) Increment II production verification and limited user testing.				
Title: Multifunctional Display (MFD).				
Description: Multifunctional Display (MFD).				
FY 2014 Plans: MFD Prototype Development.		0.000	0.000	3.300
Title: Interface Kits.				
Description: Interface Kits.				
FY 2014 Plans: Prototype Development, LRIP and LRIP testing.		0.000	0.000	0.450
Title: VOSS MDD & Milestone C Prep.				
		Articles:		
Description: VOSS MDD & Milestone C Prep.		4.360	5.862	0.000
FY 2012 Accomplishments: VOSS MDD & Milestone C prep.		0	0	
FY 2013 Plans:				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Spec Development, plot build & test. and sustainment planning in preparation for Milestone C.			
Title: Interrogation Arms.	0.000	0.772	0.000
Articles:		0	
Description: Interrogation Arms.			
FY 2013 Plans: Integration & Testing Verification.			
Accomplishments/Planned Programs Subtotals	65.228	90.861	65.085

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• 606: <i>Countermine/Barrier Advanced Dev</i>	16.399	5.054	10.625		10.625	20.225	7.150	2.500	2.500	Continuing	Continuing
• R68102: <i>GSTAMIDS</i>	14.078		50.465		50.465	83.976	88.264	132.958	151.347	Continuing	Continuing
• MA7700: <i><\$5M, Countermine Equipment</i>	7.352	3.698	4.271		4.271	4.581	3.760	3.826		Continuing	Continuing

Remarks

D. Acquisition Strategy

AMDS, HMDS, RCIS, A-Kits, AMPS and MWD will all be competitively solicited to the maximum extent possible for 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 a technology development effort and will transition to Engineering Manufacturing Development in FY 2013.

The HMDS acquisition strategy is evolutionary with two increments. Increment A consists of two configurations, (1) GPR only, leveraging rapid acquisition investment currently supporting Operation Enduring Freedom (OEF), and (2) GPR with an integrated Deep Buried Detection (DBD) capability and associated GPR and DBD training devices. These two configurations may be fielded independently and on non-concurrent timelines. Increment B consists of an integrated semi-autonomous control payload for remote operation of the Husky vehicle and Increment A payloads.

VOSS will transition to a procurement funded program in FY2014. PM Ground Sensors is pursuing a two phase acquisition approach which harvests Quick Reaction Capability (QRC) procured systems for refresh and insertion into the Program of Record (POR), followed by a full and open procurement for the remaining systems.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>Mine Neutral/Detection</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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>Mine Neutral/Detection</i>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management - HMDS & AMDS	MIPR	PM-CCS:Picatinny Arsenal, NJ	11.154	13.221	Sep 2013	5.327		3.745	Mar 2014	-		3.745	Continuing	Continuing	0.000
MFD	MIPR	Various:Various	0.000	-		-		-		-		-	0.930	0.930	0.930
Interface Kits	MIPR	Various:Various	0.000	-		-		-		-		-	0.100	0.100	0.100
Subtotal			11.154	13.221		5.327		3.745		0.000		3.745			1.030

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AMDS	TBD	TBD:TBD	0.000	-		8.886		15.401	Dec 2014	-		15.401	Continuing	Continuing	Continuing
HMDS	TBD	TBD:TBD	0.000	6.990	Jun 2013	18.380	Jun 2013	-		-		-	0.000	25.370	0.000
HMDS Inc A - Integration with DBD and Training Devices	C/CPFF	TBD:TBD	0.000	-		-		12.100	Mar 2014	-		12.100	0.000	12.100	0.000
HMDS	C/FFP	EOIR:Fredericksburg, Virginia	0.000	0.500	Jul 2012	-		-		-		-	0.000	0.500	0.000
HMDS Inc A GPR Data and Logisitcs Activities	C/FFP	TBD:TBD	0.000	-		-		6.850	Mar 2014	-		6.850	0.000	6.850	0.000
HMDS	C/CPFF	Fibertek:Herndon, Virginia	0.000	0.300	Jul 2012	-		-		-		-	0.000	0.300	0.000
HMDS	C/CPFF	DCS:Alexandria, Virginia	0.000	0.845	Jun 2012	-		-		-		-	0.000	0.845	0.000
HMDS Inc A GPR Testing	C/FFP	TBD:TBD	0.000	-		-		4.750	Mar 2014	-		4.750	0.000	4.750	0.000
HMDS	C/CPFF	CACI:Chantilly, Virginia	0.000	0.520	Jul 2012	-		-		-		-	0.000	0.520	0.000
MWD	C/CPFF	S3:Huntsville, Al	1.300	0.326	Sep 2012	-		-		-		-	Continuing	Continuing	Continuing
AMPS	C/CPFF	TBD:TBD	0.000	6.572	May 2012	-		-		-		-	Continuing	Continuing	Continuing
EHP Debris Blower/WNS	C/CPFF	TBD:TBD	0.000	-		16.300		-		-		-	Continuing	Continuing	0.000
RCIS	C/CPFF	TBD:TBD	0.000	4.878	May 2012	8.936	Jul 2014	-		-		-	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>Mine Neutral/Detection</i>
--	--	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Interface Kits	C/CPFF	TBD:TBD	0.000	-		-		0.450	May 2014	-		0.450	1.830	2.280	1.830
Multi Functional Display	C/CPFF	TBD:TBD	0.000	-		-		3.300	May 2014	-		3.300	3.045	6.345	3.045
VOSS	C/CPFF	Various:Ft. Belvoir, VA	0.000	0.670	Mar 2012	0.600		-		-		-	Continuing	Continuing	Continuing
EHP Roller	C/CPFF	TBD:TBD	0.000	8.061	May 2013	-		-		-		-	0.000	8.061	0.000
Subtotal			1.300	29.662		53.102		42.851		0.000		42.851			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AMDS	MIPR	Various:Various	0.000	-		3.270		2.950	Mar 2014	-		2.950	Continuing	Continuing	Continuing
HMDS	MIPR	NVESD/CECOM:Fort Belvoir, VA	0.000	5.452	Feb 2012	15.700		1.300	Mar 2014	-		1.300	Continuing	Continuing	0.000
HMDS	MIPR	ATEC:MD	0.000	2.000	Jun 2013	-		-		-		-	0.000	2.000	0.000
HMDS	MIPR	Joint Products Office (JPO) Robotics Systems:Warren, MI	0.000	1.994	Mar 2013	-		1.500	Jan 2014	-		1.500	0.000	3.494	0.000
HMDS	MIPR	TARDEC:Warren, MI	0.000	0.545	Jun 2012	-		0.400	Jan 2014	-		0.400	0.000	0.945	0.000
HMDS	MIPR	Various:Various locations	0.000	2.290	Jul 2012	-		0.900	Jan 2014	-		0.900	0.000	3.190	0.000
HMDS	MIPR	ARDEC:Picatinny Arsenal, NJ	0.000	0.861	Feb 2013	-		0.400	Jan 2014	-		0.400	0.000	1.261	0.000
HMDS	MIPR	PEO STRI:FL	0.000	0.835	Jul 2013	-		-		-		-	0.000	0.835	0.000
Military Working Dogs	MIPR	Various:Various	0.000	0.703	Jan 2013	-		-		-		-	0.000	0.703	0.000
EHP	MIPR	PM AMS:Warren, MI	0.000	1.145	Apr 2013	3.000		-		-		-	Continuing	Continuing	0.000
MFD	MIPR	PM AMS:Warren, MI	0.000	-		-		-		-		-	0.705	0.705	0.705
AMPS	MIPR	Various:Various	0.000	0.772		-		-		-		-	Continuing	Continuing	0.000
IA	MIPR	TBD:TBD	0.000	-		0.600		-		-		-	Continuing	Continuing	0.000
RCIS	MIPR	RSJPO:Warren, MI	0.000	0.350		-		0.900	Jun 2014	-		0.900	Continuing	Continuing	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>Mine Neutral/Detection</i>
--	--	--

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Interface Kits	MIPR	Various:Various	0.000	-		-		-		-		-	0.380	0.380	0.380
VOSS	MIPR	NVESD/CECOM:Fort Belvoir, VA	0.000	2.922		-		-		-		-	Continuing	Continuing	0.000
RCIS Interoperability	MIPR	RSJPO:Warren, MI	0.000	-		-		1.000	Jan 2014	-		1.000	0.000	1.000	0.000
VOSS	MIPR	Various:Various	0.000	0.768	Mar 2012	1.608		-		-		-	Continuing	Continuing	Continuing
Subtotal			0.000	20.637		24.178		9.350		0.000		9.350			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AMDS	MIPR	TBD:TBD	0.000	-		-		1.239	Mar 2014	-		1.239	0.000	1.239	0.000
HMDS	MIPR	ATEC:Alexandria, VA	0.000	0.362	Oct 2012	3.000		6.700	Mar 2014	-		6.700	Continuing	Continuing	Continuing
AMDS	MIPR	ATEC:Alexandria, VA	0.000	-		0.850		-		-		-	Continuing	Continuing	Continuing
MWD	MIPR	ATEC:Alexandria, VA	0.050	0.085	Jun 2013	-		-		-		-	0.000	0.135	0.000
AMPS	MIPR	ATEC:Alexandria, VA	0.000	0.375		-		-		-		-	0.000	0.375	0.000
EHP	MIPR	ATEC:APG, MD	0.000	0.750	Mar 2013	1.250		-		-		-	Continuing	Continuing	Continuing
MFD	MIPR	ATEC:APG, MD	0.000	-		-		-		-		-	1.620	1.620	1.620
RCIS	MIPR	ATEC:Alexandria, VA	0.000	0.136		-		1.200		-		1.200	0.000	1.336	0.000
VOSS	MIPR	ATEC:Alexandria, VA	0.000	-		3.154		-		-		-	Continuing	Continuing	Continuing
Subtotal			0.050	1.708		8.254		9.139		0.000		9.139			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army							DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>			PROJECT 415: <i>Mine Neutral/Detection</i>				
	All Prior Years	FY 2012		FY 2013		FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.504	65.228		90.861		65.085	0.000	65.085			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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 Increment A - MS B							■																					
HMDS Critical Design Review (CDR) Inc A											■																	
HMDS Limited User Testing (LUT)															■													
HMDS Increment A GPR - MS C												■																
HMDS Increment B - MS B														■														
HMDS Increment A - MS C															■													
HMDS Increment B - MS C																			■									
HMDS Increment A - Full Rate Production Decision																			■									
HMDS Increment B - Full Rate Production Decision																										■		
HMDS Increment A - FUE																										■		
HMDS Increment B - FUE																											■	
EHP			■																									
EHP Roller Material Development Decision (MDD)							■																					
EHP Roller MS C												■																
EHP Roller Low Rate Initial Production (LRIP)													■															
EHP Roller Full Rate Production (FRP) Decision															■													
VOSS Material Development Decision (MDD)							■																					
VOSS MS C												■																
RCIS Material Development Decision (MDD)								■																				
RCIS MS B													■															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
RCIS Engin and Mftg. Devel.Contract Award																												
RCIS MS C																												
RCIS Low Rate Initial Production (LRIP)																												
MFD Prototype Development																												
MFD Low Rate Initial Production (LRIP)																												
MFD Testing																												
MFD Full Rate Production																												
Prototype Development																												
Low Rate Initial Production																												
LRIP Testing																												
Full Rate Production																												
AMDS																												
AMDS Milestone B																												
AMDS Preliminary Design Review (PDR)																												
AMDS Critical Design Review																												
AMDS Milestone C LRIP																												
AMDS Full Rate Production																												
MWD Full Rate Production																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 Increment A - MS B	4	2013	4	2013
HMDS Critical Design Review (CDR) Inc A	3	2014	3	2014
HMDS Limited User Testing (LUT)	3	2015	3	2015
HMDS Increment A GPR - MS C	4	2014	4	2014
HMDS Increment B - MS B	2	2015	2	2015
HMDS Increment A - MS C	3	2015	3	2015
HMDS Increment B - MS C	4	2016	4	2016
HMDS Increment A - Full Rate Production Decision	4	2016	4	2016
HMDS Increment B - Full Rate Production Decision	1	2018	1	2018
HMDS Increment A - FUE	3	2017	3	2017
HMDS Increment B - FUE	3	2018	3	2018
EHP	3	2012	3	2012
EHP Roller Material Development Decision (MDD)	2	2013	2	2013
EHP Roller MS C	3	2014	3	2014
EHP Roller Low Rate Initial Production (LRIP)	4	2014	4	2014
EHP Roller Full Rate Production (FRP) Decision	2	2015	2	2015
VOSS Material Development Decision (MDD)	2	2013	2	2013
VOSS MS C	2	2014	2	2014
RCIS Material Development Decision (MDD)	3	2013	3	2013
RCIS MS B	3	2014	3	2014
RCIS Engin and Mftg. Devel.Contract Award	1	2015	1	2015

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	PROJECT 415: <i>Mine Neutral/Detection</i>
--	--	--

Events	Start		End	
	Quarter	Year	Quarter	Year
RCIS MS C	4	2016	4	2016
RCIS Low Rate Initial Production (LRIP)	4	2017	4	2018
MFD Prototype Development	1	2014	4	2014
MFD Low Rate Initial Production (LRIP)	1	2015	1	2015
MFD Testing	2	2015	4	2015
MFD Full Rate Production	1	2016	1	2016
Prototype Development	1	2014	3	2015
Low Rate Initial Production	2	2014	3	2015
LRIP Testing	4	2014	4	2015
Full Rate Production	2	2015	2	2016
AMDS	4	2013	1	2014
AMDS Milestone B	4	2013	4	2013
AMDS Preliminary Design Review (PDR)	3	2014	3	2014
AMDS Critical Design Review	1	2015	1	2015
AMDS Milestone C LRIP	3	2016	3	2016
AMDS Full Rate Production	4	2017	4	2017
MWD Full Rate Production	4	2013	4	2013

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
434: <i>Anti-Personnel Landmine Alternatives (NSD)</i>	-	8.727	14.110	27.200	-	27.200	17.385	4.400	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Spider Networked Munitions (NM) is an integrated system of effects (lethal and non-lethal Anti Personnel (AP), existing anti-vehicle (AV) munition), 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 1A will build upon the existing Spider system, develop additional capabilities to enhance the Spider Remote Control Station and demonstrate the ability to employ legacy Government-Off-The-Shelf (GOTS) lethal and non-lethal AP, lethal AV munitions, and the Spider Non-Lethal Launcher (NLL).

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

	FY 2012	FY 2013	FY 2014
Title: Spider Increment 1A and Spider NLL Development Contracts	0.667	10.511	19.500
Articles:	0	0	
Description: Develop NM Increment 1A Controller with the ability to employ/control and initiate AP & legacy AV munitions. Continue with the development of the Spider NLL for use with the Spider Inc 1A system.			
FY 2012 Accomplishments: Awarded NLL Development Contract.			
FY 2013 Plans: FY13 Spider Increment 1A pre Engineering Manufacturing and Development (EMD) contract development efforts to support 3QFY13 contract award. Continue with the development of the Spider NLL for use with the Spider Inc 1A system, and type classification for limited procurement.			
FY 2014 Plans: Continue with Spider Increment 1A EMD development efforts.			
Title: Engineering Support	5.065	3.050	4.882
Articles:	0	0	
Description: Perform engineering support.			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
				FY 2012
				FY 2013
				FY 2014
<i>FY 2012 Accomplishments:</i> Support development of Capability Development Document, Pre-EMD and Milestone B documentation, development/issuance of procurement package (SOW, Performance Requirements Document, etc) and conduct of Industry Day. Support RFP negotiations and award of NLL contract.				
<i>FY 2013 Plans:</i> Support development of Capability Development Document, Pre-EMD and Milestone B documentation, development of procurement package (SOW, Performance Requirements Document, etc), and engineering support to award EMD/LRIP Option contract. Continue to support NLL development.				
<i>FY 2014 Plans:</i> Continue development of the Spider Inc 1A system. Provide engineering support, conduct Preliminary Design Review and Post-PDR Assessment, provide MANPRINT and HFE support to contractor Developmental Testing.				
<i>Title:</i> Test and Evaluation				
				<i>Articles:</i>
<i>Description:</i> Provide support to Contractor/Government test activities (Contractor DT, Pre Log Demo, FDTE, and Pre-LUT activities).				0.050 0
				0.000
				0.975
<i>FY 2012 Accomplishments:</i> AMSAA provided technical and testing support for the development of milestone documents.				
<i>FY 2014 Plans:</i> Provide support to Contractor/Government test activities (Contractor DT, Pre Log Demo, FDTE, User Jury, Technical Interchange Meetings, and Pre-LUT activities).				
<i>Title:</i> PM Management and Oversight				
				<i>Articles:</i>
<i>Description:</i> Program Management and support Spider NM Increment 1A.				0.593 0
				0.549 0
				1.100
<i>FY 2012 Accomplishments:</i> Perform program management to support acquisition activities, program execution, Pre-EMD and Milestone B documentation, and conduct of Industry Day. Continue to support NLL development.				
<i>FY 2013 Plans:</i>				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Perform program management to support acquisition activities, program execution, Milestone B documentation, and program management support to award EMD/LRIP Option contract. Support and complete NLL development..			
FY 2014 Plans: Perform overall program management support for the execution of the Spider Inc 1A development effort.			
Title: FY12-14 Reductions	2.352	0.000	0.743
Articles:	0		
Description: Small Business Innovative Research/Small Business Technology Transfer Program (SBIR/STTR) and Federally Funded Research & Development Centers (FFRDC) Reductions			
FY 2012 Accomplishments: FY12 reductions are \$239K in SBIR & STTR and \$14K in FFRDC. Withhold funding from ABO \$2099K.			
FY 2014 Plans: Projected FY14 reductions are \$743K in SBIR & STTR.			
Accomplishments/Planned Programs Subtotals	8.727	14.110	27.200

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Spider Network Munitions: PAA <i>Spider Increment 1 Program</i>	43.123	17.408								0.000	60.531
• Spider - APLA Remote Control Unit: OPA2 Spider Increment 1 <i>Program B55501</i>	36.224	34.365								0.000	70.589
• Spider Family Of Networked Munition: OPA2 Spider Increment <i>1A Program B54020</i>						7.200	18.500	13.500		0.000	39.200

Remarks

D. Acquisition Strategy
The Spider program is being developed as an incremental effort. The strategy will address all Spider requirements in the Requirements Document. The base Spider program meets US National Landmine Policy for Anti Personnel (AP) and is currently fielded in Afghanistan. Increment 1A will build upon the existing Spider system, develop additional capabilities to enhance the Spider Remote Control Station and demonstrate the ability to employ legacy Government-Off-The-Shelf (GOTS) lethal

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	PE 0604808A: <i>Landmine Warfare/Barrier - Eng Dev</i>	434: <i>Anti-Personnel Landmine Alternatives (NSD)</i>

and non-lethal AP, lethal anti-vehicle (AV) munitions, and the Spider Non-Lethal Launcher (NLL). The Engineering Manufacturing Development (EMD) contract will be a competitive contract with one Low Rate Initial Production (LRIP) 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Spider - Program Mgmt	Various	PM-CCS,:Picatinny Arsenal, NJ	0.000	0.593		0.549		1.100		-		1.100	Continuing	Continuing	0.000
SBIR/STTR, FFRDC and ABO FY12- Reductions	Various	PM CCS,:Picatinny Arsenal, NJ	0.000	2.352		-		0.743		-		0.743	0.000	3.095	0.000
Subtotal			0.000	2.945		0.549		1.843		0.000		1.843			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Spider Non-Lethal Launcher (FY12)	C/CPIF	Alliant Techsystems Operations, LLC:Plymouth, MN	0.000	0.667	Sep 2012	-		-		-		-	0.000	0.667	0.000
Spider Inc 1A (FY13-14)	C/CPIF	Alliant Techsystems Operations, LLC:Plymouth, MN	0.000	-		10.511	May 2013	19.500	Feb 2014	-		19.500	Continuing	Continuing	0.000
Subtotal			0.000	0.667		10.511		19.500		0.000		19.500			0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Spider - Eng support	MIPR	ARDEC,:Picatinny Arsenal, NJ	0.000	3.063		2.000		2.759		-		2.759	Continuing	Continuing	0.000
Spider - Eng support	MIPR	Various,:Various	0.000	-		0.200		0.565		-		0.565	Continuing	Continuing	0.000
Spider - Non Lethal Launcher Eng Spt	MIPR	ARDEC,:Picatinny Arsenal, NJ	0.000	0.650		-		-		-		-	0.000	0.650	0.000
Mitre provide C4 Support	MIPR	Mitre,:McLean, VA	0.000	0.830		0.650		0.780		-		0.780	Continuing	Continuing	0.000
Spider - Contractor Engineering Support	Various	Various,:Various	0.000	0.463		0.200		0.678		-		0.678	Continuing	Continuing	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Spider Increment 1A Training Support	MIPR	PEO STRI:Orlando, FL	0.000	0.050		-		0.050		-		0.050	0.000	0.100	0.000
MANPRINT/HFE Support	MIPR	ARL HRED:Adelphi, MD	0.000	0.009		-		0.050		-		0.050	0.000	0.059	0.000
Subtotal			0.000	5.065		3.050		4.882		0.000		4.882			0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Support Contractor/ Government Test Activities	MIPR	OTC ,AMSA, AEC, ATEC:Various	0.000	0.050		-		0.975		-		0.975	Continuing	Continuing	0.000
Subtotal			0.000	0.050		0.000		0.975		0.000		0.975			0.000

Remarks
Not Applicable

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	8.727	14.110	27.200	0.000	27.200			0.000

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	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 1A Development							■	■	■	■	■	■	■	■	■	■																
Contractor DT											■	■	■	■	■	■																
Government DT															■	■	■	■	■	■												
LUT															■																	
MS C															■																	
Initial Operational Test																																
Full Rate Production Decision																																
Initial Operational Capability																																

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

Schedule Details

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

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>
--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	45.821	4.346	8.209	-	8.209	0.000	0.000	0.000	0.000	Continuing	Continuing
708: <i>XM982 PROJECTILE</i>	-	45.821	4.346	8.209	-	8.209	0.000	0.000	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

FY 2014: Base RDTE funds were increased by \$5.882 million to support the completion of Initial Operational Test and Evaluation.

A. Mission Description and Budget Item Justification

Excalibur is a Precision Guided Extended Range 155mm Artillery projectile providing Brigade Combat Teams an organic precision fires capability. Additionally it provides improved fire support capability due to its increased range of 37.5 kilometers and demonstrated accuracy of < 4 meters radial miss distances, which enables a first round effect on target reducing the number of rounds required while reducing collateral damage. Excalibur is compatible with the M777A2 Lightweight 155mm Howitzer (LW155) and the M109A6 Paladin Howitzer and Sweden's Archer howitzer. Excalibur provides a 33% range increase over current Rocket Assisted Projectiles, with a < 10 meter accuracy circular error probable at all ranges. Excalibur is also highly resistant to Global Positioning System (GPS) jamming. 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.

Excalibur Increments Ia-1 and Ia-2 are currently fielded and in use by units throughout Afghanistan and deployed globally to support other Military Contingency Operations. The final increment of development funding is required in fiscal year 2014 in order to complete the Ib development tasks and execute the Ib Operational Test and Evaluation in accordance with the Test and Evaluation Master Plan. Operational testing will be conducted to obtain data for evaluation of the operational effectiveness of the Increment Ib projectile when used by a typical M109A6 or M777A2 firing battery to attack Excalibur targets. The test will provide data upon which to base an assessment of the ability of a typical artillery unit to employ Excalibur in accordance with doctrine, and in a timely manner, using the fire support system (target acquisition, fire direction and cannon systems), as well as projectile effects on target. Aspects of operational suitability (reliability, logistics supportability and MANPRINT) will also be evaluated on the basis of data from this test. Fiscal year 2014 funding supports the execution of this test event, including test range costs, instrumentation, and government support. This operational test will be executed concurrently with the Precision Guidance Kit (PGK) IOT&E. The test concept will exercise the entire fire support chain. The fiscal year 2014 funding will also fund the Excalibur Ib durability (20 year shelf life) test in order to obtain full material release and type classification standard of the increment Ib.

The program was certified by the Defense Acquisition Executive (DAE) on January 10, 2011. The Excalibur requirement was again validated during a July 2012 Headquarters Department of the Army Configuration Steering Board (CSB).

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>
--	---

Increment 1b completed a successful Milestone C Decision Review on December 12, 2012. The first Low Rate Initial Production contract was awarded on December 21, 2012.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	37.592	4.346	2.327	-	2.327
Current President's Budget	45.821	4.346	8.209	-	8.209
Total Adjustments	8.229	0.000	5.882	-	5.882
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	9.400	-			
• SBIR/STTR Transfer	-1.206	-			
• Adjustments to Budget Years	0.035	-	5.882	-	5.882

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>
--	---	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
708: <i>XM982 PROJECTILE</i>	-	45.821	4.346	8.209	-	8.209	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Excalibur is a Precision Guided Extended Range 155mm Artillery projectile providing Brigade Combat Teams an organic precision fires capability. Additionally it provides improved fire support capability due to its increased range of 37.5 kilometers and demonstrated accuracy of < 4 meters radial miss distances, which enables a first round effect on target reducing the number of rounds required while reducing collateral damage. Excalibur is compatible with the M777A2 Lightweight 155mm Howitzer (LW155) and the M109A6 Paladin Howitzer and Sweden's Archer howitzer. Excalibur provides a 33% range increase over current Rocket Assisted Projectiles, with a < 10 meter accuracy circular error probable at all ranges. Excalibur is also highly resistant to Global Positioning System (GPS) jamming. 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.

Excalibur Increments Ia-1 and Ia-2 are currently fielded and in use by units throughout Afghanistan and deployed globally to support other Military Contingency Operations. The final increment of development funding is required in fiscal year 2014 in order to complete the Ib development tasks and execute the Ib Operational Test and Evaluation in accordance with the Test and Evaluation Master Plan. Operational testing will be conducted to obtain data for evaluation of the operational effectiveness of the Increment Ib projectile when used by a typical M109A6 or M777A2 firing battery to attack Excalibur targets. The test will provide data upon which to base an assessment of the ability of a typical artillery unit to employ Excalibur in accordance with doctrine, and in a timely manner, using the fire support system (target acquisition, fire direction and cannon systems), as well as projectile effects on target. Aspects of operational suitability (reliability, logistics supportability and MANPRINT) will also be evaluated on the basis of data from this test. Fiscal year 2014 funding supports the execution of this test event, including test range costs, instrumentation, and government support. This operational test will be executed concurrently with the Precision Guidance Kit (PGK) IOT&E. The test concept will exercise the entire fire support chain. The fiscal year 2014 funding will also fund the Excalibur Ib durability (20 year shelf life) test in order to obtain full material release and type classification standard of the increment Ib.

The program was certified by the Defense Acquisition Executive (DAE) on January 10, 2011. The Excalibur requirement was again validated during a July 2012 Headquarters Department of the Army Configuration Steering Board (CSB).

Increment Ib completed a successful Milestone C Decision Review on December 12, 2012. The first Low Rate Initial Production contract was awarded on December 21, 2012.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>Title: Advanced Field Artillery Tactical Data Systems (AFATDS)</p> <p align="right">Articles:</p> <p>Description: Engineering support for Excalibur integration into Advanced Field Artillery Tactical Data Systems (AFATDS), and digital howitzer integration.</p> <p>FY 2012 Accomplishments: Advanced Field Artillery Tactical Data Systems (AFATDS)</p>		1.403 0	0.000	0.000
<p>Title: Increment 1b development effort.</p> <p>Description: Increment 1b development effort.</p> <p>FY 2012 Accomplishments: Continuation of Increment 1b development effort, complete detailed design, design refinement, procure test hardware for developmental testing and qualification testing to support transition into production of Increment 1b.</p> <p>FY 2013 Plans: Continuation of Increment 1b follow-on Artillery development effort, completion of qualification testing to prepare for IOT&E testing and transition into production efforts for Increment 1b.</p> <p>FY 2014 Plans: Implementation of reliability growth effort and completion of the IOT&E and final transition into production for Increment 1b.</p>		40.152 0	3.300 0	2.920
<p>Title: Support and conduct developmental and qualification testing for Increment 1b.</p> <p>Description: Support and conduct developmental and qualification testing for Increment 1b.</p> <p>FY 2012 Accomplishments: Support and conduct developmental and qualification testing for Increment 1b.</p>		1.795 0	0.000	0.000
<p>Title: Integrated Developmental Testing/Operational Testing (DT/OT), Safety/Reliability testing, and operational assessment for Increment 1b.</p> <p>Description: Conduct Integrated Developmental Testing/Operational Testing (DT/OT) , Safety/Reliability testing, and operational assessment to support Low Rate Initial Production (LRIP) for Increment 1b.</p>		2.471 0	1.046 0	5.289

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Conduct Integrated Developmental Testing (DT), initial safety and reliability testing for supporting Increment Ib, and to complete developmental testing.</p> <p><i>FY 2013 Plans:</i> To conduct operational testing, safety and reliability testing, initial operational test and evaluation and operational assessment to support LRIP for Increment Ib.</p> <p><i>FY 2014 Plans:</i> To complete operational testing, initial operational test and evaluation, and operational assessment to support full material release for Increment Ib.</p>			
Accomplishments/Planned Programs Subtotals	45.821	4.346	8.209

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Procurement Ammo:	58.074	122.629	67.896		67.896					0.000	248.599
<i>Procurement Ammunition Army:</i>											
<i>Proj 155mm Extended Range:</i>											
<i>XM982-U Excalibur: E80103</i>											

Remarks

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 competing 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. Increment Ib completed successful Milestone C Decision Review on December 12, 2012. The first Low Rate Initial Production contract was awarded on December 21, 2012. The contractor is currently testing/implementing reliability growth initiatives to further improve the overall reliability of the Increment Ib rounds. The Army will conduct an Initial Operational Test and Evaluation in fiscal year 2014 and will then pursue a Full Materiel Release and Full Rate Production Decision.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>
--	---	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
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	0.590	Jun 2012	-		-		-		-	0.000	5.907	5.907
Govt Support for Paladin, LW155 Integration SW Development	MIPR	ARDEC, Software Engineering:Picatinny, NJ	6.775	0.813	Jun 2012	-		-		-		-	0.000	7.588	7.588
Increment 1b Development Phase 2	C/CPIF	Raytheon Missile System:Tucson, AZ	40.339	37.089	Jul 2012	-		-		-		-	0.000	77.428	77.428
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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>
--	---	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Platform Integration Firing Tables Development	MIPR	ARDEC, Firing Tables Branch Picatinny, NJ and:Aberdeen, MD	2.124	0.275	Jun 2012	-		-		-		-	0.000	2.399	2.399
Excalibur Increment Ia Development	C/CPIF	Raytheon Missile System:Tucson, AZ	428.187	-		-		-		-		-	0.000	428.187	428.187
Subtotal			632.565	38.767		0.000		0.000		0.000		0.000	0.000	671.332	671.332

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management	PO	PM Excalibur:Picatinny, NJ	27.082	0.689	Jan 2012	0.300	Nov 2012	0.400	Oct 2013	-		0.400	0.000	28.471	28.471
Government Support-Excalibur XM982	MIPR	ARDEC:Picatinny, NJ	61.249	2.169	Dec 2011	3.000	Oct 2012	2.500	Oct 2013	-		2.500	0.000	68.918	68.918
Government Support- Ft Sill	MIPR	Ft. Sill:OK	3.534	-		-		0.020	Oct 2013	-		0.020	0.000	3.554	3.554
Milestone Support	C/FP	Camber:Alexandria, VA	1.701	0.091	Jun 2012	-		-		-		-	0.000	1.792	1.792
Miscellaneous Support	Various	Various:Various	4.061	0.114	Oct 2011	-		-		-		-	0.000	4.175	4.175
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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>
--	---	--

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
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
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	3.063		3.300		2.920		0.000		2.920	0.000	149.685	149.685

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TECOM Test Range	MIPR	Yuma Proving Grounds:Yuma, AZ	21.093	1.675	Jan 2012	0.650	Feb 2013	3.467	Oct 2013	-		3.467	0.000	26.885	26.885
Test Instrumentation and Analysis	MIPR	Army Research Labs:Adelphi, MD	3.683	0.252	Feb 2012	-		0.100	Nov 2013	-		0.100	0.000	4.035	4.035
Telemetry Support	SS/FFP	Physical Science Laboratories	2.946	0.200	Sep 2012	-		-		-		-	0.000	3.146	3.146

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>
--	---	--

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		(PSL):Las Cruces, NM													
Telemetry Support	MIPR	ARDEC:Picatinny, NJ	17.711	-		-		0.100	Oct 2013	-		0.100	0.000	17.811	17.811
Telemetry Cryptographic Support & Anti-Jam Support	MIPR	Ft. Huachuca:AZ	0.743	0.079	Feb 2012	-		0.100	Oct 2013	-		0.100	0.000	0.922	0.922
Target Replacement, Definition, Maintenance and Repair and Threat Assessment	MIPR	Target Management Office:Huntsville, AL	1.486	0.072	Jun 2012	-		-		-		-	0.000	1.558	1.558
Operational Test Support & AEC	MIPR	ATEC:Alexandria, VA	9.113	0.344	Dec 2011	0.100	Dec 2012	0.100	Oct 2013	-		0.100	0.000	9.657	9.657
ARDEC Testing	MIPR	ARDEC:Picatinny, NJ	2.608	0.206	Jun 2012	-		0.122	Nov 2013	-		0.122	0.000	2.936	2.936
TECOM Test Range	MIPR	White Sands Missile Range:NM	12.432	1.163	May 2012	0.246	Dec 2012	-		-		-	0.000	13.841	13.841
Operational Test Support	MIPR	Ft. Sill:OK	3.244	-		0.050	Dec 2012	1.300	Oct 2013	-		1.300	0.000	4.594	4.594
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	-		-		-		-		-	0.000	0.697	0.697
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	3.991		1.046		5.289		0.000		5.289	0.000	92.865	92.865

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army								DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>				PROJECT 708: <i>XM982 PROJECTILE</i>			
	All Prior Years	FY 2012		FY 2013		FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	855.506	45.821		4.346		8.209	0.000	8.209	0.000	913.882	913.882

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604814A: <i>Artillery Munitions - EMD</i>	PROJECT 708: <i>XM982 PROJECTILE</i>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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 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																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 Ib Milestone C	1	2013	1	2013
Increment Ib Production Award	1	2013	1	2013
Increment Ib Production Deliveries	1	2014	1	2016
Increment Ib First Article Testing	1	2014	1	2014
Execution of DT/OT Supporting MS-C	2	2012	1	2013
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	2	2014	2	2014

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

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

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	91.490	77.223	22.958	-	22.958	42.754	46.240	34.933	35.451	Continuing	Continuing
323: <i>Common Hardware Systems</i>	-	7.664	8.012	5.813	-	5.813	9.312	16.425	8.051	8.000	Continuing	Continuing
334: <i>Common Software</i>	-	43.313	0.127	1.453	-	1.453	2.511	2.372	2.261	2.528	Continuing	Continuing
C29: <i>Centralized Technical Support Facility (CTSF)</i>	-	12.584	20.579	4.656	-	4.656	10.343	9.529	7.928	7.923	Continuing	Continuing
C34: <i>Army Tac C2 Sys Eng</i>	-	15.169	48.505	11.036	-	11.036	20.588	17.914	16.693	17.000	Continuing	Continuing
JN1: <i>JOINT NETWORK NODE (JNN) TESTING</i>	-	12.760	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Reductions reflect reallocation of funds to higher-priority Army efforts.

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 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

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

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

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.

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 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 System-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 Headquarters, Department Of The Army (HQDA) initiatives and also oversees the technical analysis supporting the Army Common Operating Environment (COE) Assessment and implementation.

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 Increment 1a for Operational Test, which was conducted in FY 2012 in conjunction with the Increment 2 Initial Operational Test and Evaluation. These systems support the Legacy to Objective transition path. The network is capable of passing unclassified and classified traffic, 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

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	93.846	77.223	47.468	-	47.468
Current President's Budget	91.490	77.223	22.958	-	22.958
Total Adjustments	-2.356	0.000	-24.510	-	-24.510
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-24.510	-	-24.510
• Other Adjustments 1	-2.356	-	-	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
323: <i>Common Hardware Systems</i>	-	7.664	8.012	5.813	-	5.813	9.312	16.425	8.051	8.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Common Hardware Systems (CHS) program provides tactical, 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 2014 funds allow CHS to continue to manage the acquisition and delivery of CHS equipment, technology insertion (adding new hardware to contract) and common standardized testing in support of customer requirements. CHS will begin CHS-5 contract pre-award activities.

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

	FY 2012	FY 2013	FY 2014
Title: Acquisition management/delivery of CHS equipment in support of customer requirements	6.864	7.212	5.313
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: 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			
FY 2014 Plans: Will continue the management of the acquisition/delivery of CHS equipment in support of customer requirements			
Title: CHS equipment testing efforts	0.300	0.300	0.000
Articles:	0	0	
Description: Funding is provided for the following effort			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<i>FY 2012 Accomplishments:</i> Future CHS customer testing efforts				
<i>FY 2013 Plans:</i> Will continue to support CHS customer testing efforts				
<i>Title:</i> CHS technology insertion		0.500	0.500	0.500
		0	0	
<i>Description:</i> Funding is provided for the following effort				
<i>FY 2012 Accomplishments:</i> Continue CHS technology insertion				
<i>FY 2013 Plans:</i> Continue CHS technology insertion				
<i>FY 2014 Plans:</i> Continue CHS technology insertion				
Accomplishments/Planned Programs Subtotals		7.664	8.012	5.813
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
Not applicable for this item.				
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.				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	323: <i>Common Hardware Systems</i>

In August 2011, CHS awarded, on a best value basis, the follow-on CHS-4 contract via full and open competition. CHS-5 is to be awarded in FY15 to provide flexibility for Tactical PORs to meet hardware and associated services requirements through full and open competition and to provide an agile solution to support CP CE, network integration activities, capability set development, and transport needs.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

CHS-5 Contract Award	<table border="1" style="width: 100%; height: 20px; border-collapse: collapse;"> <tr> <td style="width: 45%;"></td> <td style="width: 45%; text-align: center;">■</td> </tr> </table>		■
	■		

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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-5 Contract Award	1	2015	1	2015

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

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

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
334: <i>Common Software</i>	-	43.313	0.127	1.453	-	1.453	2.511	2.372	2.261	2.528	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

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 Mission Command Systems and 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 Mission Command (MC) 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.

FY14 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 2012	FY 2013	FY 2014
<p>Title: MC systems single common software enterprise infrastructure development in support of Army and Joint Services requirements.</p> <p align="right">Articles:</p>	8.455 0	0.000	0.000
<p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments: Will continue the development, acquisition management and delivery of the MC common software enterprise infrastructure in support of Army and Joint Services requirements.</p>			
<p>Title: Joint and Coalition interoperability efforts.</p> <p align="right">Articles:</p>	1.006 0	0.127 0	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Description: Funding is provided for the following effort				
FY 2012 Accomplishments: 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: Mission Command (MC) systems common software service architecture products.	Articles:	1.898 0	0.000	0.000
Description: Funding is provided for the following effort				
FY 2012 Accomplishments: Will continue to develop and evolve the System of System (SoS) architecture for MC, and other systems to include data mediation, tactical messaging, addressing and network initialization and management through the WIT (Warfighter Initialization Tool)				
Title: Integration of previously developed and currently required mission command software services and common software solutions into the Army COE and Command Post Computing Environment.	Articles:	31.954 0	0.000	1.453
Description: Funding is provided for the following effort.				
FY 2012 Accomplishments: 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 applicability to the core infrastructure, development/modification of software as necessary to integrate, integration with common computing environments, and validation.				
FY 2014 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 applicability to the core infrastructure, development/modification of software as necessary to integrate, integration with common computing environments, and validation.				
Accomplishments/Planned Programs Subtotals		43.313	0.127	1.453

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604818A: <i>Army Tactical Command & Control Hardware & Software</i>	PROJECT 334: <i>Common Software</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks Not applicable.		
D. Acquisition Strategy In accordance with the approved Net-enabled Mission Command Initial Capabilities Document (NeMC ICD), software capability will be developed in 2-year increments as capability sets designed to facilitate messaging, mediation and addressing for Army, Joint and Coalition Partners in synchronization with the maturity of the Common Operating Environment (COE) and Command Post Computing Environment (CP CE) architecture baselines. The product development funded under this R-Form is an integral part of the Mission Command systems, and a core communication component of the virtualized infrastructure 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 opportunities for improved interoperability among the systems, to capture the benefits of competition, and to ensure the rapid integration of new capabilities into warfighter systems. This strategy is also designed to reduce the physical footprint, the logistics support requirements, and to increase operational efficiency by integration of additional system interoperability services which reduce duplication of effort and cost; and allows for development of communication standards across the DoD community. The overall acquisition goal of the CS program is the improvement of life cycle cost efficiencies by providing common products that are used horizontally across programs, thereby avoiding duplications of effort 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.		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

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

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Office Management	Various	PM Mission Command:Various	8.414	0.747	Jan 2012	0.127		0.320	Jan 2014	-		0.320	Continuing	Continuing	0.000
Subtotal			8.414	0.747		0.127		0.320		0.000		0.320			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CS Product Engineering/ Software Development	C/CPFF	Future Skies:Wall Township, NJ	115.135	7.721	Feb 2012	-		-		-		-	Continuing	Continuing	0.000
Mission Command/Army System Engineering & Integration	Various	CACI:Various	4.731	0.816	May 2012	-		1.133	Jan 2014	-		1.133	Continuing	Continuing	0.000
Mission Command System of Systems Architecture Development	Various	Various Contractors / Various Locations:Various	13.228	1.158	Mar 2012	-		-		-		-	Continuing	Continuing	0.000
Evaluation, modification, validation and integration of developed SW	Various	Various:Various	0.000	30.913	Jul 2012	-		-		-		-	Continuing	Continuing	0.000
Subtotal			133.094	40.608		0.000		1.133		0.000		1.133			0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Support	Various	PM Mission Command:Various	6.939	0.567	Apr 2012	-		-		-		-	Continuing	Continuing	0.000
Technical Support	Various	CACI / Various Contractors:APG, MD	1.948	0.191	Apr 2012	-		-		-		-	Continuing	Continuing	0.000
Subtotal			8.887	0.758		0.000		0.000		0.000		0.000			0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
C29: <i>Centralized Technical Support Facility (CTSF)</i>	-	12.584	20.579	4.656	-	4.656	10.343	9.529	7.928	7.923	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Project C29 - Centralized Technical Support Facility: The Central Technical Support Facility (CTSF) is the Army's premier test and certification facility for System of Systems interoperability. It is the Army's strategic facility responsible for conducting engineering support associated with test integration of Army Mission Command architectures into the Army Interoperability Certification (AIC) system of systems environment, performing 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 accredit 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.

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

Title: Army Interoperability Certification (AIC) Testing	FY 2012	FY 2013	FY 2014
	6.584	10.290	1.955
Articles:	0	0	
Description: 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 2012 Accomplishments:			
SWB1 is no longer fielded; testing of SWB1 is no longer required; SWB2 is still fielded; limited changes occur. Continued CS 11-12 Tri-Annual and CS 13-14/COE V1.0 baseline AIC test planning, test case development, preparation of test floor architecture design to include information assurance software/ compliance, test tools, and test execution; prepared to conduct CS 13-14/COE V1.0 testing/evaluation and certification. Continued to coordinate with PEO C3T Tactical Network Initialization for baseline Data			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>Products and to incorporate the go-to-war Data Products into AIC tests. Supported 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). Supported EPG, ATEC, and OCSE as they develop new test tools to collect data in support of the COE. Facilitated distributed testing as the CIO/G-6 Federated Army Network Site's (FaNS) hub for Network Integration testing in a system of system architecture.</p> <p>FY 2013 Plans: Continue COE 1.0 (formerly SWB 13-14) test planning, test case development, test floor architecture design and set-up to include supporting ASA(ALT) with integration and interoperability event (I2E) with operators, test officers, ORSAs, data management, instrumentation; upgrade/refresh test floor hardware (routers, switches, servers, computers and power supplies) to build out network infrastructure required for Army's next baseline (COE 1.0), new servers and associated equipment to support virtualization; establish operationally relevant infrastructure to prove-out required AIC testing. Unique infrastructure will be leveraged by ASA(ALT) prior to AIC testing to complete System of System integration. Prepare and execute COE 1.0 AIC conducting information assurance software/compliance, test tools verification of data, and conduct COE 1.0 testing/evaluation and certification; begin COE 2.0 test planning, test case development. Continue to coordinate with PEO C3T Tactical Crypto Network Initialization and to incorporate select go-to-war Data Products into AIC tests. Plan for AIC testing and data collection in the Network Integration Evaluation (NIE) to leverage the operational environment and NIE resources.</p> <p>FY 2014 Plans: Conduct COE 1.0 testing/evaluation and certification. Continue COE 1.0 bi-annual test planning, test case development, to include information assurance software/compliance, and test tools. Continue COE 2.0 test planning and test case development; coordinate with PMs for systems undergoing COE 2.0 testing to determine test architecture; finalize COE 2.0 test floor architecture; update infrastructure to achieve required commonality with COE 2.0 architecture. 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. Plan and conduct AIC testing and data collection in the Network Integration Evaluation (NIE) to leverage the operational environment and NIE resources.</p>				
<p>Title: Engineering Services</p> <p align="right">Articles:</p> <p>Description: Provide network engineering support to establish and maintain tactical architectures on the CTSF test floors and to deploying units at training centers around the world (NIE, JRTC, NTC, JMRC). System engineering support provides hardware virtualization, advanced host based security system (HBSS) support, system validation and integration support to numerous PMs on the integration and risk reduction labs, and assists Army programs with interoperability assessments and AIC rehearsal.</p> <p>FY 2012 Accomplishments:</p>		3.540 0	7.301 0	1.473

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012
<p>Supported AIC Integration and Testing. Supported PMs for CS 11-12 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. Assisted integration and test architectures to include Program of Record (POR) and non-POR radio communications devices to provide PMs and Material Developers testing in realistic environments. Provided 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; supported NIE. Provided 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. Provided PMs with a Virtualization Suite, assisted in virtualizing SW and assist PMs that are new to virtualization. Instituted an Engineering Academy to provide Network Engineering Training.</p> <p>FY 2013 Plans: Support AIC Integration and Testing. Support to PMs for CS 13-14/COE V1.0 integration. Support to backward compatibility testing between CS11-12 and CS13-14/COE V1.0. Identify and incorporate software tools to monitor performance and assist in issue resolution. Integrate and implement HBSS technology. Assist integration and test architectures to include Program of Record (POR) and non-POR radio communications devices to provide PMs and Material Developers 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 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. Provide PMs with a Virtualization Suite, assist in virtualizing SW and assist PMs that are new to virtualization.</p> <p>FY 2014 Plans: Support AIC Integration and Testing. Support to PMs for COE V1.0 integration. Support to backward compatibility testing between CS11-12 and CS13-14/COE V1.0. Identify and incorporate software tools to monitor performance and assist in issue resolution. Assist integration and test architectures to include Program of Record (POR) and non-POR radio communications devices to provide PMs and Material Developers testing in realistic environments. Provide PMs with a Virtualization Suite and assist in virtualizing SW.</p>				FY 2013
				FY 2014
Title: Configuration Management				1.206
				0
Articles:				1.427
				0
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/Mission Command baseline for HQ/DA G3/5/7; disseminate approved software to deployed/deploying units.				0.299

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Verified software configurations prior to test, controlled certification during test, and maintained baselines for HQ/DA CIO/G6 and LandWarNet baselines for HQ/DA G3/5/7; sustained Configuration Management Tracking Tool Version 3 (CMTSv3) to incorporate CTSF Baseline tracking for Army Interoperability Certification of Systems Under test. Began development of CMTSv3 modules to support the AGILE Process.</p> <p><i>FY 2013 Plans:</i> Verify configuration of PM software drops for COE 1.0 prior to AIC test, control software configuration during test, and maintain baselines for HQ/DA CIO/G6 and LandWarNet/MC baselines for HQ/DA G3/5/7; disseminate software to deployed/deploying units. Continue development/refinement of Sustain Configuration Management Tracking Tool Version 3 (CMTSv3) modules.</p> <p><i>FY 2014 Plans:</i> Verify COE 1.0 software configuration prior to bi-annual test events, control and manage configuration and architecture during test to ensure validity with certification event, and maintain baselines as Title 10 manager for HQ/DA CIO/G6 and LandWarNet/MC 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. Establish support to AGILE Process with access to CMTSv3 performing audits in support of activities performed at the NIE.</p>				
<p><i>Title:</i> Management Operations/Program Office</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Provide management operations consisting of programming and executing funds, personnel, contracts, and identifying reimbursable tests and allocating/collecting appropriate funds.</p> <p><i>FY 2012 Accomplishments:</i> Programmed and executed funds/manpower/contracting requirements; tracked testing schedule, prepared/coordinated/tracked reimbursements for tests (e.g. CS 11-12 Tri-Annual, CS 13-14/COE V1.0, Joint, Coalition, 2/1 AD/WSMR [NIE], etc); and future systems integration. Planned and programmed field support for unit training and exercises.</p> <p><i>FY 2013 Plans:</i> Program and execute funds/manpower/contracting requirements; track testing schedule, prepare/coordinate/track reimbursements for tests (e.g. Tri-Annual CS 11-12, Tri-Annual SWB2, AIC testing, Joint, Coalition, 2/1 AD/WSMR [NIE]), and future systems test events. Coordinate, plan and program field support for unit training and exercises.</p> <p><i>FY 2014 Plans:</i></p>		1.254 0	1.561 0	0.929

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Program and execute funds/manpower/contracting requirements; track testing schedule, prepare/coordinate/track reimbursements for tests (COE V1.0 testing, CS 11-12 Tri-Annual testing. Joint, Coalition, 2/1 AD/WSMR [NIE]), and future systems test events. Provide field support coordination for unit training and exercises.			
Accomplishments/Planned Programs Subtotals	12.584	20.579	4.656

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

N/A

Remarks

D. Acquisition Strategy

Execute system of systems interoperability testing and certification through the use of Government and Systems Engineering and Technical Analysis (SETA) contract personnel experienced in product development and interoperability testing. Testing and certification occurs in a cyclical fashion, with an expectation of an annual Software Block/Capability Set test followed with cyclical test events (Tri-Annual/Bi-Annual Tests) to ensure integrity of software baselines to the Warfighter. Engineering Services 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 testing capability using local assets and leveraging other federated test facilities to create synergy and realize efficiencies, to include system of system test efforts at 2/1 AD/WSMR (NIE).

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MITRE Corp	FFRDC	Engineering Services:Fort Hood, TX	13.144	1.884	Oct 2011	1.925	Oct 2012	1.150	Oct 2012	-		1.150	Continuing	Continuing	Continuing
CECOM R2 3G	C/CPFF	Enterprise Integration & Validation Infrastructure:Fort Hood, TX	0.000	0.736	Sep 2011	3.877	Sep 2012	0.033	Sep 2013	-		0.033	Continuing	Continuing	Continuing
In-House	Allot	Engineering Services:Fort Hood, TX	0.272	0.920	Oct 2011	1.007	Oct 2012	0.290	Oct 2013	-		0.290	Continuing	Continuing	Continuing
Subtotal			13.416	3.540		6.809		1.473		0.000		1.473			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CECOM Matrix	MIPR	Program and Budget Analysis Support:Fort Hood, TX/Aberdeen Proving Grounds, MD	2.862	0.311	Oct 2011	0.311	Oct 2012	0.049	Oct 2013	-		0.049	Continuing	Continuing	Continuing
In-House Support	Allot	Management Operations, Logistics Support:Fort Hood, TX	4.926	1.343	Oct 2011	1.397	Oct 2012	0.800	Oct 2013	-		0.800	Continuing	Continuing	Continuing
Supplies	C/UCA	Management Operations, Logistics Support:Fort Hood, TX	0.000	0.237	Oct 2011	0.895	Oct 2012	0.080	Oct 2013	-		0.080	Continuing	Continuing	Continuing
Subtotal			7.788	1.891		2.603		0.929		0.000		0.929			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
CECOM R2 3G	C/CPFF	Test, Configuration Management:Fort Hood, TX	0.000	1.471	Sep 2011	4.358	Sep 2012	0.177	Sep 2013	-		0.177	Continuing	Continuing	Continuing
CECOM S3	C/CPFF	Facilities, Maintenance, Security:Fort Hood, TX	0.000	1.965	Sep 2011	3.474	Sep 2012	-		-		-	0.000	5.439	0.000
Instrumentation	C/UCA	Test Equipment Infrastructure:Fort Hood, TX	0.000	0.801	Oct 2011	0.782	Oct 2012	0.004	Oct 2013	-		0.004	Continuing	Continuing	Continuing
EPG Matrix	MIPR	Test:Fort Hood, TX	0.907	1.510	Oct 2011	1.258	Oct 2012	1.207	Oct 2013	-		1.207	Continuing	Continuing	Continuing
ISSA	MIPR	Test:Fort Hood, TX	2.890	0.838	Oct 2011	0.716	Oct 2012	-		-		-	0.000	4.444	0.000
In-House Support	Allot	Test:Fort Hood, TX	0.250	0.568	Oct 2011	0.579	Oct 2012	0.866	Oct 2013	-		0.866	Continuing	Continuing	Continuing
Subtotal			4.047	7.153		11.167		2.254		0.000		2.254			

Remarks
 CECOM R2 contract will provide Test and Configuration Management functions. CECOM S3 contract will provide Site Support/Facilities, Maintenance, and Security functions. CECOM S3 and Ft. Hood ISSA not required in FY14(APG). Data based on comparative figures from POM Briefing and FY12 R Forms. Briefed to DA/G8 and ASA(ALT) with POM Brief on 25 Jan 2013.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	25.251	12.584	20.579	4.656	0.000	4.656			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
COE V1.0 (CS13-14)																												
--FBCB2 JCR 1.3																												
--JBCP 1.0																												
--WIN-T Inc 3																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
COE V1.0 (CS13-14)	3	2013	4	2018
--FBCB2 JCR 1.3	4	2012	3	2013
--JBCP 1.0	4	2012	4	2013
--WIN-T Inc 3	3	2015	1	2016

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>		
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
C34: <i>Army Tac C2 Sys Eng</i>	-	15.169	48.505	11.036	-	11.036	20.588	17.914	16.693	17.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

Project C34, Army Tactical Command and Control Systems Engineering: This project funds the PEO Command, Control, Communications-Tactical (PEO C3T) Technical Management Division (TMD) systems engineering and integration, experimentation, acquisition management, testing, fielding and sustainment support to ensure interoperability and affordability among the PEO C3T suite for Army Capability Sets (CS). The TMD focuses on System-of-Systems (SoS) Engineering and Integration for the C3T 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 2014 will focus on the continued development, implementation and integration of the Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance (C5ISR) network architectures. This will include development of a technology enhancement roadmap for SoS capability evolution across the PEO C3T portfolio; network integrator support and design products for CS validation at Network Integration Evaluations (NIE); integration of tactical Networked capabilities for all CS, initiative fieldings, and integration events; integration of tactical information assurance solutions and security measures for consistent cyber protection; leading integration of Army strategic and tactical NetOps capability; and execution of SoS developmental testing across the PEO portfolio in support of capability set fieldings.

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

	FY 2012	FY 2013	FY 2014
Title: Continue Army Tactical Battle Command and Network Synchronization and Integration Support	1.277	1.893	0.169
Articles:	0	0	
Description: .			
FY 2012 Accomplishments:			
Provide system-of-systems engineering 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, & network operations. Provide on-site support to troubleshoot the tactical network and work across the Command, Control,			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2012
Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance (C5ISR) community to develop courses of action in resolving communication and architectural issues.				
FY 2013 Plans: Continue the support of current force and the development of future force C5ISR across the tactical network to ensure all C3T programs are synchronized and redundancies and overlapping capabilities are reduced across the network and in synchronization with Common Operating Environment.				
FY 2014 Plans: Continue the support of current force and the development of future force C5ISR across the tactical network to ensure all Assistant Secretary of the Army (Acquisition, Logistics & Technology) (ASA(ALT)) programs are synchronized and redundancies and overlapping capabilities are reduced across the network and in synchronization with Common Operating Environment.				
Title: Continue Developmental Testing & Integration Testing between Programs of Record (PORs) and platforms / CPs to execute System-of-Systems (SoS) and Interoperability				1.651
				0
				2.215
				0
				1.652
Description: .				
FY 2012 Accomplishments: Perform network integration efforts to ensure transport and mission command capabilities are integrated on platforms and in the command post. Develop strategies and system-of-systems 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 Operating Environment framework. Execute ongoing PEO C3T system-of-systems technology insertion evaluation and risk mitigation testing prior to certification and integrated test events.				
FY 2013 Plans: Continue to conduct integration testing and systems engineering for C3T non-program of record 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.				
FY 2014 Plans: Continue to conduct integration testing and systems engineering for C3T non-program of record 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.				
Title: Continue Tactical Network Engineering				1.240
				1.497
				0.947

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<i>Articles:</i>		0	0	
Description: .				
FY 2012 Accomplishments: Design and integrate the Network for the capstone integrated tests and evaluations; provide systems engineering leadership for event planning and on-site support to troubleshoot Network. Lead the Initialization, Network Services, Mission Command, Logistics , NetOps, Test, and system-of-systems engineering Integrated Product Teams (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.				
FY 2013 Plans: Develop effective engineering strategies to integrate tactical applications for use across the C3T enterprise network. Continue to perform network planning and integration activities across all cross-domain system-of-systems future capabilities and technologies.				
FY 2014 Plans: Develop effective engineering strategies to integrate tactical applications for use across the C3T enterprise network. Continue to perform network planning and integration activities across all cross-domain system-of-systems future capabilities and technologies.				
Title: Conduct and Support System Interoperability Engineering and Development of System-of-Systems (SoS) Architectural Products		2.786	3.044	2.127
<i>Articles:</i>		0	0	
Description: .				
FY 2012 Accomplishments: 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 system-of-systems architectures for CS 13/14 and beyond.				
FY 2013 Plans:				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Within the PEO C3T portfolio, continue to assess Emerging Technologies, identify critical integrated test points, conduct developmental testing at integration points, develop architectural data process/tool kits, and facilitate the transition of Network capabilities to the warfighter.</p> <p>FY 2014 Plans: Within the PEO C3T portfolio, continue to assess Emerging Technologies, identify critical integrated test points, conduct developmental testing at integration points, develop architectural data process/tool kits, and facilitate the transition of Network capabilities to the warfighter.</p>				
<p>Title: Continue Development and Implementation of Tactical Information Assurance (IA)</p> <p>Description: .</p> <p>FY 2012 Accomplishments: 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 Management requirements. Coordinate with PM offices for the implementation of PK Enablement. Continue to implement , field, train, and test new policies and phases of Host Based Security System (HBSS).</p> <p>FY 2013 Plans: Continue to support CIO/G6 and CYBERCOM guidance for execution of Information Assurance (IA) policies and procedures at the tactical level. Continue to plan and design security measures and IA requirements across the tactical network for future capabilities.</p> <p>FY 2014 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.</p>		<p>0.599</p> <p>Articles: 0</p>	<p>0.673</p> <p>0</p>	<p>0.321</p>
<p>Title: Continue System of Systems Development</p> <p>Description: .</p> <p>FY 2012 Accomplishments:</p>		<p>4.960</p> <p>Articles: 0</p>	<p>5.613</p> <p>0</p>	<p>3.786</p>

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Assure the PEO C3T system-of-systems 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 system-of-systems engineering on major HQDA capability initiatives that impact the tactical warfighter. Assess potential command, control and communications 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 system-of-systems Engineering and Integration; Current Ops system-of-systems Engineering and Integration; Enterprise system-of-systems engineering; Rapid Technology Insertion; PEO C3T Strategic Initiatives.</p> <p>FY 2013 Plans: Continue to effectively manage overall System-of-Systems Engineering, Enterprise, and Integration efforts for the PEO C3T portfolio of technology and capability enhancement programs.</p> <p>FY 2014 Plans: Continue to effectively manage overall System-of-Systems Engineering, Enterprise, and Integration efforts for the PEO C3T portfolio of technology and capability enhancement programs.</p>				
<p>Title: System of Systems (SoS) Engineering and Integration Evolution of the Network</p> <p align="right">Articles:</p> <p>Description: .</p> <p>FY 2012 Accomplishments: Develop streamlined processes to support ASA(ALT) System of Systems (SoS) Systems Engineering (SE) group, Value Engineering (VE), and Lean Six Sigma across all PEO C3T capabilities to include Joint/Coalition partners and the current fight.</p> <p>FY 2013 Plans: Continue to develop streamlined processes to support ASA(ALT) System-of-Systems Engineering & Integration (SoSE&I) and implement VE and Lean Six Sigma initiatives across all PEO C3T capabilities to include the Joint Coalition partners. Also continue to implement cross PEO System of Systems Engineering and Integration processes to ensure successful development Engineering and Testing.</p> <p>FY 2014 Plans: Continue to develop streamlined processes to support ASA(ALT) SoSE&I and implement VE and Lean Six Sigma initiatives across all PEO C3T capabilities to include the Joint Coalition partners. Also continue to implement cross PEO System of Systems Engineering and Integration processes to ensure successful development Engineering and Testing.</p>		2.656 0	2.911 0	2.034
<p>Title: Supports Network Initialization and enabling digital communication engineering support.</p> <p align="right">Articles:</p>		0.000	2.460 0	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				
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.				
Title: Enterprise Architecture				
Articles:				
Description: Funding is provided for the following effort: To provide architecture products which serve as input to the Armys 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. 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. 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) Organizationally Based Architecture:				
		0.000	28.199 0	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>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)</p> <p>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	15.169	48.505	11.036

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

N/A

Remarks

Not applicable for this item.

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 System-of-Systems (SoS) Systems Engineering and Integration for the tactical network with increased emphasis on immediate Warfighter needs as well as leveraging emerging technologies, through the G3 LandWarNet Capability Set Development and Integration. The Technical Management Division (TMD) will ensure that the Program Executive Office Command, Control, Communications-Tactical (PEO C3T) capability portfolio is effectively SoS engineered and integrated to meet the tactical Warfighter's evolving mission needs.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Emerging Technologies	SS/FP	Northrop Grumman:Fort Monmouth, NJ/Fort Hood, TX	20.038	0.604		1.398		-		-		-	Continuing	Continuing	Continuing
System Of System Engineering and Integration, Current and Strategic Initiatives	C/T&M	CSC Aberdeen Proving Ground /Fort Hood, TX:APG	48.613	2.006		4.731		-		-		-	Continuing	Continuing	Continuing
System of System Engineering & Integration, Current & Strategic Initiative, Architecture Integration	C/T&M	TBD:tbd	0.000	-		-		3.343		-		3.343	Continuing	Continuing	Continuing
Architecture Integration	C/T&M	CSC:various	4.792	2.964		4.629		-		-		-	Continuing	Continuing	Continuing
Systems Engineering Support	SS/FP	LOCKHEED MARTIN:Eatontown, NJ	7.627	0.172		0.473		-		-		-	Continuing	Continuing	Continuing
Systems Engineering Support	C/CPFF	Northrop Grumman:Arlington, VA	0.000	3.000		-		-		-		-	0.000	3.000	0.000
Systems Engineering Support	C/CPFF	TBD:tbd	0.000	-		-		1.750		-		1.750	Continuing	Continuing	Continuing
System of System Architectures, Engineering, and Integration	SS/FP	MITRE:Aberdeen Proving Ground, MD/ Eatontown, NJ	70.764	3.894		6.615		3.327		-		3.327	Continuing	Continuing	Continuing
Tactical Network Initialization	SS/FP	TBD:tbd	0.000	-		2.460		-		-		-	Continuing	Continuing	Continuing
Subtotal			151.834	12.640		20.306		8.420		0.000		8.420			

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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							■																					
Capability Set 13 Fielding							■	■	■	■	■	■																

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

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
Capability Set 13 Fielding	2	2013	2	2014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
JN1: <i>JOINT NETWORK NODE (JNN) TESTING</i>	-	12.760	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 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.

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

	FY 2012	FY 2013	FY 2014
Title: Operational Testing Event	12.760	0.000	0.000
Articles:	0		
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: Operational Testing Event			
Accomplishments/Planned Programs Subtotals	12.760	0.000	0.000

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

N/A

Remarks

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

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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> <i>TESTING</i>
<p>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 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.</p> <p><u>E. Performance Metrics</u> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.</p>		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date			
ATEC Testing requirement	Various	TBD:TBD	0.000	12.760		-		-		-		-		0.000	12.760	0.000
Subtotal			0.000	12.760		0.000		0.000		0.000		0.000		0.000	12.760	0.000
			All Prior Years	FY 2012	FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals			0.000	12.760		0.000		0.000		0.000		0.000		0.000	12.760	0.000

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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	<div style="background-color: black; width: 100px; height: 15px; margin: 0 auto;"></div>
------------------	--

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

Schedule Details

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

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

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

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	3.093	3.486	1.549	-	1.549	5.264	5.911	6.307	6.053	Continuing	Continuing
E10: <i>SENTINEL</i>	-	3.093	3.486	1.549	-	1.549	5.264	5.911	6.307	6.053	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 2018 development activities addresses the following Sentinel system capability gaps and obsolescence issues identified by the User: 1) Target Detection gap; 2) Target Tracking gap; 3) Net Readiness gap; 4) Electronic Counter Measures (ECM) gap; and 5) Unmanned Aerial Systems (UAS) Defense 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 in an integrated air and missile defense architecture. In addition this provides significantly improved Non-Cooperative Target Recognition (NCTR) timeline and performance against all targets. It also

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

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

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.

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.

Small/Low/Slow (SLS) addresses the Unmanned Aerial Systems (UAS) Defense gap. This effort provides an order of magnitude capability improvement in Sentinel's ability to detect, track and classify new and emerging smaller and more capable UAS at extended ranges in tactically challenging natural and urban clutter environments while maintaining a low false broadcast track rate, and without the use of different specialized Modes that increase chances for operator misapplication (i.e. there will be only one Mode that does all targets).

B. Program Change Summary (\$ in Millions)	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	2.885	3.486	1.966	-	1.966
Current President's Budget	3.093	3.486	1.549	-	1.549
Total Adjustments	0.208	0.000	-0.417	-	-0.417
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.208	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.417	-	-0.417

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>				PROJECT E10: <i>SENTINEL</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
E10: <i>SENTINEL</i>	-	3.093	3.486	1.549	-	1.549	5.264	5.911	6.307	6.053	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 2018 development activities addresses the following Sentinel system capability gaps and obsolescence issues identified by the User: 1) Target Detection gap; 2) Target Tracking gap; 3) Net Readiness gap; 4) Electronic Counter Measures (ECM) gap; and 5) Unmanned Aerial Systems (UAS) Defense 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 in an integrated air and missile defense architecture. In addition this provides significantly improved Non-Cooperative Target Recognition (NCTR) timeline and performance against all targets. It also

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

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

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.

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.

Small/Low/Slow (SLS) addresses the Unmanned Aerial Systems (UAS) Defense gap. This effort provides an order of magnitude capability improvement in Sentinel's ability to detect, track and classify new and emerging smaller and more capable UAS at extended ranges in tactically challenging natural and urban clutter environments while maintaining a low false broadcast track rate, and without the use of different specialized Modes that increase chances for operator misapplication (i.e. there will be only one Mode that does all targets).

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

	FY 2012	FY 2013	FY 2014
<p>Title: Product Development</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following efforts:</p> <p>FY 2012 Accomplishments: Defined requirements and functionality for battle space improvement and stop, stare and track capability. Developed new software code and/or modified radar signal processor algorithms. Added common signal processing card to radar signal processor. Performed 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>	2.664 0	2.553 0	0.000 0
<p>Title: Test & Evaluation</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following efforts:</p>	0.172 0	0.658 0	1.408 0

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Planned, coded and tested new and modified radar algorithms. Conducted verification testing, field test, and prepared logistics products for material release of software upgrade.</p> <p><i>FY 2013 Plans:</i> 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> <p><i>FY 2014 Plans:</i> Conduct system verification test and system qualification test on software upgrades.</p>			
<p><i>Title:</i> Management Support</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> This funds Government and technical support.</p> <p><i>FY 2012 Accomplishments:</i> Provided government management, technical and administrative support in FY 2012.</p> <p><i>FY 2013 Plans:</i> Provides government management, technical and administrative support in FY 2013.</p> <p><i>FY 2014 Plans:</i> Provides government management, technical and administrative support in FY 2014.</p>	0.257 0	0.275 0	0.141
Accomplishments/Planned Programs Subtotals	3.093	3.486	1.549

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PE 0604869A: <i>Proj M06, Patriot/MEADS Combined Aggregate Program (CAP)</i>	377.610	400.861								0.000	778.471
• PE 0605456A: <i>Proj PA3, PAC-3/MSE MISSILE</i>	86.139	69.029	68.843		68.843	129.627	63.506	65.179	65.734	Continuing	Continuing
• SSN C53101: <i>MSE Missile</i>	74.953	12.850	540.401		540.401	540.520	559.623	566.757	655.184	Continuing	Continuing
• PE 0102419A: <i>Proj E55, JLENS</i>	317.382	190.422	98.450		98.450	46.600	47.450	37.830	2.600	Continuing	Continuing

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

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

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PE 0605455A: <i>Proj S35, SLAMRAAM</i>	1.186									0.000	1.186
• PE 0604319A: <i>Proj DU3, IFPC2 (FY12 PE0603305A IFPC II - Intercept)</i>	8.834	76.039	79.232		79.232	107.587	146.463	151.769	159.700	Continuing	Continuing
• PE 0605457A: <i>Proj S40, Army Integrated Air and Missile Defense (AIAMD)</i>	262.032	262.211	364.649		364.649	382.869	221.306	141.908	79.338	Continuing	Continuing
• SSN BZ5075: <i>IAMD Battle Command System</i>			21.200		21.200	100.700	315.370	482.640	446.130	Continuing	Continuing
• PE 0604820A: <i>Proj E10, SENTINEL</i>	3.093	3.486	1.549		1.549	5.264	5.911	6.307	6.053	Continuing	Continuing
• PE 0604741A: <i>Proj 126, 146, 149; Air Defense C2I Eng Dev</i>	57.050	73.333	18.294		18.294	20.898	20.557	18.009	11.015	Continuing	Continuing

Remarks

This program is an integral part of the Army Integrated Air and Missile Defense (IAMD) architecture.

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.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>
<p>Signal Data Processor (SDP)/North Finding Module (NFM)Obsolescence: The Sentinel Product Office will contract with Thales Raytheon Systems (TRS) to upgrade and mitigate the Signal Data Processor and North Finding Module issues. The updated SDP and NFM hardware will be tested, documented and released for installation in the field.</p> <p>Small/Low/Slow (SLS): The Sentinel Product Office will contract with Thales Raytheon Systems (TRS) to develop new and/or modify existing Sentinel software in order to improve Sentinel's ability to detect, track and classify new and emerging smaller and more capable Unmanned Aerial Systems (UAS) at extended ranges in tactically challenging natural and urban clutter environments. The updated software will be tested, documented and released for installation in the field.</p> <p>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.</p>		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

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

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Improved Sentinel Development	SS/CPFF	Thales Raytheon Systems & Government:Fullerton, CA / Huntsville, AL	11.398	-		-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon Systems & Government:Fullerton, CA / Huntsville, AL	1.169	-		-		-		-		-	Continuing	Continuing	0.000
Battle Space Improvement	SS/CPFF	Thales Raytheon Systems & Government:Fullerton, CA / Huntsville, AL	0.000	0.139		0.088		0.049		-		0.049	0.000	0.276	0.000
Stop, Stare and Track	SS/CPFF	Thales Raytheon Systems & Government:Fullerton, CA / Huntsville, AL	0.000	0.118		0.187		0.091		-		0.091	0.000	0.396	0.000
Subtotal			12.567	0.257		0.275		0.140		0.000		0.140			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Improved Sentinel Development	SS/CPFF	Thales Raytheon Systems:Fullerton, CA	102.729	-		-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon Systems:Fullerton, CA	20.820	-		-		-		-		-	Continuing	Continuing	0.000
Battle Space Improvement	SS/CPFF	Thales Raytheon Systems & Government:Fullerton, CA / Huntsville, AL	0.000	1.463	May 2012	0.827		-		-		-	0.000	2.290	0.000
Stop, Stare, and Track	SS/CPFF	Thales Raytheon Systems &	0.000	1.201	May 2012	1.726		-		-		-	0.000	2.927	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

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

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		Government:Fullerton, CA / Huntsville, AL													
Subtotal			123.549	2.664		2.553		0.000		0.000		0.000			0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Improved Sentinel Development	SS/CPFF	Thales Raytheon Systems:Fullerton, CA	16.930	-		-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon Systems:Fullerton, CA	0.352	-		-		-		-		-	Continuing	Continuing	0.000
Subtotal			17.282	0.000		0.000		0.000		0.000		0.000			0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Improved Sentinel Mod Development	SS/CPFF	Thales Raytheon Systems:Fullerton CA	34.599	-		-		-		-		-	Continuing	Continuing	0.000
System of Systems Mod Development & Integration	SS/CPFF	Thales Raytheon Systems:Fullerton, CA	2.331	-		-		-		-		-	Continuing	Continuing	0.000
Battle Space Improvement	SS/CPFF	Thales Raytheon Systems & Government:Fullerton, CA / Huntsville, AL	0.000	0.086		0.086		0.447		-		0.447	0.000	0.619	0.000
Stop, Stare and Track	SS/CPFF	Thales Raytheon Systems &	0.000	0.086		0.572		0.962		-		0.962	0.000	1.620	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

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

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost To Complete	Total Cost	Target Value of Contract
		Government:Fullerton, CA / Huntsville, AL														
Subtotal			36.930	0.172		0.658		1.409		0.000		1.409				0.000
Project Cost Totals			190.328	3.093		3.486		1.549		0.000		1.549				0.000

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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 (SS&T)																												
Cross Domain Solution (CDS) Network Interface																												
Electronic Counter Counter Measures (ECCM)																												
Signal Data Processor (SDP) / North Finding Module (NFM)																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604820A: <i>RADAR DEVELOPMENT</i>	PROJECT E10: <i>SENTINEL</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Battle Space Improvement	4	2012	4	2014
Stop, Stare and Track (SS&T)	4	2012	4	2014
Cross Domain Solution (CDS) Network Interface	2	2015	4	2016
Electronic Counter Counter Measures (ECCM)	2	2017	4	2018
Signal Data Processor (SDP) / North Finding Module (NFM)	2	2015	4	2018

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604822A: <i>General Fund Enterprise Business System (GFEBS)</i>
--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	0.787	9.963	17.342	-	17.342	0.072	0.048	0.000	0.000	Continuing	Continuing
DV6: <i>General Fund Enterprise Business System</i>	-	0.000	9.963	17.342	-	17.342	0.072	0.048	0.000	0.000	Continuing	Continuing
GF5: <i>General Fund Enterprise Business System</i>	-	0.787	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

\$0.227 million is required in FY 2014 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 deployed 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.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604822A: <i>General Fund Enterprise Business System (GFEBS)</i>
--	---

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.793	9.963	0.000	-	0.000
Current President's Budget	0.787	9.963	17.342	-	17.342
Total Adjustments	-0.006	0.000	17.342	-	17.342
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	17.342	-	17.342

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
DV6: <i>General Fund Enterprise Business System</i>	-	0.000	9.963	17.342	-	17.342	0.072	0.048	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Project DV6 is General Fund Enterprise Business System - Sensitive Activities.

A. Mission Description and Budget Item Justification

Funds are requested for a Sensitive Activities (SA) instance of the General Fund Enterprise Business System (GFEBS). GFEBS is a commercial off-the-shelf (COTS) Enterprise Resource Planning (ERP) System certified by the Chief Financial Officers Council (CFOC). GFEBS has trained and supports over 53,000 end users at 227 installations worldwide and is the Army's solution to the current capability gap in accounting and financial management. Army still has classified and sensitive financial activity remaining in legacy systems that cannot be processed in our new, fully-fielded GFEBS. To protect sensitive information and enable auditability, Army needs a separate instance of GFEBS operated on a secure network (SIPRNET) for processing sensitive and classified financial transactions. GFEBS-SA will be implemented in two functional releases to 3,000 users across 100 locations worldwide. GFEBS-SA will integrate seamlessly with GFEBS to provide secure, web-based financial execution and reporting capabilities to the Army's classified and sensitive activities. SA is envisioned as a fully functional GFEBS application operated on a secure network (SIPRNET), including additional performance requirements designed to enhance security. SA is essential to comply with the Chief Financial Officers (CFO) Act and the Federal Financial Management Improvement Act (FFMIA); includes the additional security controls; shall be delivered NLT 3QFY15 with all capability and required cross domain interfaces. SA will be accessible on SIPRnet domain, contain Secret Collateral level information, and below. SA will utilize a cross-domain solution to exchange summary level financial transaction data to GFEBS and other required systems, enabling total general ledger accountability in one system. In accordance with 2010 NDAA, GFEBS-SA will support the legal requirements to achieve full audit readiness of all DOD financial statement by 2017. Without the SA increment, GFEBS will be unable to achieve an unqualified audit opinion or achieve audit readiness. GFEBS and GFEBS-SA will provide Army's decision makers with relevant, reliable, and timely information for decision making. RDTE funds are required to execute the System Integrator contract to develop and test the SA solution.

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

	FY 2012	FY 2013	FY 2014
Title: Product Development	0.000	9.963	17.342
Articles:		0	
Description: Funding is for the following activities:			
FY 2013 Plans:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	---	---

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Award of a System Integrator contractor to develop and test functional, technical and configuration designs for a secure solution of GFEBS. FY 2014 Plans: Execution of systems Integrator contractor to develop and test functional, technical and configuration designs for secure solution of GFEBS.			
Accomplishments/Planned Programs Subtotals	0.000	9.963	17.342

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u> <u>Continuing</u>
• OPA: OPA		4.968									

Remarks

D. Acquisition Strategy

Plan, develop, and manage GFEBS-SA as a separate instance from GFEBS base program to support evolutionary delivery of capabilities. SA is envisioned as a fully functional GFEBS application operated on a secure network (SIPRNET), including additional performance requirements designed to enhance security. SA is essential to comply with the Chief Financial Officers (CFO) Act and the Federal Financial Management Improvement Act (FFMIA). Secure GFEBS functionality with mission critical cross-domain (NIPR/SIPR) interfaces to include the additional security controls, shall be delivered no later than 4QFY14. Fully integrated (across domains) secure GFEBS-SA capability with all required cross domain interfaces shall be delivered no later than 3QFY15.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
GF5: <i>General Fund Enterprise Business System</i>	-	0.787	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 deployed 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 2012	FY 2013	FY 2014
Title: Product Development	0.787	0.000	0.000
Articles:	0		
Description: Funding is provided for the following effort			
FY 2012 Accomplishments:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	---	---

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
continue initiatives for interface partners			
Accomplishments/Planned Programs Subtotals	0.787	0.000	0.000

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• OPA: OPA,	25.459	4.216	6.314		6.314	2.692	14.111	2.752		0.000	55.544
• OMA: OMA,	60.753	59.113	56.707		56.707	52.155	49.928	50.736		0.000	329.392

Remarks

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.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	12.032	20.517	47.221	-	47.221	42.204	0.000	0.000	0.000	Continuing	Continuing
L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>	-	6.752	3.176	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
L88: <i>Enhanced AN/TPQ 36</i>	-	5.280	17.341	47.221	-	47.221	42.204	0.000	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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, AN/TPQ-53 (formerly known as Enhanced AN/TPQ-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. The AN/TPQ-53 will provide 90 degree coverage and extended range, with an incremental development to increase detection capability to 360 degrees.

FY14 Base funding supports AN/TPQ-53 P3I development efforts to include performing technical assessments, concept studies, cost reduction, risk reduction and required documentation.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	10.348	20.517	47.221	-	47.221
Current President's Budget	12.032	20.517	47.221	-	47.221
Total Adjustments	1.684	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.684	-			
• SBIR/STTR Transfer	-	-			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>				PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>	-	6.752	3.176	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 provides the ability to observe friendly fire 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 be deployed as part of a System of Systems for the Counter-Rocket, Artillery, and Mortar (C-RAM) construct or Rocket Artillery Mortar (RAM) Warn. 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. AN/TPQ-50 Quick Reaction Capability systems are currently fielded and deployed to Operation Enduring Freedom. This program has no FY14 Base or Overseas Contingency Operations (OCO) request.

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

	FY 2012	FY 2013	FY 2014
Title: AN/TPQ-50 Development	4.110	0.000	0.000
Articles:	0		
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: 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	2.642	0.000	0.000
Articles:	0		
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: Development Testing, Initial Operational Test & Evaluation (IOT&E) and associated PMO support costs.			
Title: Common Front End (CFE)	0.000	3.176	0.000
Articles:		0	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
--	--	---

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: Funding is provided for the following effort			
FY 2013 Plans: Integration of CFE Software and associated Program Management Office (PMO) support costs.			
Accomplishments/Planned Programs Subtotals	6.752	3.176	0.000

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• B05201: SSN: <i>B05201</i> <i>Lightweight Counter Mortar Radar</i>	87.910	100.240	40.735		40.735	45.229	44.500	39.881	40.690	Continuing	Continuing

Remarks

D. Acquisition Strategy
The AN/TPQ-50 Lightweight Counter Mortar Radar is post Milestone C and was developed to meet Training and Doctrine Command (TRADOC) Capabilities Production Document (CPD) requirements. 78 Quick Reaction Capability (QRC) and 45 Low Rate Initial Production (LRIP) systems have been procured towards an Army Acquisition Objective (AAO) of 400. Initial Operational Test and Evaluation (IOT&E) was conducted in 3QFY12. A Full Rate Production (FRP) decision is scheduled in 3QFY13 followed by a three year sole source production contract award. The production contract will include upgrading the 78 QRC and 45 LRIP systems to the full rate production specification beginning in FY15. A second three year production contract is scheduled for 2QFY16. Follow on production contracts will be awarded as needed to fulfill the AAO.

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management (Contractor)	Various	Various:Various	3.348	-		0.112		-		-		-	0.000	3.460	3.460
Program Management	Various	PM Radars:Fort Monmouth NJ/ APG MD	0.911	-		0.112		-		-		-	0.000	1.023	1.023
Program Management (Government Matrix)	Various	Various:Various	1.155	-		0.113		-		-		-	0.000	1.268	1.268
Subtotal			5.414	0.000		0.337		0.000		0.000		0.000	0.000	5.751	5.751

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Common Front End (CFE) Software	Various	SRCTec, North:Syracuse, NY	0.000	-		2.839		-		-		-	0.000	2.839	2.839
Primary Hardware Development	SS/TBD	SRCTec, North:Syracuse, NY	40.978	4.110	Dec 2011	-		-		-		-	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		0.000		0.000		0.000	0.000	55.754	55.754

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Development Support (Government)	Various	Various:Various	0.774	-		-		-		-		-	0.000	0.774	0.774

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
--	--	---

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.774	0.000		0.000		0.000		0.000		0.000	0.000	0.774	0.774

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
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/A TEC:Arizona/APG	3.663	0.565	Feb 2012	-		-		-		-	0.000	4.228	4.228
Initial Operational Test & Evaluation	Various	YUMA/FT SILL:Arizona/ Oklahoma	0.000	2.077	Feb 2012	-		-		-		-	0.000	2.077	2.293
Test Support (Government)	Various	Various:Various	2.542	-		-		-		-		-	0.000	2.542	2.542
Subtotal			8.450	2.642		0.000		0.000		0.000		0.000	0.000	11.092	11.308

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	63.443	6.752	3.176	0.000	0.000	0.000	0.000	73.371	73.587

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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		■																										
Initial Operational Test & Evaluation (IOT&E)			■																									
Full Rate Production (FRP) Decision							■																					
Common Front End (CFE) Pre-Planned Product Improvement (P3I)							■	■																				

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
Milestone C	2	2012	2	2012
Initial Operational Test & Evaluation (IOT&E)	3	2012	3	2012
Full Rate Production (FRP) Decision	3	2013	3	2013
Common Front End (CFE) Pre-Planned Product Improvement (P3I)	2	2013	4	2013

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L88: <i>Enhanced AN/TPQ 36</i>
--	--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
L88: <i>Enhanced AN/TPQ 36</i>	-	5.280	17.341	47.221	-	47.221	42.204	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The AN/TPQ-53 (formerly known as the Enhanced AN/TPQ-36) Counterfire Target Acquisition Radar System Capability Production Document (CPD) was approved on 29 September 2010. The AN/TPQ-53 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 AN/TPQ-53 System interoperates with Battle Command Systems (BCSs) to provide the maneuver commander increased counterfire radar flexibility. The AN/TPQ-53 System is 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 AN/TPQ-53 provides 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 2014 funds of \$47.221M will continue development and testing of Pre-Planned Product Improvement (P3I) for High Clutter Environment and Low Quadrant Elevation efforts as well as initiate development and testing for increased Range and Accuracy and Worldwide Interoperability for Microwave Access (WIMAX) to include performing technical assessments, concept studies, cost reduction, risk reduction and required documentation.

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

	FY 2012	FY 2013	FY 2014
Title: Test Support	5.280	9.921	8.210
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: Test activities to include Limited User Test (LUT)/Development Test (DT) and associated Program Management Office (PMO) support costs.			
FY 2013 Plans:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Test activities to include Logistics/Maintenance Demo, Cold Regions Test Center (CRTC), Initial Operational Test and Evaluation (IOT&E), operational Capabilities and Limitations (C&Ls) tests, software and hardware Independent Verification and Validation (IV&V), ammunition, PMO and test support costs.				
FY 2014 Plans: Test activities to include operational C&Ls, software and hardware IV&V, ammunition, PMO and test support costs.				
Title: Low Quadrant Elevation (QE) Shots		0.000	1.790	4.970
		Articles:		
Description: Funding is provided for the following effort			0	
FY 2013 Plans: Initiate efforts to develop algorithms to detect Low QE shots; this includes associated Program Management Office (PMO) support costs.				
FY 2014 Plans: Continue efforts to develop algorithms to detect Low QE shots; this includes associated PMO support costs.				
Title: High Clutter Environment		0.000	5.630	7.029
		Articles:		
Description: Funding is provided for the following effort			0	
FY 2013 Plans: Initiate development efforts to track projectiles through a high clutter environment; this includes associated PMO support costs.				
FY 2014 Plans: Continue development efforts to track projectiles through a high clutter environment; this includes associated PMO support costs.				
Title: Increased Range and Accuracy and Worldwide Interoperability for Microwave Access (WIMAX)		0.000	0.000	27.012
Description: Funding provided for the following effort				
FY 2014 Plans: Initiate development efforts to improve Radar performance versus long range threats, improve accuracy, and allow radars to operate within the WIMAX infrastructure; this includes associated PMO support costs.				
Accomplishments/Planned Programs Subtotals		5.280	17.341	47.221

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>	PROJECT L88: <i>Enhanced AN/TPQ 36</i>

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

Line Item	FY 2012	FY 2013	FY 2014	FY 2014	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Cost To	Total Cost
			Base	OCO	Total					Complete	
• AN/TPQ-53: <i>AN/TPQ-53</i>	338.177	298.994	312.727		312.727	348.173	279.351	280.068	22.500	0.000	1,879.990

Remarks

D. Acquisition Strategy

The AN/TPQ-53 leverages technology developed in the Multi-Mission Radar Advanced Technology Objective (ATO) program incorporating the latest antenna technology into the AN/TPQ-53. A contract for initial production (IP) systems was awarded in 2008 based on full and open competition, and a competitive production contract for Low Rate Initial Production (LRIP) systems was awarded in 2012 with an option for additional systems in 2013. Production and delivery of all IP systems are complete, and production of LRIP systems is ongoing. A Full Rate Production (FRP) contract to fill the remainder of the Army Acquisition Objective (AAO) is expected to be awarded in FY 2014 following completion of the Initial Operating Test. Additionally, all initial production systems will be retrofit to FRP configuration between FY2014 and FY 2016. The FRP system deliveries will continue through FY 2019. The system will eventually replace all of the AN/TPQ-36 and AN/TPQ-37 systems in the fleet.

FY 2014 funds will continue development and testing of pre-planned product improvement (P3I) for high-clutter environment and low quadrant elevation efforts as well as initiate development and testing for increased range and accuracy and Worldwide Interoperability for Microwave Access (WIMAX) to include performing technical assessments, concept studies, cost reduction, risk reduction and required documentation.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army												DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT								
2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)				PE 0604823A: FIREFINDER				L88: Enhanced AN/TPQ 36								
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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	Mar 2013	0.622	Mar 2014	-		0.622	Continuing	Continuing	Continuing	
Program Management (Government)	TBD	Various:Various	0.702	0.272	Mar 2012	0.279	Mar 2013	0.551	Mar 2014	-		0.551	Continuing	Continuing	Continuing	
Subtotal			4.184	0.272		0.580		1.173		0.000		1.173				
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Maintenance Training	SS/CPFF	Lockheed Martin:Syracuse, NY	3.210	-		-		-		-		-	0.000	3.210	3.210	
High Clutter Environment	SS/FP	Lockheed Martin:Syracuse, NY	0.000	-		5.340	Mar 2013	6.854	Mar 2014	-		6.854	Continuing	Continuing	Continuing	
Low Quadrant Elevation (QE) Shots	SS/FP	Lockheed Martin:Syracuse, NY	0.000	-		1.500	Mar 2013	4.840	Mar 2014	-		4.840	Continuing	Continuing	Continuing	
Increased Range and Accuracy and Worldwide Interoperability for Microwave Access (WIMAX)	SS/FP	Lockheed Martin:Syracuse, NY	0.000	-		-		26.344	Mar 2014	-		26.344	Continuing	Continuing	Continuing	
Subtotal			3.210	0.000		6.840		38.038		0.000		38.038				
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Test Support	Various	Various:Various	17.228	5.008	Jun 2012	9.921	Mar 2013	8.010	Mar 2014	-		8.010	Continuing	Continuing	Continuing	
Subtotal			17.228	5.008		9.921		8.010		0.000		8.010				

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604823A: <i>FIREFINDER</i>			PROJECT L88: <i>Enhanced AN/TPQ 36</i>			
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	24.622	5.280	17.341	47.221	0.000	47.221				

Remarks

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
Developmental Test (DT)	2	2012	4	2013
Limited User Test (LUT)	4	2012	1	2013
Milestone C Update	2	2012	2	2012
Low Rate Initial Production (LRIP) Lot 1 Production Contract Award	2	2012	2	2012
LRIP Lot 2 Production Contract Award	2	2012	2	2012
LRIP Lot 3 Production Contract Award	3	2013	3	2013
Full Rate Production (FRP) Decision	3	2014	3	2014
FRP Contract Award	3	2014	3	2014
Initial Operational Test and Evaluation (IOT&E)	4	2013	1	2014
High Clutter Environment	1	2013	4	2014
Low Quadrant Elevation (QE) Shots	1	2013	4	2015
Increased Range and Accuracy and WIMAX	1	2014	4	2015
Spectrum Management Jamming / Blue Force EMI Mitigation Techniques	1	2015	4	2015

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>
--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	41.680	51.851	48.477	-	48.477	18.923	19.043	18.237	0.596	Continuing	Continuing
DX7: <i>TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM</i>	-	0.800	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S56: <i>MOUNTED SOLDIER</i>	-	3.276	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S65: <i>Soldier Power</i>	-	0.000	5.054	7.414	-	7.414	0.000	0.000	0.000	0.000	Continuing	Continuing
S75: <i>Ground Soldier Ensemble</i>	-	37.604	46.797	41.063	-	41.063	18.923	19.043	18.237	0.596	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Fiscal Year 2012: Congressional Rescission \$5.000 million and Program Decrease of \$14.670 million to Mounted Soldier System.

Fiscal Year 2014: Program Decreases of \$5.718 million to Ground Soldier Ensemble and \$2.000 million to Soldier Power.

A. Mission Description and Budget Item Justification

This program element contains four projects: Project S56 for Mounted Soldier System (MSS), Project S65 for Soldier Power, Project S75 for Nett Warrior (NW), [named in honor of Medal of Honor recipient COL Robert Nett], previously known as Ground Soldier System (GSS), and Project DX7 Tactical Communications and Protective System (TCAPS). 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. TCAPS enables Soldiers to communicate over radios in combat environments while simultaneously providing hearing protection from both steady state and impulse noise.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>
--	---

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	61.350	51.851	56.695	-	56.695
Current President's Budget	41.680	51.851	48.477	-	48.477
Total Adjustments	-19.670	0.000	-8.218	-	-8.218
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-5.000	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-14.670	-	-8.218	-	-8.218

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT DX7: <i>TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM</i>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
DX7: <i>TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM</i>	-	0.800	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Tactical Communications and Protective System (TCAPS) enables Soldiers to communicate over radios in combat environments while simultaneously providing hearing protection from both steady state and impulse noise. TCAPS enhances survivability through improved threat detection in operational environments and supports situational awareness by enabling clear and understandable communications over radios in combat situations where hearing can be temporarily impaired from gunfire and explosions. By reducing noise-induced hearing damage, TCAPS contributes to the reduction of post-service disability compensation and limits lost in-service time related to hearing injury. TCAPS will employ commercial-off-the-shelf (COTS) solution(s) with technical readiness level of 8 or higher.

There is an immediate need for TCAPS. Theater reports indicate a high incidence of temporary and permanent hearing loss caused by impulse noise when Soldiers remove hearing protection to communicate over radios. Currently hearing loss and other hearing injuries (tinnitus, dizziness, etc.) are the fourth leading reason for medical referral for combatants returning from deployments.

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

	FY 2012	FY 2013	FY 2014
Title: Tactical Communications and Protective System (TCAPS)	0.800	0.000	0.000
Articles:	0		
Description: TCAPS procurement of test articles and testing			
FY 2012 Accomplishments: Funding provided via a below the threshold reprogramming (BTR) action supported FY12-13 purchase of test articles from many different vendors and conduct of technical and operational testing.			
Accomplishments/Planned Programs Subtotals	0.800	0.000	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT DX7: <i>TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM</i>
--	---	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• SSN B55510: <i>Tactical Communications and Protective System</i>			31.868		31.868	20.000				0.000	51.868

Remarks

D. Acquisition Strategy

TCAPS is an ACAT III program leveraging commercial-off-the-shelf (COTS) technology with technical readiness level (TRL) of 8 or higher. Pending funding, TCAPS will conduct an annual relook of commercial technology to seek improved capabilities, conduct testing and transition to procurement.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT DX7: <i>TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM</i>
--	---	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Sesame Model	MIPR	AMSAA:APG, MD	0.000	0.018		-		-		-		-	0.000	0.018	0.000
Subtotal			0.000	0.018		0.000		0.000		0.000		0.000	0.000	0.018	0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test Articles (Engineering Assessment)	MIPR	DLA DSCP:Philadelphia, PA	0.000	0.026		-		-		-		-	0.000	0.026	0.000
Test Articles (Development Test)	MIPR	DLA DSCP:Philadelphia, PA	0.000	0.020		-		-		-		-	0.000	0.020	0.000
Test Articles (OT)	MIPR	DLA DSCP:Philadelphia, PA	0.000	0.120		-		-		-		-	0.000	0.120	0.000
Subtotal			0.000	0.166		0.000		0.000		0.000		0.000	0.000	0.166	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Technical Test	MIPR	ATEC, AEC, OTC, ARL-SLAD:Various Locations	0.000	0.177		-		-		-		-	0.000	0.177	0.000
Customer Test - 2 CR	Various	Army Hearing Program Office:Various Locations	0.000	0.028		-		-		-		-	0.000	0.028	0.000
Operational Test	Various	ATEC, AEC, OTC, ARL-SLAD:Various Locations	0.000	0.411		-		-		-		-	0.000	0.411	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT DX7: <i>TACTICAL COMMUNICATIONS AND PROTECTIVE SYSTEM</i>
--	---	---

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	0.616		0.000		0.000		0.000		0.000	0.000	0.616	0.000
			All Prior Years	FY 2012	FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			0.000	0.800		0.000		0.000		0.000		0.000	0.000	0.800	0.000

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
S56: <i>MOUNTED SOLDIER</i>	-	3.276	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Program terminated in 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 2012	FY 2013	FY 2014
Title: MSS transition support to Program Executive Office Ground Combat System (PEO GCS)	3.276	0.000	0.000
Articles:	0		
Description: MSS transition support to PEO GCS			
FY 2012 Accomplishments: Prepared program for orderly shutdown, transition of select components to PEO GCS, disposition of residual program hardware assets and termination in accordance with the approved termination plan.			
Accomplishments/Planned Programs Subtotals	3.276	0.000	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>
--	---	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA 3: <i>OPA 3 Mounted Soldier</i>	5.000									0.000	5.000

Remarks

FY12 OPA3 funding was not executed by Mounted Soldier System.

D. Acquisition Strategy

MSS as a Program of record was terminated. Select components were 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>
--	---	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Management/Support of MSS program termination and transition to PEO GCS	MIPR	PM Soldier Warrior;:Ft. Belvoir, VA	19.215	3.276		-		-		-		-	0.000	22.491	0.000
SBIR/SBTR	TBD	N/A:N/A	2.000	-		-		-		-		-	0.000	2.000	0.000
Subtotal			21.215	3.276		0.000		0.000		0.000		0.000	0.000	24.491	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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 Display	MIPR	Various:Various	24.009	-		-		-		-		-	0.000	24.009	0.000
Subtotal			30.572	0.000		0.000		0.000		0.000		0.000	0.000	30.572	0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>
--	---	---

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Hardware modification			■																									
DT/OT of components for transition			■				■																					
Program documentation closeout / HW transfer							■																					
Termination complete							■																					

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S56: <i>MOUNTED SOLDIER</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Hardware modification	3	2012	3	2012
DT/OT of components for transition	3	2012	1	2013
Program documentation closeout / HW transfer	1	2013	1	2013
Termination complete	1	2013	1	2013

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S65: <i>Soldier Power</i>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
S65: <i>Soldier Power</i>	-	0.000	5.054	7.414	-	7.414	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

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 a Soldier worn power/data 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 tactical radios. This effort began in FY10 as a Congressional add 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 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. By using renewable energy and power scavenging technology, it enables Infantry Squads to operate independently for longer durations without being tethered to a large generator, vehicle, or supply train. This effort supports the draft Small Unit Power Capability Development Document (CDD), March 2011; the Soldier Protection 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, Article Quantities in Each)

	FY 2012	FY 2013	FY 2014
Title: Individual Soldier Power <div style="text-align: right;">Articles:</div>	0.000	3.404 0	5.218
Description: Integrated soldier power/data and individual power FY 2013 Plans: Mature an integrated Soldier system capable of managing power and system C4I data from Soldier worn/carried peripherals. This system is comprised of a safe, high energy, lightweight, Soldier-wearable battery that conforms to the Soldier's body armor and improved outer tactical vest. This conformal battery is the central source of power for all Soldier worn devices and serves as the			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>central power storage point for integrated Soldier worn energy harvesting and renewable energy sources. This integrated Soldier system passes its power and peripheral system C4I data through a wiring system that is integrated into the fabric of the improved outer tactical vest. Mature: 1) wireless charging on the Soldier from vehicle platforms and from Soldier worn power sources, thus reducing the dependence on battery chargers and numbers of batteries carried; 2) light weight hybrid power sources; 3) integrated embedded "smart" electro-textiles to improve Soldier mobility and reduce Soldier weight; and 4) Soldier carried power/data management devices that are capable of harvesting energy from a variety of available power sources even in the most austere/remote environments reducing Soldier resupply.</p> <p>FY 2014 Plans: Will continue to mature an integrated Soldier system capable of managing power and system C4I data from Soldier worn/carried peripherals. This system will be comprised of a safe, high energy, lightweight, Soldier-wearable battery that will conform to the Soldiers body armor and improved outer tactical vest. This improved conformal battery will be the central source of power for all Soldier worn devices and serve as the central power storage point for integrated Soldier worn energy harvesting and renewable energy sources. This integrated Soldier system will pass its power and peripheral C4I data through a wiring system that will be integrated into the fabric of the improved outer tactical vest. Will continue to mature: 1) wireless charging on the Soldier from vehicle platforms and from Soldier worn power sources, thus reducing dependency on battery chargers and numbers of batteries carried; 2) improved light weight hybrid power sources; 3) integrated embedded "smart" electro-textiles to improve Soldier mobility and reduce Soldier weight; 4) Soldier carried power/data management devices that are capable of harvesting energy from a variety of available power sources even in the most austere/remote environments reducing Soldier resupply; and 5) Will mature a highly efficient solar technology conducive to a variety of operating environments and capable of providing over twice the current level of power in an equal or smaller form factor.</p>				
<p>Title: Squad Soldier Power</p> <p>Description: Soldier portable, renewable energy solutions for Squad formation</p> <p>FY 2013 Plans: Develop and integrate Soldier portable, renewable 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 improved renewable energy solutions and hybridized technology. Continue development of light weight, Soldier portable chargers and power scavenging technology capable of supporting the variety of batteries used in the tactical formations.</p> <p>FY 2014 Plans: Will continue development and integration of Soldier portable, renewable energy solutions that have the power capacity to sustain expeditionary austere operations for 72 hours, while decreasing dependence on combat logistics through the use of fuels cells,</p>		0.000	0.968 0	1.472
		Articles:		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior</i> <i>Dem/Val</i>		PROJECT S65: <i>Soldier Power</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
hybridized power sources and other maturing power sources. Will continue development and optimization of light weight, Soldier portable chargers capable of supporting the variety of batteries used in the tactical formations.				
Title: Soldier Power Test and Evaluation		0.000	0.682	0.724
			0	
Articles:				
Description: Integration testing and annual testing and evaluation events				
FY 2013 Plans: Conduct annual test and evaluation at the Network Integration Evaluation (NIE), Ft. Bliss, TX. Conduct integration testing on power components at the Army Expeditionary Warrior Experiment (AEWE), Ft. Benning, GA.				
FY 2014 Plans: Will conduct annual test and evaluation at the Network Integration Evaluation (NIE), Ft. Bliss, TX. Will conduct integration testing on power components at the Army Expeditionary Warrior Experiment (AEWE), Ft. Benning, GA.				
Accomplishments/Planned Programs Subtotals		0.000	5.054	7.414
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
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 resulting from Army Science and Technology investments. The power initiatives will be evaluated through events at the Army Expeditionary Warrior Experiments (AEWE), the Network Integrated Evaluation (NIE) and FY14 Capability Integration Evaluation (CIE) events, and if successful, selected for procurement 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.				

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT							
2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)				PE 0604827A: Soldier Systems - Warrior Dem/Val				S65: Soldier Power							
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PM integration and oversight	MIPR	Various:Various	0.000	-		1.294		2.088		-		2.088	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		1.294		2.088		0.000		2.088			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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	-		2.298		3.774		-		3.774	Continuing	Continuing	Continuing
Subtotal			5.648	0.000		2.298		3.774		0.000		3.774			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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	-		0.780		0.828		-		0.828	Continuing	Continuing	Continuing
Subtotal			0.732	0.000		0.780		0.828		0.000		0.828			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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	0.000	-		0.682		0.724		-		0.724	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.682		0.724		0.000		0.724			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>			PROJECT S65: <i>Soldier Power</i>			
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	6.380	0.000	5.054	7.414	0.000	7.414				

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S65: <i>Soldier Power</i>
--	---	---

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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

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 (CIE 14.2)																												
Squad Soldier Power Evaluation (CIE 14.2)																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S65: <i>Soldier Power</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
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 (CIE 14.2)	2	2014	3	2014
Squad Soldier Power Evaluation (CIE 14.2)	2	2014	3	2014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>Ground Soldier Ensemble</i>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
S75: <i>Ground Soldier Ensemble</i>	-	37.604	46.797	41.063	-	41.063	18.923	19.043	18.237	0.596	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

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 Colonel Robert C. Nett), also known as the Ground Soldier System (GSS) Program, leverages commercial smart devices and secure Army tactical radios to provide the dismounted leader an integrated mission command and situational awareness system for use during combat operations. The NW system provides operators electronic, real-time information on friendly positions; information about enemy activity and movement; navigational data and map imagery; and other mission related graphics which effectively puts the power of the entire Army tactical network in the hands of the dismounted leader. The NW system also provides the same integrated mission command capability to tactical vehicle mounted leaders so that when they dismount their vehicles, they still have access to the common operating picture (COP) and have full situational awareness. This capability provides unparalleled situational awareness and understanding to the dismounted leader allowing for faster, more accurate decisions and reduced fratricide in the tactical fight.

The development and integration process relies significantly on feedback from combat operations and employs combat veterans for Soldier integration and feedback enhancing human factors design and fightability of the system. The NW program also integrates soldier power systems aimed at considerably reducing the weight of the dismounted soldier's load. This project funds the following: 1) Yearly developmental and operational test of the NW with continually advancing commercial smart device technology inserted, 2) 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.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Test and Evaluation including twice a year Network Integration Evaluation (NIE) to gain Soldier feedback	8.780	14.323	12.672
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: Conducted Nett Warrior (NW) test and evaluation to include semi-annual operational assessments at Network Integration Evaluation (NIE) events at Ft. Bliss, TX., supporting objective of full Army network integration from dismounted Soldier level.			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012
Conducted component, system, and operational level developmental testing to support production decision of NW including Soldier Power. Conducted validation of software interoperability.				
FY 2013 Plans: Continue NW developmental and operational evaluation of the latest commercial smart devices and emerging technologies. Conduct testing at NIE (with multiple commercial smart devices to support yearly production decisions) and program management support for NW. Test events include: Brigade level support, equipping, training, test costs, and spares for NW Developmental and Operational Test at NIE to support a Low Rate Initial Production extension decision; Logistics Demonstration; safety testing; airborne; air-worthiness; Army Interoperability Certification; environmental testing; electronic warfare testing; and Information Assurance penetration prevention testing.				
FY 2014 Plans: Will conduct NW test and evaluation for technical verification at developmental events and user verification through operational testing at semi-annual Network Integration Evaluation (NIE) events to support continued production decisions. Test events will include: Brigade level support, equipping, training, test costs, and spares for NW; evaluation at NIE to support continued production decisions; yearly Army Interoperability Certification; environmental testing; electronic warfare testing; and Information Assurance penetration prevention testing for new commercial smart devices.				
Title: Hardware and Software Integration and Evaluation for Capability Improvements				12.422
				9.004
				8.816
				0
				0
Description: Funding is provided for the following effort				
FY 2012 Accomplishments: Acquired, integrated and evaluated Brigade sized quantities of commercial smart devices, cables, Soldier Power solutions and other hardware for integration into the NW system of proven and mature capability during the semi-annual NIE events. Integrated 3rd party software combat applications for foreign language translation and fire support missions. This allowed NW to keep pace with emerging technology and informs the acquisition decision process as to yearly Army Capability Set insertion.				
FY 2013 Plans: Acquire, integrate and evaluate Brigade sized quantities of the latest commercial smart devices, cables, and other hardware for integration into the NW system proven and mature capability during the semi-annual NIE events. Integrate 3rd party software combat applications to allow NW to keep pace with emerging technology and inform the acquisition decision process as to yearly Army Capability Set insertion.				
FY 2014 Plans:				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior</i> <i>Dem/Val</i>		PROJECT S75: <i>Ground Soldier Ensemble</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Will continue to acquire, integrate and evaluate Brigade sized quantities of the latest 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>Title: Software Development and Integration</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments: Developed and integrated 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. Maintained software updates and changes for NW program to keep pace with Army software blocking updates, maintained information assurance accreditation, and retained interoperability certification for Army Capability Sets.</p> <p>FY 2013 Plans: Continue software integration of the Army's Joint Battle Command Platform software development kit for commercial smart device hardware to support Governmental T&E activities by conducting Developmental Tests, and Operational Testing preparing for production decisions and fielding for FY14. Integrate applications to expand Nett Warrior capabilities to meet other requirements with a common smart device. Software updates support Army Interoperability Certification testing and other testing supporting Developmental Testing (DT) and Operational Testing (OT).</p> <p>FY 2014 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 semi-annual basis. Integrates applications to expand Nett Warrior capabilities to meet other requirements with a common smart device. 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>		3.696 0	5.636 0	5.518
<p>Title: Integration with Joint Tactical Radio System (JTRS) and Vehicle Platforms</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments:</p>		1.882 0	8.988 0	5.659

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)						
Integrated JTRS Rifleman Radio running Soldier Radio Wave form into NW system. Developed austere power recharging solutions and integrated 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. FY 2013 Plans: Complete integration and verification of JTRS Nett Warrior Leader Radio and cross domain guards into NW system and vehicle integration kits for DT and IOT&E. 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. FY 2014 Plans: Will integrate new commercial smart devices with JTRS Nett Warrior Leader Radio and cross domain guards as technology changes over time. Will integrate vehicle integration kits into Army Mine Resistant Ambush Protected (military vehicle) platforms.				FY 2012	FY 2013	FY 2014
Title: Conduct Systems Engineering and Program Management Support to Nett Warrior Description: Funding is provided for the following effort FY 2012 Accomplishments: Conducted government systems engineering and program management support for NW program including documentation preparation for Milestone C. Integrated evolving commercial smart devices and technology for test and evaluation. Collected 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. Conducted surveys and technical analysis of austere power generation capability at Developmental and Operational testing at NIE at Ft. Bliss to improve power generation process. FY 2013 Plans: Conduct government systems engineering and program management support for NW program including documentation preparation for Full Rate Production decision. Integrate the latest commercial smart devices, software applications 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 (DT/OT) events. FY 2014 Plans: Will continue to conduct government systems engineering and program management support for NW program. Will develop advanced electronic training materials for improved Leader training. Will collect input from Soldiers at semi-annual NIE events				10.566 0	8.846 0	8.398
				Articles:		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
to improve NW size, weight, power, fightability, safety and effectiveness via surveys and electronic data monitoring from Developmental and Operational Testing (DT/OT) events.			
Title: Soldier System and Integration (SSI) Below Threshold Reprogramming (BTR) Description: BTR funds provided for the following effort. FY 2012 Accomplishments: Supported 3D Computer Aided Design/Computer Aided Modeling and rapid prototyping efforts, to support Soldier/Squad configuration management and to provide live and virtual system level product visualization and hardware integration evaluation capabilities.	Articles: 0.258 0	0.000	0.000
Accomplishments/Planned Programs Subtotals	37.604	46.797	41.063

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPA 3, R80501: <i>OPA 3, R80501, Ground Soldier System</i>	63.500	103.317	81.680		81.680	100.724	103.416	50.246	50.298	Continuing	Continuing
• RDT&E, PE 0603827A S49: <i>RDT&E, PE 0603827A S49 - Ground Soldier System (GSS)</i>									44.500	Continuing	Continuing

Remarks

D. Acquisition Strategy

The Nett Warrior (NW) program provides unparalleled situational awareness and mission 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. A Configuration Steering Board (CSB) was held August 2011 which restructured the program to implement COTS-based technology. Twice a year technology maturation and integration is assessed at NIE events. The NW MS C was approved 3 April 2012 followed by a low rate Capability Set (CS) 14 production award. Will conduct Developmental Test and Evaluation planned for 4QFY12-1QFY13, followed by 1QFY13 Operational Test (OT) 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. While in production NW also continues to reduce size, weight and power through a semi-annual integration and evaluation and test of the latest commercial smart device technologies which evolve continuously.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>Ground Soldier Ensemble</i>

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>Ground Soldier Ensemble</i>
--	---	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PM Soldier Warrior hardware and software integration and evaluation	MIPR	Various:Various	0.000	12.422		9.004		8.816		-		8.816	Continuing	Continuing	Continuing
PM Soldier Warrior Systems Engineering and program management support	Various	Various:Various	0.000	10.566		8.846		8.398		-		8.398	Continuing	Continuing	Continuing
SSI BTR	Various	Various:Various	0.000	0.258		-		-		-		-	0.000	0.258	0.000
Subtotal			0.000	23.246		17.850		17.214		0.000		17.214			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integration with Joint Tactical Radio Systems (JTRS) and Vehicle Platforms	MIPR	Various:Various	0.000	1.882		8.988		5.659		-		5.659	Continuing	Continuing	Continuing
Subtotal			0.000	1.882		8.988		5.659		0.000		5.659			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Development and Integration	MIPR	Various:Various	0.000	3.696		5.636		5.518		-		5.518	Continuing	Continuing	Continuing
Subtotal			0.000	3.696		5.636		5.518		0.000		5.518			

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior</i> <i>Dem/Val</i>	PROJECT S75: <i>Ground Soldier Ensemble</i>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
NW Milestone C Decision			■																									
Low Rate Initial Production (LRIP) Contract Awards			■	■																								
NW Low Rate Initial Production (LRIP)			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Network Integration Evaluation (NIE 12.2)			■																									
NW Developmental Test (DT)				■	■																							
Network Integration Evaluation (NIE 13.1)					■																							
NW First Unit Equipment (FUE)										■																		
Network Integration Evaluation (NIE 13.2)							■																					
CS14 Contract Awards							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
CS14 Production							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
CS14 Fielding									■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Network Integration Evaluation (NIE 14.1)									■																			
Network Integration Evaluation (NIE 14.2)										■																		
CS15 Contract Awards										■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
CS15 Production										■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
CS15 Fielding											■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Network Integration Evaluation (NIE 15.1)											■																	
Network Integration Evaluation (NIE 15.2)												■																
CS16 Contract Awards												■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
CS16 Production												■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
CS16 Fielding													■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Network Integration Evaluation (CIE 16.1)														■														
Network Integration Evaluation (CIE 16.2)															■													
CS17 Contract Awards																■	■	■	■	■	■	■	■	■	■	■	■	■

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
CS17 Production																												
CS17 Fielding																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior</i> <i>Dem/Val</i>	PROJECT S75: <i>Ground Soldier Ensemble</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
NW Milestone C Decision	3	2012	3	2012
Low Rate Initial Production (LRIP) Contract Awards	3	2012	4	2012
NW Low Rate Initial Production (LRIP)	3	2012	4	2014
Network Integration Evaluation (NIE 12.2)	3	2012	3	2012
NW Developmental Test (DT)	4	2012	1	2013
Network Integration Evaluation (NIE 13.1)	1	2013	1	2013
NW First Unit Equipment (FUE)	1	2014	1	2014
Network Integration Evaluation (NIE 13.2)	3	2013	3	2013
CS14 Contract Awards	3	2013	1	2014
CS14 Production	3	2013	4	2013
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 Awards	3	2014	4	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 Awards	3	2015	4	2015
CS16 Production	3	2015	2	2016
CS16 Fielding	4	2015	4	2016
Network Integration Evaluation (CIE 16.1)	1	2016	1	2016

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604827A: <i>Soldier Systems - Warrior Dem/Val</i>	PROJECT S75: <i>Ground Soldier Ensemble</i>
--	---	---

Events	Start		End	
	Quarter	Year	Quarter	Year
Network Integration Evaluation (CIE 16.2)	3	2016	3	2016
CS17 Contract Awards	3	2016	4	2016
CS17 Production	3	2016	2	2017
CS17 Fielding	4	2016	4	2017

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>
--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	120.032	167.797	80.613	-	80.613	92.844	130.804	28.638	6.568	Continuing	Continuing
516: <i>PALADIN/FAASV</i>	-	120.032	167.797	80.613	-	80.613	92.844	130.804	28.638	6.568	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

The M109 Family of Vehicles (FOV) Paladin/FAASV Integrated Management (PIM) program provides for the procurement of sustainment and obsolescence modifications to the current M109A6 Self Propelled Howitzer and FAASV, increase the reliability and maneuverability as well as reduce life cycle costs.

A. Mission Description and Budget Item Justification

Paladin Integrated Management (PIM) is an ACAT 1D Acquisition Program. The program is intended to replace the current fleet of M109 Family of Vehicles (FoV) consisting of the M109A6 Paladin Self Propelled Howitzer and M992A2 Field Artillery Ammunition Supply Vehicle (FAASV). PIM is an Army Modernization Program that addresses a critical capability gap created by the Non-Line of Sight Cannon termination in June of 2009 as well as obsolescence and size/weight and power (SWaP) issues in the M109 FoV current Fleet. The PIM system integrates current Bradley Fighting Vehicle suspension and drive train items, Future Combat Systems (FCS) developed Electric Gun Drive systems and current fleet (M109A6) fire control systems into a new chassis that provides better force protection, survivability and mobility over the current fleet. PIM is a two vehicle system: Self Propelled Howitzer (SPH) and Carrier Ammunition Tracked (CAT). The SPH has all characteristics listed above. The CAT utilizes all these same components and traits less those that relate directly to the cannon system. The PIM system replaces the current M109 FoV on a one for one basis, in the cannon fires battalions in the Armored Brigade Combat Team Formations and the Echelons above Brigade (EAB). The overall intent is to increase Soldier force protection, vehicle survivability, provide an appropriate amount of SWaP capacity to add future capabilities, reduce life cycle costs and extend the life of the M109 FoV through FY2050.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>
--	---

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	120.032	167.797	121.344	-	121.344
Current President's Budget	120.032	167.797	80.613	-	80.613
Total Adjustments	0.000	0.000	-40.731	-	-40.731
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	-40.731	-	-40.731

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>	PROJECT 516: <i>PALADIN/FAASV</i>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
516: <i>PALADIN/FAASV</i>	-	120.032	167.797	80.613	-	80.613	92.844	130.804	28.638	6.568	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Paladin Integrated Management (PIM) is an ACAT 1D Acquisition Program. The program is intended to replace the current fleet of M109 Family of Vehicles (FoV) consisting of the M109A6 Paladin Self Propelled Howitzer and M992A2 Field Artillery Ammunition Supply Vehicle (FAASV). PIM is an Army Modernization Program that addresses a critical capability gap created by the Non-Line of Sight Cannon termination in June of 2009 as well as obsolescence and size/weight and power (SWaP) issues in the M109 FoV current Fleet. The PIM system integrates current Bradley Fighting Vehicle suspension and drive train items, Future Combat Systems (FCS) developed Electric Gun Drive systems and current fleet (M109A6) fire control systems into a new chassis that provides better force protection, survivability and mobility over the current fleet. PIM is a two vehicle system: Self Propelled Howitzer (SPH) and Carrier Ammunition Tracked (CAT). The SPH has all characteristics listed above. The CAT utilizes all these same components and traits less those that relate directly to the cannon system. The PIM system replaces the current M109 FoV on a one for one basis, in the cannon fires battalions in the Armored Brigade Combat Team Formations and the Echelons above Brigade (EAB). The overall intent is to increase Soldier force protection, vehicle survivability, provide an appropriate amount of SWaP capacity to add future capabilities, reduce life cycle costs and extend the life of the M109 FoV through FY2050.

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

	FY 2012	FY 2013	FY 2014
Title: Paladin/FAASV Integrated Management (PIM) Development	73.645	122.395	57.294
Articles:	0	0	
Description: Funding is provided for the following contractor effort:			
FY 2012 Accomplishments: Program management that includes the award of the comprehensive contract modification and key program reviews: Delta-Critical Design Review and Initial Baseline Review. Refurbishment of six prototypes and rebuilding of one prototype that includes all force protection and survivability changes; production of two Ballistic Hull and Turret (BH&T) surrogate vehicles. Continuance of developmental testing (DT) support. Soldier training and preparations for Limited User Testing (LUT). Developmental engineering for Software Phase III and analysis of test incident resolution efforts.			
FY 2013 Plans: Program management required for the completion of all program documentation, required reviews (Functional Configuration Audit, Product Readiness Review and System Verification Review). Execution of key testing support: LUT and other DT Phase			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012
				FY 2013
				FY 2014
<p>II. Continuing Software Phase II maintenance efforts for Corrective Actions, Producibility, and Obsolescence (CPO) functionality. Engineering development for CPO changes required for LRIP and continuance of Software Phase III development. Development of logistical support products required for fielding (manuals, training). The production of 1.5 Sets of PIM for the execution of Full Up Systems Live-Fire (FUSL).</p> <p>FY 2014 Plans: Program management for the finalization of developmental fixes, sub-system qualification, and testing for production. Continuance of engineering development for CPOs and Software Phase III efforts required for LRIP production-continue Software Phase II maintenance efforts for CPO functionality. Executing Software Developmental Qualification Testing (DQT) for Software Phase III. Development of an Objective Underbelly Kit per guidance of the Defense Acquisition Executive (DAE.) Continued development of logistical support products (manuals and training) required for fielding. Execution of First Article Testing (FAT) of production vehicles.</p>				
<p>Title: Test and Evaluation</p> <p align="right">Articles:</p>				9.532
<p>Description: Funding is provided for the following government effort:</p> <p>FY 2012 Accomplishments: Plan and execute Developmental Testing (DT) including qualification of subsystems, system safety, performance testing, live fire exploitation testing, logistics demonstration, and the first interaction of Soldiers with prototype vehicles (Green DT). Key test events include completion of Phase I and the start of Phase II DT encompassing automotive performance; firing performance; ammunition compatibility; durability; and Reliability, Availability, and Maintainability (RAM) testing to include the first two segments of the Reliability Growth Curve (RGC). Live fire events include coupon testing and initial Ballistic Hull and Turret (BH&T) exploitation testing. Testing also includes initial qualification of Line Replaceable Units (LRUs) and other subsystems, as well as logistics demonstration to develop and validate maintenance procedures and publications.</p> <p>FY 2013 Plans: Plan and execute operational testing and continued DT including qualification of subsystems, system safety, performance testing, live fire exploitation testing, logistics demonstration, and additional Green DT. Key tests include a Limited User Test (LUT) to evaluate suitability and effectiveness in an operational environment, and DT to include completion of the second segment of the RAM Growth Curve (RGC); extreme temperature testing; transportability testing; durability testing of the Carrier, Ammunition, Tracked (CAT) vehicle; automotive and firing performance; and initial testing to verify Corrective Action, Producibility, and Obsolescence (CPO) changes resulting from earlier testing and continued development. Live fire test events include</p>				0
				15.296
				7.379
				0

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>BH&T exploitation testing, fuel cell and Improvised Explosive Device (IED) testing, and behind armor debris testing. Logistics demonstration continues on prototype vehicles to develop maintenance procedures and publications.</p> <p>FY 2014 Plans: Plan and execute continued DT including qualification of subsystems, system safety, performance testing, live fire exploitation testing, and logistics demonstration. Key developmental tests events include continued verification of CPO changes to validate the LRIP production configuration. This testing consists of full load cooling test, software DQT, and automotive and firing performance testing on a production representative vehicle. Key live fire test events include final exploitation testing on a BH&T and production representative vehicle, component ballistic testing, and testing of the Automatic Fire Extinguisher System (AFES). Logistics demonstration is integrated with the test plan as CPO changes are verified.</p>				
Title: Program Management		36.855	16.890	7.023
	Articles:	0	0	
Description: Funding is provided for the following government effort:				
FY 2012 Accomplishments: Government System Engineering and Program Management for the total program including: Original Equipment Manufacturer (OEM) management consisting of weekly, monthly, and quarterly program management reviews; contract award processes and execution management, and execution of key program reviews (Delta CDR, IBR). Manages Government Developmental Test and Evaluation program. Management of the program cost, schedule, and performance metrics including making programmatic trade off decisions. Management of Other Governmental Agencies (OGAs) that support the PIM program.				
FY 2013 Plans: Government System Engineering and Program Management for the total program including: OEM management consisting of weekly, monthly, and quarterly program management reviews; continue contract execution management, and execution of key program reviews (FCA, SVR and PRR). Manages Government Developmental Test and Evaluation program. Management of LRIP contract award process. Complete all program documentation and reviews for the MS C (production) decision in JUN 2013. Management of the program cost, schedule, and performance metrics including making programmatic trade-off decisions. Management of Other Governmental Agencies (OGAs) that support the PIM program.				
FY 2014 Plans: Government System Engineering and Program Management for the total program including: OEM management consisting of weekly, monthly, and quarterly program management reviews; continue contract execution management for the EMD phase contract until completion of all efforts in FY 16. Manages Government Developmental Test and Evaluation program.				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Management of the program cost, schedule, and performance metrics including making programmatic trade-off decisions. Management of Other Governmental Agencies (OGAs) that support the PIM program.			
Title: Training Description: Funding is provided for the following government and contractor effort: FY 2013 Plans: PIM Training Development supports the development of Training Aids, Devices, Simulators and Simulations (TADSS) for crew and maintainers, New Equipment Training (NET) and fielding plans. FY 2014 Plans: Continue PIM training developmental efforts that support TADSS for crew and maintainers, NET, and fielding plans.	0.000	6.428 0	5.864
Title: Data Description: Funding is provided for the following contractor effort: FY 2013 Plans: Contractor Technical Data Package Updates and Technical Publications FY 2014 Plans: Contractor Technical Data Package Updates and Technical Publications	0.000	6.788 0	3.053
Accomplishments/Planned Programs Subtotals	120.032	167.797	80.613

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	
• Paladin/FAASV: <i>Paladin/FAASV Mod</i>	46.876	216.442	4.769		4.769	49.333	43.788			3,566.716	3,927.924
• Paladin Integrated Management (PIM): <i>PIM Mod In Service</i>			260.177		260.177	302.299	297.624	471.658	614.821	0.000	1,946.579
Remarks											

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>	PROJECT 516: <i>PALADIN/FAASV</i>

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. 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. Low-Rate Initial Production (LRIP) contract is Fixed Price Incentive Firm Target (FPIF) with a period of performance running from AUG 2013 through DEC 2018. The LRIP contract provides for four LRIP years with the initial base year including 19 SPHS and 18 CATs and the remaining three option years with 18 Sets each (one each SPH and CAT) of PIM vehicles. The Full Rate Production (FRP) contract is planned as a FPIF contract that converts to a Firm Fixed Price (FFP) contract after the second year of FRP. The FRP contract provides for the remaining PIM vehicles to fulfill the requirement up to the Army Acquisition Objective of 580 sets.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>	PROJECT 516: <i>PALADIN/FAASV</i>
--	---	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PMO Support	MIPR	PM Paladin/ FAASV:Picatinny, NJ/TACOM	41.016	36.855	Dec 2011	16.890	Dec 2012	7.023	Dec 2013	-		7.023	8.959	110.743	Continuing
Subtotal			41.016	36.855		16.890		7.023		0.000		7.023	8.959	110.743	

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Training	SS/CPIF	BAE Systems:York, PA	0.000	-		6.428	Dec 2012	5.864	Dec 2013	-		5.864	Continuing	Continuing	Continuing
Data	SS/CPIF	BAE:York, PA	0.000	-		6.788	Dec 2012	3.053	Dec 2013	-		3.053	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	73.645	Feb 2012	122.395	Jun 2013	57.294	Jun 2014	-		57.294	Continuing	Continuing	Continuing
Subtotal			317.205	73.645		135.611		66.211		0.000		66.211			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Level Testing	Various	Various OGAs:Various	29.017	9.532	Dec 2011	15.296	Dec 2012	7.379	Dec 2013	-		7.379	69.744	130.968	Continuing
Subtotal			29.017	9.532		15.296		7.379		0.000		7.379	69.744	130.968	

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	387.238	120.032	167.797	80.613	0.000	80.613			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>			R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>			PROJECT 516: <i>PALADIN/FAASV</i>				
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604854A: <i>Artillery Systems - EMD</i>	PROJECT 516: <i>PALADIN/FAASV</i>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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			■																									
Milestone C							■																					
Low Rate Initial Production Contract																												
Low Rate Initial Production Deliveries																												
Full Up System Live Fire Test																												
IOTE																												
Full Rate Production Decision																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
Milestone C	3	2013	3	2013
Low Rate Initial Production Contract	3	2013	4	2018
Low Rate Initial Production Deliveries	2	2015	4	2018
Full Up System Live Fire Test	3	2015	4	2016
IOTE	4	2016	4	2016
Full Rate Production Decision	2	2017	2	2017

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	377.610	400.861	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>	-	377.610	400.861	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

The U.S. rendered a MEADS program decision in Feb 2011 to continue the Design and Development (D&D) phase focusing remaining activities to implement a "demonstration of capabilities" through 2013; no resources are budgeted to support these efforts after 2013. None of the funds authorized to be appropriated or otherwise made available for fiscal year 2013 for the Department of Defense may be obligated or expended for the Medium Extended Air Defense System (MEADS).

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 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

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>
--	--

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.

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.

US financial support completed with FY13 funds. None of the funds authorized to be appropriated or otherwise made available for fiscal year 2013 for the Department of Defense may be obligated or expended for the Medium Extended Air Defense System (MEADS).

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	389.630	400.861	0.000	-	0.000
Current President's Budget	377.610	400.861	0.000	-	0.000
Total Adjustments	-12.020	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-12.020	-	-	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>	-	377.610	400.861	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

The U.S. rendered a MEADS program decision in Feb 2011 to continue the Design and Development (D&D) phase focusing remaining activities to implement a "demonstration of capabilities" through 2013; no resources are budgeted to support these efforts after 2013. None of the funds authorized to be appropriated or otherwise made available for fiscal year 2013 for the Department of Defense may be obligated or expended for the Medium Extended Air Defense System (MEADS).

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 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

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

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. None of the funds authorized to be appropriated or otherwise made available for fiscal year 2013 for the Department of Defense may be obligated or expended for the Medium Extended Air Defense System (MEADS).

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 2012	FY 2013	FY 2014
<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 2012 Accomplishments: 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 design, build, test and evaluate the production representative MEADS Hardware.</p>	<p>328.480</p> <p>0</p>	<p>328.200</p> <p>0</p>	<p>0.000</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>25.536</p> <p>0</p>	<p>46.387</p> <p>0</p>	<p>0.000</p>

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<i>FY 2012 Accomplishments:</i> Continue to implement program integration efforts focusing on activities to implement a demonstration of capabilities effort.				
<i>FY 2013 Plans:</i> Continue to implement program integration efforts to support transition from PATRIOT to development and fielding of the US MEADS capability. Assessment of performance against US Threat. Identify gaps / shortfalls; development and management of US MEADS programs to address unique US requirements; MEADS-IBCS compatibility; development of a US MEADS testbed, US MEADS sensor performance upgrades; PAC-3 CRI compatibility; and US MEADS Production and Fielding efforts (required materiel release certifications, planning for US MEADS IOT&E, and required US logistics facilitization and training efforts).				
<i>Title:</i> National and International Program Office Support		12.808	14.749	0.000
		<i>Articles:</i> 0	0	
<i>Description:</i> Management, support and salaries for the MEADS National and International program offices.				
<i>FY 2012 Accomplishments:</i> 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.				
<i>FY 2013 Plans:</i> Continue management, support and salaries for the MEADS National and International program offices.				
<i>Title:</i> MEADS US Only Efforts		10.786	11.525	0.000
		<i>Articles:</i> 0	0	
<i>Description:</i> US only efforts to support Exciter and Exportable Missile Model				
<i>FY 2012 Accomplishments:</i> Continue support for the U.S.-developed and technology-restricted Exciter and Exportable Missile Model.				
<i>FY 2013 Plans:</i> Continue US Exciter support effort and Exportable Missile Model.				
Accomplishments/Planned Programs Subtotals		377.610	400.861	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined</i> <i>Aggregate Program (CAP)</i>	PROJECT M06: <i>PATRIOT/MEADS COMBINED</i> <i>AGGREGATE PROGRAM (CAP)</i>
--	--	--

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PE 0605456A: <i>Proj PA3, PAC-3/ MSE Missile</i>	86.139	69.029	68.843		68.843	129.627	63.506	65.179	65.734	Continuing	Continuing
• SSN C53101: <i>MSE Missile</i>	74.953	12.850	540.401		540.401	540.520	559.623	566.757	655.184	Continuing	Continuing
• PE 0102419A: <i>Proj E55, JLENS</i>	317.382	190.422	98.450		98.450	46.600	47.450	37.830	2.600	Continuing	Continuing
• PE 0605455A: <i>Proj S35 SLAMRAAM</i>	1.186									Continuing	Continuing
• PE 0604319A: <i>Proj DU3, IFPC2 (FY12 PE0603305A IFPCI II Intercept)</i>	8.834	76.039	79.232		79.232	107.587	146.463	151.769	159.700	Continuing	Continuing
• PE 0605457A: <i>PE 0605457A Proj S40, Army Integrated Air and Missile Defense (AIAMD)</i>	262.032	262.211	364.649		364.649	382.869	221.306	141.908	79.338	Continuing	Continuing
• SSN BZ5075: <i>Army IAMD Battle Command System (IBCS)</i>			21.200		21.200	100.700	315.370	482.640	446.130	Continuing	Continuing
• PE 0604820A: <i>Proj E10, SENTINEL</i>	3.093	3.486	1.549		1.549	5.264	5.911	6.307	6.053	Continuing	Continuing
• PE 654741: <i>Project Numbers 126, 146 and 149</i>	57.050	73.333	18.294		18.294	20.898	20.557	18.009	11.015	Continuing	Continuing

Remarks

PAC-3 / MEADS CAP RDTE funding was combined under PE0604869A beginning in FY 2006. This program is an integral part of the PEO, Missiles and Space Integrated Air and Missile Defense (IAMD) architecture. Beginning in FY 2011, PAC-3/MSE Missile was reported under PE 0605456A, Project PA3.

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 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

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>	M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
International Operating	Various	NAMEADSMA:Huntsville, AL	38.991	2.102	Dec 2011	9.000		-		-		-	0.000	50.093	0.000
Gov't Program Services/ Mgmt	Various	Lower Tier Project Office:Huntsville, AL	3.000	1.500	Dec 2011	1.500		-		-		-	0.000	6.000	0.000
Subtotal			41.991	3.602		10.500		0.000		0.000		0.000	0.000	56.093	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Design and Development	Various	NAMEADSMA:Huntsville, AL	1,544.000	328.480	Dec 2011	328.200		-		-		-	0.000	2,200.680	0.000
Program Integration	Various	Various:Huntsville, AL	143.890	13.361	Dec 2011	27.698		-		-		-	0.000	184.949	0.000
Product Development Support	Various	Program Office:Huntsville, AL	51.082	6.406	Dec 2011	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	Feb 2012	7.276		-		-		-	0.000	87.811	0.000
U. S. Other Government Agencies (OGA's)	Various	Various:Huntsville, AL	42.120	5.132	Dec 2011	5.972		-		-		-	0.000	53.224	0.000
International Program Office	Various	NAMEADSMA:Huntsville, AL	23.042	4.729	Feb 2012	5.500		-		-		-	0.000	33.271	0.000
Systems Engineering	Various	AMRDEC:Huntsville, AL	30.667	3.200	Dec 2011	3.600		-		-		-	0.000	37.467	0.000
U.S. Contracts	Various	Various:Huntsville, AL	61.947	5.200	Feb 2012	5.715		-		-		-	0.000	72.862	0.000
Subtotal			1,969.783	374.008		390.361		0.000		0.000		0.000	0.000	2,734.152	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army								DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined</i> <i>Aggregate Program (CAP)</i>				PROJECT M06: <i>PATRIOT/MEADS COMBINED</i> <i>AGGREGATE PROGRAM (CAP)</i>			
	All Prior Years	FY 2012		FY 2013		FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2,011.774	377.610		400.861		0.000	0.000	0.000	0.000	2,790.245	0.000

Remarks

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604870A: <i>Nuclear Arms Control Monitoring Sensor Network</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	7.160	7.922	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
SE1: <i>NACT SENSOR ENGINEERING</i>	-	7.160	7.922	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Program being moved from Army to OSD DTRA in FY14.

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).

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0604870A: <i>Nuclear Arms Control Monitoring Sensor Network</i>
--	--

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	7.391	7.922	7.806	-	7.806
Current President's Budget	7.160	7.922	0.000	-	0.000
Total Adjustments	-0.231	0.000	-7.806	-	-7.806
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-0.231	-	-7.806	-	-7.806

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
SE1: <i>NACT SENSOR ENGINEERING</i>	-	7.160	7.922	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 (OUSAT&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 2012	FY 2013	FY 2014
Title: Support OSD Treaty Manager	0.566	0.667	0.000
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: Planned / Supported joint U.S. / PTS technology conferences / exchanges (i.e. Workshop on Medical Isotope Production (WOSMIP) III, PTS / U.S. Technology Working Group 4th Annual Conference; PTS PKI / Command & Control experiment; U.S. / Great Britain technology / operations interchange meetings). Provided technical and operational support for the PTS/U.S.			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
sponsored monitoring technology developments, standard reliability and operations /maintenance profile conference. Prepared / Supported IMS technology DASD (TRAC) overview briefings in preparation for interagency meetings. 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 5th Annual Conference; U.S. / Great Britain technology / operations interchange meetings). WOSMIP focus is designed to better understand the processes involved with isotope production and to more capably account for backgrounds observed in International Monitoring Systems (IMS) stations. 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.				
Title: Prototype Sensor Development		1.365	1.500	0.000
		Articles: 0	0	
Description: Funding is provided for the following effort FY 2012 Accomplishments: Work continued on deploying the Transportable Xenon Laboratory (TXL) to foreign destinations 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 any remaining operational concerns with TXL and/or the installed SAUNA. The mobile noble gas labs have been deployed to Japan and Indonesia and are operational and delivering data to the customer. Continued to deploy next generation infrasound sensors for dynamic operational performance testing at the UTTR ordinance disposal site. Continued testing of deployed next generation sensors to the PTS Conrad Site for dynamic performance measurements against the CTBT performance and acceptance requirements. Initial in situ array calibration procedure tested at 5 IMS sites and at the PTS Conrad Observatory test facility. Ruggedized systems are under development. Diagnostic systems for sensor and wind filter are under development. First stage calibration chamber fabrication is complete; testing to begin. Analogue sensor technology transfer license has been issued. Independent testing is underway. FY 2013 Plans: Continue sensor and array calibration development efforts. Sensor stability and uniformity is required for optimal array performance. Techniques, facilities, and equipment to calibrate sensors and arrays under laboratory conditions and in the field are being developed. Higher-performance, more stable and uniform sensors are being developed. Continue station calibration & metrology planning. The array calibration will focus on in-situ array calibration systems and array performance measurements.				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
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.				
<p>Title: Radionuclide Particulate / Xenon Gas Sensor System Development</p> <p>Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments: Deployed and field tested the field portable Xenon gas system within the EU project for Global Xenon background characterization. Continued acceptance / operational performance testing and deployment of the next generation particulate system's detector / cryogenic cooler replacement system. Continued developing single-isotope Xenon calibration standards production methods (i.e. Xenon detection system calibration standards). Planned and developed 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.</p> <p>FY 2013 Plans: 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. Continue efforts to improve data quality and confidence in measurement data through development of high accuracy SAUNA gas calibration procedures and improvements to RASA filter splitting & handling.</p>		0.347 0	0.465 0	0.000
<p>Title: Information Management Systems Enhancements</p> <p>Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments: Continued 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. Reviewed and analyzed data collected from Sayarim experiments and test at the Utah Test and Training Range (UTTR). Information from these experiments will</p>		1.396 0	1.525 0	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>be evaluated by the models to improve and provide a fuller accounting of phenomenology. Developed Portable Infrasound Calibrator.</p> <p>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. Continue extensive testing and validation of propagation models.</p>				
<p>Title: Continue Research & Development support system</p> <p>Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments: Continued 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. Developed and tested RASA SIU for immediate commercialization and use. Continued 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: Aging of the original RASA components, along with uptime/sustainment challenges (e.g., cooler failures) indicates the necessity to upgrade subsystems in the RASA. Increasing manufacturer obsolescence of many components has created a challenge to operations. Complete RASA drawing package. Conduct RASA performance and design study. Based on those results, 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. Continue support for the sustainment of Fielded IMS Systems. Analyze alternate cooling options for RASA particulate systems, focus on development of system component upgrades, and maintain software updates/sustainment activities.</p>		0.896 0	0.950 0	0.000
<p>Title: Continue U.S. IMS Sensor Event Signal Identification Technique Development</p> <p>Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments:</p>		1.296 0	1.360 0	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012
				FY 2013
				FY 2014
<p>Work continued on deploying the Transportable Xenon Laboratory (TXL) to foreign destinations with specific focus on improvements in satellite data communication capabilities and ruggedizing the Swedish Automated Unit for Noble Gas Analysis (SAUNA) systems installation. The mobile noble gas labs have been deployed to Japan and Indonesia and are operational and delivering data to the customer. 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. The mobile noble gas labs deployed to Japan and Indonesia and are operational and will continue to deliver data to the customer. 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). Large numbers of spurious detections and high noise levels at IMS stations can make data unusable. Noise reduction technologies, both algorithmic and mechanical, are being developed. Algorithms for the reduction of false positives will be investigated. Metrics for data usability will be developed.</p>				
<p>Title: Continue "On-Location" Infrasound Event Calibration Research</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 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). Evaluated and tested U.S. developed infrasound array for possible future deployment.</p> <p>FY 2013 Plans: Continue Sayarim experiments and test at the Utah Test and Training Range (UTTR). Data will be collected and analyzed. Models will continue to be improved and provide a fuller accounting of phenomenology. Continue planning and developing the EDTC. The test beds will be utilized for research, testing and evaluations relevant to station shut downs; configuration changes;</p>				<p>0.497</p> <p>0</p>
				<p>0.605</p> <p>0</p>
				<p>0.000</p>

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
and invasive procedures. These test beds will allow for evaluation of R&D primary array developments of new technologies and their associated field testing.				
Title: Continue U.S. IMS Radionuclide Detection & Measurement Development		0.797	0.850	0.000
		Articles: 0	0	
Description: Funding is provided for the following effort				
FY 2012 Accomplishments: Continued advanced Xenon separation modeling and simulation methods development for next generation Xenon detection and monitoring systems (i.e. life cycle and obsolescence management planning). The mobile noble gas labs have been deployed to Japan and Indonesia and are operational and delivering data to the customer. Continued U.S. IMS Radionuclide Laboratory (RL-16), laboratory gas analysis system performance and validation testing for use as a secondary, laboratory-based radioxenon spectrometer. Continued evaluating detector performance.				
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. Current IMS operations of SAUNA radioxenon detection systems indicate the need for more robust and repeatable calibrations, ability to replace aging radiation detectors with more reliable, more flexible units, and a real-time state of health monitoring system to assist in improving data availability. Directed research will allow for timely and effective solutions to address these lessons learned and improve operational quality. Development of a robust, high precision method to calibrate the nuclear detectors effectively will be pursued. Task will develop the calibration methods to obtain the absolute calibration of the nuclear detector.				
Accomplishments/Planned Programs Subtotals		7.160	7.922	0.000
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
Not applicable for this item.				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SMDC Support	SS/CPFF	Various:Various	2.366	0.566		0.667		-		-		-	Continuing	Continuing	Continuing
Subtotal			2.366	0.566		0.667		0.000		0.000		0.000			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Product Development Program	SS/CPFF	UM, MS, PNNL, WA:Various	19.039	4.701		5.125		-		-		-	0.000	28.865	0.000
Subtotal			19.039	4.701		5.125		0.000		0.000		0.000	0.000	28.865	0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SMDC Support	SS/CPFF	SMDC:AL, DC	5.762	1.396		1.525		-		-		-	Continuing	Continuing	Continuing
Subtotal			5.762	1.396		1.525		0.000		0.000		0.000			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	SS/CPFF	Various:Various	2.102	0.497		0.605		-		-		-	Continuing	Continuing	Continuing
Subtotal			2.102	0.497		0.605		0.000		0.000		0.000			

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			29.269	7.160	7.922	0.000	0.000	0.000			

Remarks

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	35.714	51.463	68.814	-	68.814	69.166	63.497	40.558	35.814	Continuing	Continuing
099: <i>Army Human Resource System</i>	-	2.288	0.705	0.591	-	0.591	0.749	0.725	0.684	0.684	Continuing	Continuing
184: <i>Installation Support Modules</i>	-	0.407	2.096	1.734	-	1.734	2.251	2.210	2.054	2.091	Continuing	Continuing
193: <i>Medical Communications For Combat Casualty</i>	-	6.366	4.285	3.636	-	3.636	4.648	4.697	4.557	1.172	Continuing	Continuing
474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>	-	4.546	2.506	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
738: <i>AcqBiz</i>	-	9.254	14.837	12.368	-	12.368	7.463	6.630	8.003	7.070	Continuing	Continuing
M05: <i>Enterprise Army Workload & Performance Sys</i>	-	0.000	0.817	0.701	-	0.701	0.850	0.795	0.759	0.773	Continuing	Continuing
T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>	-	0.643	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
T05: <i>Army Business System Modernization Initiatives</i>	-	12.210	26.217	49.784	-	49.784	53.205	48.440	24.501	24.024	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Increase supports Army Contract Writing and Management System (ACWMS), the Army's strategy for a single enterprise-wide contract writing and management solution that will meet the Army current critical functional contract writing requirements and can expand to meet future functional needs. The Army goal is to streamline Acquisition, Technology and Logistics (AT&L) end-to-end business processes; reduce operating, maintenance and support costs; decrease, and where applicable, mitigate the number of existing and future interfaces; support financial auditability; and promote and improve efficiencies when integrating with existing Enterprise Resource Planning (ERPs) solutions. This is consistent with Undersecretary of Defense, Acquisition, Technology and Logistics Memorandum; Department of Defense (DoD) Functional Contract Writing and Administration, 21 October 2011 which directed that no new contracts were to be input into the DoD legacy Standard Procurement System (SPS) after 30 September 2015 and that all use of SPS would cease on 30 September 2017. Funds are to perform all requisite activities to concurrently develop pre-Milestone A/B documentation and perform pre-solicitation/source selection activities expected of a projected ACAT IAM program in order to meet the USD AT&L timelines.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>
--	--

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)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	32.065	51.463	48.172	-	48.172
Current President's Budget	35.714	51.463	68.814	-	68.814
Total Adjustments	3.649	0.000	20.642	-	20.642
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.669	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	20.642	-	20.642

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>				PROJECT 099: <i>Army Human Resource System</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
099: <i>Army Human Resource System</i>	-	2.288	0.705	0.591	-	0.591	0.749	0.725	0.684	0.684	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Army Human Resource System (AHRS) is the Army's system of systems that provides commanders the necessary personnel information to make informed decisions on mobilized military personnel resources (both Active Duty and Reserve Component). The implementation of AHRS requires the development of an authoritative Army Corporate database to support the eventual migration to Integrated Personnel and Payroll System-Army (IPPS-A). However, major elements of AHRS are not planned to be subsumed into IPPS-A. AHRS consists of three major components:

- Electronic Military Personnel Office (eMILPO) provides the U.S. Army with a reliable, timely, and efficient mechanism for performing Army personnel actions and managing strength accountability. The application provides visibility of the location, status, and skills of Soldiers both from a high level (tope of the system) and a unit level (bottom of the system). eMILPO delivers enhanced performance to the Soldier, providing superior data accuracy, and a more intuitive web-based approach resulting in increased productivity, quality, timeliness, security, and user satisfaction. It re-hosted the USC Title 10 functionality, formerly resident in the Standard Installation Division Personnel System-3 (SIDPERS) application, for migration to IPPS-A. Selected elements of eMILPO will need to be operated in parallel with IPPS-A until/unless IPPS-A is able to absorb all eMILPO 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 IPPS-A, the Army Legacy Systems, and external systems to create more streamlined systems in support of the military mission and personnel transformation goals.

FY14 funding procures GoArmy Ed. GoArmy Ed is an Army continuing Education System (ACES) program that provides the virtual gateway to request Tuition Assistance (TA) online, anytime for classroom, distance learning, and online college courses. GoArmy Ed is a dynamic online portal that automates many of the

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 099: <i>Army Human Resource System</i>
--	--	--

paper-based processes historically conducted in-person at Army Education Centers. GoArmyEd includes automated registration tools that enforce TA policies and procedures. GoArmyED is used by Soldiers to pursue their post secondary educational goals: Army Education Counselors to provide educational guidance; and Colleges to deliver degree and course offerings and to report Soldier progress.

Modernization initiatives address GoArmyEd functionality gaps by automating and improving business process functions to mitigate the integration of additional users and business rules from the Reserve Component. GoArmyEd is the Army's enterprise education solution. The integration of the Reserve Component exceeds the current capability of education counselors. Education benefits are paramount to recruiting and retention of quality Soldiers and Families.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Title: AHRS</p> <p style="text-align: right;">Articles:</p> <p>Description: Funding will support Post Deployment Software Support (PDSS)</p> <p>FY 2012 Accomplishments: Engineering Change Packages (ECPs)/System Change Packages (SCPs) Interim Change Packages (ICPs) in support of eMILPO and DTAS</p> <p>GoArmy Ed automated manual course enrollments and created a feature that allows for annual review vs. individual course enrollments.</p> <p>FY 2013 Plans: GoArmy Ed will add functionality, continue automation of manual business processes, integration of DA Civilians and a new Data Warehouse.</p> <p>FY 2014 Plans: GoArmy Ed will add functionality, continue automation of manual business processes, integration of DA Civilians and a new Data Warehouse.</p>	<p>2.288</p> <p>0</p>	<p>0.705</p> <p>0</p>	<p>0.591</p>
Accomplishments/Planned Programs Subtotals	2.288	0.705	0.591

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• STACOMP: STACOMP	83.765	110.158	115.736		115.736	154.492	141.811	132.431	96.344	Continuing	Continuing
• AHRS - ACES: AHRS - Army Continuing Education Systems	12.185									0.000	12.185

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 099: <i>Army Human Resource System</i>
--	--	--

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
------------------	----------------	----------------	-------------------------------	------------------------------	--------------------------------	----------------	----------------	----------------	----------------	-----------------------------------	-------------------

Remarks

D. Acquisition Strategy

GoArmy Ed - 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. GoArmy Ed contractual efforts are acquired on a firm fixed price basis on existing contractual vehicles.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 099: <i>Army Human Resource System</i>
--	--	--

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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

Go Army Ed Support/Enhancements	
---------------------------------	--

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 099: <i>Army Human Resource System</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Go Army Ed Support/Enhancements	1	2013	4	2017

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>				PROJECT 184: <i>Installation Support Modules</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
184: <i>Installation Support Modules</i>	-	0.407	2.096	1.734	-	1.734	2.251	2.210	2.054	2.091	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

INSTALLATION SUPPORT MODULES (ISM) consists of four standardized, web based, custom-developed enterprise wide applications that integrate essential installation business practices and processes throughout the Army, to meet Army Force Generation (ARFORGEN) Brigade Combat Team readiness and deployment requirements. Three modules support human resources business functions (In/Out-Processing, Transition Processing, and Personnel Locator); the fourth module, Central Issue Facility (CIF) supports management of over \$9.000 million combatant Organizational Clothing and Individual Equipment inventory. The web server architecture is fully internet protocol capable and allows soldiers ready access to their records and commanders and logisticians access to information affecting readiness of combat organizations.

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 wireless bar code equipment to ensure inventory accuracy throughout 154 warehouses in worldwide locations potentially reduces operating costs by \$500.000 million.

Funding for CWID will continue to facilitate Coalition Force interoperability research and development. Funding for ABHIDE will continue development of the system.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>		PROJECT 184: <i>Installation Support Modules</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Title: Independent Verification and Validation (IV&V) Testing</p> <p align="right">Articles:</p> <p>Description: Independent Verification and Validation (IV&V) Testing</p> <p>FY 2012 Accomplishments: Required Independent Verification and Validation (IV&V) Testing</p> <p>FY 2013 Plans: Required Independent Verification and Validation (IV&V) Testing.</p> <p>FY 2014 Plans: Required Independent Verification and Validation (IV&V) Testing.</p>		0.063 0	0.064 0	0.067
<p>Title: Post-Deployment Software Support (PDSS) - Engineering Change Packages (ECPs)/System Change Packages (SCPs)</p> <p align="right">Articles:</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 2012 Accomplishments: Planned: Continue with COTs extension of bar coding to meet DoD requirements for Individual Unit Identification (IUID) and tracking of OCIE in the CIF module to insure soldiers get the right equipment they need to execute their assigned mission as they progress through ARFORGEN cycles. IUID ensures the best stocks are issued to achieve an equipping balance based on CSA guidance to build enduring readiness while providing the soldier with the safest equipment possible. Specifically will expand Automated Identification Technology to the CIF application to comply with DoD IUID policy; continue to add self service functions to the CIF through Army Knowledge on Line; improve compliance with personal privacy safeguards to mask social security numbers and other personal information; add OCIE logistical data from National Guard systems and create a common data base to reduce duplicate ordering and increase utilization of existing stocks; improves asset visibility; and add automation of soldier test scoring when taking the Armed Forces Classification Test.</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>FY 2014 Plans:</p>		0.095 0	0.321 0	0.313

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>		PROJECT 184: <i>Installation Support Modules</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Planned: testing of commercial off the shelf software for best fit to improve the use of wireless bar code equipment in Central Issue Facility warehouses. Current total inventory is over \$9,000.000 million; estimated savings by reducing the possibility of excess purchases is \$500.000 million.				
Title: Coalition Warfighter Interoperability Demonstration (CWID) Description: Coalition Warfighter Interoperability Demonstration (CWID) FY 2012 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.		Articles: 0.091 0	0.000	0.000
Title: Army Behavioral Health Integrated Data Environment Description: Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. FY 2012 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 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		Articles: 0.158 0	1.711 0	1.354

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 184: <i>Installation Support Modules</i>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
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 2014 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	0.407	2.096	1.734

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• BE4162: <i>MACOM AUTOMATION SYSTEMS</i>	59.645	30.836	63.331		63.331	63.597	55.643	55.009	55.631	Continuing	Continuing

Remarks

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 184: <i>Installation Support Modules</i>
--	--	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Army Behavioral Health Integrated Data Environment	Various	TBD:TBD	1.588	0.158		1.711		1.354		-		1.354	Continuing	Continuing	0.000
Post-Deployment Software Support (PDSS)	C/TBD	various:various	5.146	0.095		0.321		0.313		-		0.313	Continuing	Continuing	Continuing
Coalition Warfighter Interoperability Demonstration (CWID)	C/TBD	various:various	0.000	0.091		-		-		-		-	0.000	0.091	0.000
Subtotal			6.734	0.344		2.032		1.667		0.000		1.667			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Independent Verification and Validation (IVV) Testing	C/T&M	GDIT Corp:various	1.984	0.063	Feb 2012	0.064		0.067		-		0.067	Continuing	Continuing	Continuing
Subtotal			1.984	0.063		0.064		0.067		0.000		0.067			

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8.718	0.407	2.096	1.734	0.000	1.734			

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>				PROJECT 193: <i>Medical Communications For Combat Casualty</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
193: <i>Medical Communications For Combat Casualty</i>	-	6.366	4.285	3.636	-	3.636	4.648	4.697	4.557	1.172	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 fulfills 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 interfaces Force Health Protection and medical surveillance information with Army Mission Command information technology systems. The MC4 System supports other soldier protection initiatives by providing data for analyses which can be used for identification and development of 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, integration, and fielding automation infrastructure for Army users of the Theater Medical Information Program-Joint (TMIP-J) suite of software. Effort has also been initiated to integrate MC4 with the Army CIO Network 2020 and Common Operating Environment (COE) and as a program of record in the Mobile/Handheld Computing Environment Working Group. Funding provides engineering, developmental testing, and integration of information management/information technology to support Force Health Protection in accordance with the Army Equipment Modernization Plan.

FY 2014 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, and other Army unique software capabilities
- All other testing to include operational, security, acceptance of TMIP and other software products
- Integration testing of all DHIMS/TMIP, any follow-on tactical electronic medical record, and other software systems on the MC4 baseline electronic medical record system
- Research of technologies to integrate software into Army future information infrastructure, such as exploration of virtualization for MC4
- Evaluation of hardware 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. telehealth
- 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. Nett Warrior and FBCB2

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 193: <i>Medical Communications For Combat Casualty</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Title: Engineering and Technical Support		1.561	0.716	0.601
		Articles: 0	0	
Description: Engineering and Technical Support for P3I and System Upgrades, Systems Integration, and Software Support.				
FY 2012 Accomplishments: Engineering and Technical Support for Planned Upgrades and System Updates, Systems Integration, and Software Support.				
FY 2013 Plans: Engineering and Technical Support for Planned Upgrades and System Updates, Systems Integration, and Software Support. Evaluation of virtualization and telehealth solutions to support Army current and future information infrastructure.				
FY 2014 Plans: Engineering and Technical Support for Planned Upgrades and System Updates, Systems Integration, and Software Support. Continued evaluation and development of virtualization, interface/integration with Common Operating Environment, and telehealth solutions to support Army current and future information infrastructure.				
Title: MC4 Information Assurance (IA) Testing		0.502	0.523	0.532
		Articles: 0	0	
Description: Ensures IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems.				
FY 2012 Accomplishments: Ensured IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems. Researched Data At Rest solutions for MC4 systems.				
FY 2013 Plans: Ensures IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems. Evaluation of fielded systems for compliance with configuration baseline as approved. Implement Data At Rest on MC4 systems to ensure system receives Authority to Operate. Conduct security testing in planned upgrade of MC4 system.				
FY 2014 Plans: Ensures continuing IA compliance through Army security testing and submission, accreditation, IAVA patches and interfaces with other systems. Conduct security testing in next planned upgrade of MC4 system.				
Title: PMO Testing Support		0.831	0.542	0.551
		Articles: 0	0	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>		PROJECT 193: <i>Medical Communications For Combat Casualty</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
<p>Description: Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies.</p> <p>FY 2012 Accomplishments: Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies. Security testing of MC4 system by Information Security Evaluation Command to renew Authority to Operate. Joint Interoperability Test Command provided test support to MC4 systems with interface to other systems.</p> <p>FY 2013 Plans: Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies. Planned upgrade will require Army Medical Department Board (testing), Army Test and Evaluation Command and Joint Interoperability Test Command to provide Operational Assessment and Multi-services Operational Test and Evaluation.</p> <p>FY 2014 Plans: Test augmentation to include DHIMS/TMIP-J and other Army unique software capabilities by outside agencies. Testing will include next planned upgrades.</p>				
<p>Title: MC4/TMIP Integration and Testing</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2012 Accomplishments: Supported development testing of DHIMS/TMIP-J Increment 2 Release 2; conducted lab site studies with technology and scenarios; performed integration testing of MC4 system update; tested and evaluated new capabilities for combat theater functionality.</p> <p>FY 2013 Plans: Integrate and test DHIMS/TMIP-J Increment 2 Release 2 on the MC4 baseline system; Lab site studies with technology and scenarios; test and evaluation of new capabilities for combat theater functionality to include virtualization and telehealth. Support development testing of DHIMS/TMIP-J Increment 2 Release 3.</p> <p>FY 2014 Plans: Integrate and test DHIMS/TMIP-J Increment 2 Release 3 on the MC4 baseline system; Lab site studies with technology and scenarios; test and evaluation of new capabilities for combat theater functionality.</p>		3.472 0	2.504 0	1.952
Accomplishments/Planned Programs Subtotals		6.366	4.285	3.636

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 193: <i>Medical Communications For Combat Casualty</i>

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• OPA SSN MA8046: <i>OPA</i>	32.675	22.899	22.867		22.867	23.734	24.123	24.540	12.527	Continuing	Continuing
• OMA PE 432612: <i>OMA</i>	8.945	2.406	8.500		8.500	7.436	3.495	3.554	3.550	Continuing	Continuing

Remarks

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, integrate, test, acquire and field the Army automation infrastructure capabilities supporting fielding of the Theater Medical Information Program-Joint (TMIP-J) 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 updates and Planned Upgrades. The MC4 Program continues to work with the user community to continually define and refine additional requirements and match them with available technologies to provide the user enhanced capabilities. These enhanced capabilities will be provided to the user at the earliest possible date. This approach yields the most operationally useful and supportable capability in the shortest time possible with Cost As an Independent Variable. Moreover, this approach provides an initial capability with the explicit intent of delivering improved and updated capability in subsequent updates and Planned Upgrades. 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 updates and Planned Upgrades will continue to undergo follow-on 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 193: <i>Medical Communications For Combat Casualty</i>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prog Mgmt Operations	Various	PMO:various	8.405	-		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			8.405	0.000		0.000		0.000		0.000		0.000			

Remarks
Funding (Prior Years) in Program Management Operations includes direct pay of PMO government employees, TDY, training, supplies, etc. in direct support of RDTE effort. At Milestone C, Program Management Operations efforts were moved to another appropriation.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering & Tech Spt/ Information Assurance (b)	Various	L3 (was Titan):various	6.088	2.063	Aug 2012	1.239	Jun 2013	-		-		-	Continuing	Continuing	Continuing
Engineering & Tech Spt/ Information Assurance (new contract)	Various	TBD:TBD	0.000	-		-		1.133	Mar 2014	-		1.133	Continuing	Continuing	0.000
Information Assurance	Various	ISEC Support:AZ	1.783	-		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			7.871	2.063		1.239		1.133		0.000		1.133			

Remarks
Information Assurance activities moved from ISEC to L3 in FY12; FY14 new competitive contract award planned

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PMO Testing Spt	MIPR	ATEC/AMEDD Board/JTIC:various	5.212	0.831	Dec 2011	0.542		0.551		-		0.551	Continuing	Continuing	Continuing
MC4/TMIP System Engineering	C/T&M	L3 Communications:Frederick MD	2.238	3.472	Aug 2012	2.504	Jun 2013	-		-		-	Continuing	Continuing	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 193: <i>Medical Communications For Combat Casualty</i>
--	--	--

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
MC4/TMIP System Engineering	Various	John Hopkins University (JHU) Applied Physics Lab:MD	32.124	-		-		-		-		-	Continuing	Continuing	Continuing
MC4/TMIP System Engineering (new contract)	Various	TBD:TBD	0.000	-		-		1.952	Mar 2014	-		1.952	Continuing	Continuing	0.000
Subtotal			39.574	4.303		3.046		2.503		0.000		2.503			

Remarks
FY14 new competitive contract award planned.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		55.850	6.366	4.285	3.636	0.000		3.636	

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 193: <i>Medical Communications For Combat Casualty</i>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
MC4 Development/Integration Testing for TMIP-J I2R2	██████████																											
MC4/TMIP-J I2R2 MOT&E					██████████																							
MC4/TMIP-J I2R2 FD Decision									████																			
MC4 Development/Integration Testing for TMIP-J I2R3													██████████															
MC4/TMIIP-J I2R3 MOT&E													██████████															
MC4/TMIP-J I2R3 FD Decision																	████											

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 193: <i>Medical Communications For Combat Casualty</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MC4 Development/Integration Testing for TMIP-J I2R2	2	2012	3	2013
MC4/TMIP-J I2R2 MOT&E	3	2013	1	2014
MC4/TMIP-J I2R2 FD Decision	1	2014	1	2014
MC4 Development/IntegrationTesting for TMIP-J I2R3	2	2014	2	2015
MC4/TMIIP-J I2R3 MOT&E	2	2015	4	2015
MC4/TMIP-J I2R3 FD Decision	1	2016	1	2016

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>	-	4.546	2.506	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 2012	FY 2013	FY 2014
Title: CAISI system testing, evaluation, and IAVM efforts	4.546	2.506	0.000
Articles:	0	0	
Description: Funding is provided for the following effort:			
FY 2012 Accomplishments: Test, evaluate, and support Information Assurance Vulnerability Management (IAVM) compliance and technical support requirements.			
FY 2013 Plans: Continue to conduct tests, evaluations, and support Information Assurance Vulnerability Management (IAVM) compliance and technical requirements.			
Accomplishments/Planned Programs Subtotals	4.546	2.506	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>
--	--	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPA, BD3512: <i>CAISI</i>	16.376	10.500								0.000	26.876
• OMA, 423612: <i>OMA, 423612</i>	3.424	5.620								0.000	9.044

Remarks

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>
--	--	---

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Research, modification/ integration and testing of CAISI 2.0.	MIPR	ISEC:Technical/ Integration Support	25.401	1.910	Dec 2011	0.800		-		-		-	Continuing	Continuing	Continuing
Subtotal			25.401	1.910		0.800		0.000		0.000		0.000			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Office Support	SS/FP	Springfield, VA:SETA Contractor Support	0.000	1.641	Dec 2011	0.906		-		-		-	1.814	4.361	0.000
Subtotal			0.000	1.641		0.906		0.000		0.000		0.000	1.814	4.361	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Research, modification/ integration and testing of CAISI 2.0.	MIPR	ISEC:Technical/ Integration Support	25.620	0.995	Dec 2011	0.800		-		-		-	Continuing	Continuing	Continuing
Subtotal			25.620	0.995		0.800		0.000		0.000		0.000			

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			51.021	4.546	2.506	0.000	0.000	0.000			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 474: <i>ENTERPRISE TRANSMISSION SYSTEMS</i>
--	--	---

FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
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 Software Licenses Integration and Testing	<div style="background-color: black; width: 100%; height: 15px;"></div>
---	---

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 Software Licenses Integration and Testing	3	2012	4	2013

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 738: <i>AcqBiz</i>
--	--	--------------------------------------

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
738: <i>AcqBiz</i>	-	9.254	14.837	12.368	-	12.368	7.463	6.630	8.003	7.070	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 2012	FY 2013	FY 2014
Title: Design, Development, and Test	8.140	12.760	10.636
Articles:	0	0	
Description: This effort supports the ultimate integration of the AcqBusiness Portfolio			
FY 2012 Accomplishments: Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio.			
FY 2013 Plans: Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio.			
FY 2014 Plans: Analysis and Design, Development, Test and Integration of AcqBusiness Portfolio.			
Title: Program Management	1.114	2.077	1.732
Articles:	0	0	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 738: <i>AcqBiz</i>
--	--	--------------------------------------

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: This effort provides program management in support of the AcqBusiness Portfolio.			
FY 2012 Accomplishments: Program Management			
FY 2013 Plans: Program Management			
FY 2014 Plans: Program Management			
Accomplishments/Planned Programs Subtotals	9.254	14.837	12.368

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OMA: OMA APE	11.238	11.871	12.062		12.062	12.281	13.036	12.112		Continuing	Continuing

Remarks

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 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

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	PE 0605013A: <i>Information Technology Development</i>	738: <i>AcqBiz</i>

process; (4) employing outsourcing wherever possible; and (5) acquiring the AcqBusiness capabilities in interoperable modules, leveraging the evolutionary acquisition approach.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT 738: <i>AcqBiz</i>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	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 Six IOC			■																													
Increment Seven IOC							■																									
Major or Minor Release FY13												■																				
Major or Minor Release FY14																■																
Major or Minor Release FY15																																
Major or Minor Release FY16																																
Major or Minor Release FY17																																
Major or Minor Release FY18																																

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 Six IOC	3	2012	3	2012
Increment Seven IOC	1	2013	1	2013
Major or Minor Release FY13	4	2013	4	2013
Major or Minor Release FY14	4	2014	4	2014
Major or Minor Release FY15	4	2015	4	2015
Major or Minor Release FY16	4	2016	4	2016
Major or Minor Release FY17	4	2017	4	2017
Major or Minor Release FY18	4	2018	4	2018

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT M05: <i>Enterprise Army Workload & Performance Sys</i>
--	--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
M05: <i>Enterprise Army Workload & Performance Sys</i>	-	0.000	0.817	0.701	-	0.701	0.850	0.795	0.759	0.773	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 deployed the remaining waves, 7-8, which encompass the remainder of the Active Army, Army Reserves, Army National Guard and select defense agencies. The Information Technology Development Project M05 provides GFEBs the ability to develop and build reports to meet auditability mandates and to accomplish efforts which enhance the GFEBs system with new reports and interfaces requiring technology development. It provides RDT&E funding to support evolutionary delivery of emerging capabilities. Although the GFEBs baseline increment has received a full deployment decision, with the increase in users, new requirements emerge which were not necessarily included in the original scope but may provide a significant enhancement to the system, improve processes or may optimize a sub-element.

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

	FY 2012	FY 2013	FY 2014
Title: System Development	0.000	0.817	0.701
Articles:		0	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT M05: <i>Enterprise Army Workload & Performance Sys</i>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Description: Software and architecture development			
FY 2013 Plans: Product development			
FY 2014 Plans: Software and architecture development			
Accomplishments/Planned Programs Subtotals	0.000	0.817	0.701

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

N/A

Remarks

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT M05: <i>Enterprise Army Workload & Performance Sys</i>
--	--	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Development	TBD	Software and architecture development:TBD	0.000	-		-		0.701		-		0.701	0.000	0.701	0.000
Subtotal			0.000	0.000		0.000		0.701		0.000		0.701	0.000	0.701	0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TBD	Various	TBD:TBD	0.000	-		0.817		-		-		-	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.817		0.000		0.000		0.000			

Cost Category Item	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		0.000	0.000	0.817	0.701	0.000			

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>
--	--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>	-	0.643	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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.

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

	FY 2012	FY 2013	FY 2014
Title: Project Support	0.643	0.000	0.000
Articles:	0		
Description: Funding will support the following effort			
FY 2012 Accomplishments: The Virtual Interactive Processing System (VIPS) will modernize and automate the Information Technology (IT) capabilities			
Accomplishments/Planned Programs Subtotals	0.643	0.000	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
Remarks Funding for Procurement, Operations, Maintenance, and most of Research Development Test and Evaluation for VIPS moved in FY10-13 to DoD Business Transformation Agency.		
D. Acquisition Strategy 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.		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor PM Support	Various	TBD:TBD	2.400	-		-		-		-		-	Continuing	Continuing	2.400
Subtotal			2.400	0.000		0.000		0.000		0.000		0.000			2.400

Remarks
 Funding for Management Services for VIPS moved in FY10-13 to DoD Business Transformation Agency.

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Research and Prototype	Various	Gartner, Virginia:TBD	0.145	-		-		-		-		-	0.000	0.000	0.145
Research and Prototype	Various	CNI, Illinois:TBD	0.699	-		-		-		-		-	Continuing	Continuing	0.699
Small Business Innovative Rearch /Small Busiiness Technology Transfer Program	Various	TBD:TBD	0.443	-		-		-		-		-	Continuing	Continuing	0.443
Subtotal			1.287	0.000		0.000		0.000		0.000		0.000			1.287

Remarks
 Continued development FY13 and out moved to DoD BTA; funds not shown here.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Transformation Support	Various	TBD:TBD	2.322	0.643		-		-		-		-	Continuing	Continuing	1.350
Program Transformation Support	Various	Bearing Point, Illinois:TBD	0.560	-		-		-		-		-	Continuing	Continuing	0.560
Subtotal			2.882	0.643		0.000		0.000		0.000		0.000			1.910

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T04: <i>USMEPCOM TRANSFORMTION - IT MODERNIZATION</i>
--	--	---

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
 This RDT&E will be used by USMEPCOM for continued project transformation support of VIPS.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Test and Evaluation	Various	JTIC, MD:TBD	0.163	-		-		-		-		-	0.000	0.000	0.163
Subtotal			0.163	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.163

Remarks
 Funding for Test and Evaluation for VIPS moved in FY10-13 to DoD Business Transformation Agency.

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		6.732	0.643	0.000	0.000	0.000		0.000	5.760

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
T05: <i>Army Business System Modernization Initiatives</i>	-	12.210	26.217	49.784	-	49.784	53.205	48.440	24.501	24.024	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 due to the planned release of DIMHRS. Systems that will be targeted by HRC to prepare for IPPS-A subsumption or upgrade are the Automated Orders and Resources System (AORS), Army Selection Board System (ASBS), Data Base Administration Suite of System (DBA), Enlisted Distribution and Assignment System (EDAS), Enlisted Promotion Model (EPM), Enterprise Service Bus (ESB), Human Resource Command User Registration System (HURS), Integrated Total Army Personnel Database (ITAPDB), Officer Selection Support System (OSSS), Reserve Statistics Accounting System/Reserve Component Common Personnel Data System (RSAS/RCCPDS), Senior Enlisted Promotions Model (SEPM), Single Evaluation Processing System (SEPS), Soldier Management System Webified Suite of System (SMSWEB), Total Army Personnel Data Base - Active Enlisted (TAPDB-AE), Total Army Personnel Data Base - Active Officer (TAPDB-AO), Total Army Personnel Data Base - Active Reserve (TAPDB-AR), Total Officer Personnel Management Information System (TOPMIS), Total Officer Personnel Management Information System II (TOPMIS II), Keystone Request/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. It includes a new effort in FY14, the Army Contract Writing System, a replacement for the DoD Standard Procurement System (SPS).

Army Contract Writing System is the Army's strategy for a single enterprise-wide contract writing and management solution that will meet the Army's current critical functional contract writing requirements and expand to meet future functional needs. The Army's goal is to streamline Acquisition, Technology and Logistics (AT&L)

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T05: <i>Army Business System Modernization Initiatives</i>
<p>end-to-end business processes; reduce operating, maintenance and support costs; decrease, and where applicable, mitigate the number and complexity of existing and future interfaces; support financial auditability; as well as promote and improve efficiencies when integrating with existing Enterprise Resource Planning (ERP) solutions. This is consistent with Under Secretary of Defense, Acquisition, Technology and Logistics Memorandum; Department of Defense (DoD) Functional Contract Writing and Administration dated 21 October 2011, which directed that no new contracts were to be input into the DoD legacy Standard Procurement System (SPS) after 30 September 2015 and that all use of SPS would cease on 30 September 2017. Funds are to perform all requisite activities to concurrently develop pre-Milestone A/B documentation and perform pre-solicitations/source selection activities expected of a projected ACAT IAM program in order to meet the USD AT&L timeline.</p> <p>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.</p> <p>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 system will be known as the Army Law Enforcement Reporting and Tracking System (ALERTS) and 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.</p> <p>The Laboratory Information Management System (LIMS) is a web-based software system used at the Defense Forensics Science Center (DFSC), formerly known as 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 DFSC requires RDT&E funding to complete the configuration, installation and validation of additional LIMS modules in support of forensics (to include the Materials Management, Equipment Management, Proficiency Testing, Training and Crime Scene support); and, to support the development, configuration and implementation of an Expeditionary Forensics Laboratory Information 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.</p> <p>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 DFSC 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.</p>		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
---	----------------	----------------	----------------

Title: Army Business System Modernization Initiatives	12.210	26.217	26.550
Articles:	0	0	

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.

FY 2012 Accomplishments:
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 (CIDC). Army Human Resources Command will update and add new capabilities to several IT systems currently in sustainment, which includes the Army Selection Board system, the Officer Selection Support system, the Promotion Point Worksheet, and the Go Army Education system.

FY 2013 Plans:

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>Army Human Resources Command will update and add new capabilities to several IT systems currently in sustainment and prepare systems for subsumption by the Integrated Personnel and Pay system (IPPS-A) and disconnect and upgrade those systems not being subsumed by IPPS-A.</p> <p>FY 2014 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 develop the Army Contract Writing 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.</p>			
<p>Title: Army Contract Writing System (ACWS)</p> <p>Description: ACWS is the Army strategy for a single enterprise-wide contract writing and management solution that will meet the Army's current critical functional contract writing requirement and can expand to meet future functional needs. The Army's goal is to streamline Acquisition, Technology and Logistics (AL&T) end-to-end business processes; reduce operating, maintenance and support costs; decrease, and where applicable, mitigate the number of existing and future interfaces.</p> <p>FY 2014 Plans: FY14 funds will be used to award a systems integrator contract and begin engineering/development.</p>	0.000	0.000	23.234
Accomplishments/Planned Programs Subtotals	12.210	26.217	49.784

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

N/A

Remarks

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 Soldier Management System (SMS), the Army Strategic Readiness Update (ASRU), Law Enforcement Advisory Program (LEAP), the Laboratory Information Management System (LIMS), Program Planning Budget Execution (PPBE) - Business Operating System (BOS), Automated Orders and Resources System (AORS), Army Selection Board System (ASBS), Data Base Administration Suite of System (DBA), Enlisted Distribution and Assignment system (EDAS), Enlisted Promotion Model (EPM), Enterprise Service Bus (ESB), Human Resource Command User Registration System (HURS), Integrated Total Army Personnel Database (ITAPDB), Officer Selection Support System (OSSS), Reserve Statistics Accounting System/Reserve Component Common Personnel Data System (RSAS/RCCPDS), Senior Enlisted Promotions Model (SEPM), Single Evaluation Processing System (SEPS), Soldier Management System Webified Suite of System (SMSWEB), Total Army Personnel Data Base - Active Enlisted (TAPDB-AE), Total Army Personnel Data Base - Active Officer (TAPDB-AO), Total Army Personnel Data Base -Active Reserve (TAPDB-AR), Total Officer Personnel Management Information System (TOPMIS), Total Officer

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T05: <i>Army Business System Modernization Initiatives</i>
<p>Personnel Management Information System II (TOPMIS II), KEYSTONE Retain System, Army Contract Writing System (ACWS), Army Mapper, and the Interactive Personnel Electronic Records Management System (iPERMS).</p> <p>ACWS strategy is to perform all requisite activities to concurrently develop pre-milestone A/B documentation and perform pre-solicitation/source selection activities expected of a projected ACAT IAM program in order to meet the USD AT&L timelines for building a contract writing system to replace legacy contract systems to include the Standard Procurement System (SPS).</p> <p>E. Performance Metrics</p> <p>Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.</p>		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>	PROJECT T05: <i>Army Business System Modernization Initiatives</i>
--	--	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PRODUCT DEVELOPMENT FOR KEYSTONE RETAIN SYSTEM, i-PERMS PRODUCT DEVELOPMENT	MIPR	M&RA/G-1:ARLINGTON, VA	3.154	3.417	May 2012	13.978		-		-		-	Continuing	Continuing	Continuing
PPBOS PRODUCT DEVELOPMENT	MIPR	OAA:FORT BELVOIR, VA	1.930	1.930	Dec 2011	1.820		41.736	Nov 2014	-		41.736	Continuing	Continuing	Continuing
Subtotal			5.084	5.347		15.798		41.736		0.000		41.736			

Remarks
 FY14 includes an increase (included in the PPBOS Product Development line) for development of the Army Contract Writing Management System (\$30 Million in FY14). The Under Secretary of Defense, Acquisition, Technology and Logistics directed that the Standard Procurement System (SPS) be decommissioned by FY17, with no new contracts being written by the SPS software effective FY15. ACWMS will replace SPS. In order for the Army to meet appropriate legislative mandates, the new capability will provide improved functionality in general contract writing and contract administration while seamlessly operating in the NIPR, SIPR, CONUS, OCONUS, and in low/no bandwidth environments. In addition, the replacement capability will produce data that is trackable and auditable by the Army designated finance account system(s) and will be in compliance with the Secretary of Defense's mandate for implementing internal controls to facilitate full financial audit readiness and accountability.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
IPPS-A SUPPORT COSTS	MIPR	HRC:FORT KNOX, KY	0.752	6.863	Aug 2012	7.742		-		-		-	Continuing	Continuing	25.119
HRC SYSTEMS KEYSTONE, IPERMS	MIPR	HRC:FORT KNOX, KY	0.000	-		-		5.683	Aug 2014	-		5.683	Continuing	Continuing	0.000
ARMY MAPPER	C/TBD	TBD:TBD	0.000	-		-		2.365		-		2.365	0.000	2.365	0.000
Law Enforcement Advisory Program(LEAP)	MIPR	ACC/NCR:Quantico, VA	0.000	-		2.677		-		-		-	Continuing	Continuing	0.000
Subtotal			0.752	6.863		10.419		8.048		0.000		8.048			25.119

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605013A: <i>Information Technology Development</i>			PROJECT T05: <i>Army Business System Modernization Initiatives</i>			
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals	5.836	12.210	26.217	49.784	0.000	49.784				

Remarks

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	66.612	158.646	137.290	-	137.290	147.273	140.994	120.171	120.102	Continuing	Continuing
HR5: <i>Integrated Personnel And Pay System-Army</i>	-	66.612	158.646	137.290	-	137.290	147.273	140.994	120.171	120.102	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Explanation of funding changes between the FY 2013 President's Budget Position and the FY 2014 President's Budget Position.

FY 2014 RDT&E: \$7.335million decrease (-5%)

The funds decrease is due the across the board decrement.

A. Mission Description and Budget Item Justification

The 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. IPPS-A will subsume approximately 53 Army legacy systems across the Army, Army Reserve, and National Guard, into an integrated system. 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. 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. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	68.628	158.646	144.625	-	144.625
Current President's Budget	66.612	158.646	137.290	-	137.290
Total Adjustments	-2.016	0.000	-7.335	-	-7.335
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.016	-			
• Adjustments to Budget Years	-	-	-7.335	-	-7.335

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
HR5: <i>Integrated Personnel And Pay System-Army</i>	-	66.612	158.646	137.290	-	137.290	147.273	140.994	120.171	120.102	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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.

The FY2013 funding is not accounted for the \$62.1 million SAC-D mark.

A. Mission Description and Budget Item Justification

The 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. IPPS-A will subsume approximately 53 Army legacy systems across the Army, Army Reserve, and National Guard, into an integrated system. 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. 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 2012	FY 2013	FY 2014
Title: Analysis and Design, Development, and Integration of IPPS-A	66.612	158.646	137.290
Articles:	0	0	
Description: Funding is provided for the following efforts:			
FY 2012 Accomplishments:			
FY12 Accomplishments include the following: (1) finalized the Materiel Development Decision (MDD) documentation requirements with approval of the Increment I Army Cost Position and the Increment I Acquisition Program Baseline. (2) Awarded Increment I System Integrator contract to begin the Design, Development and Integration and build-out of the Production environment and data centers. (3) Completed Increment I Allocated Baseline. (4) Developed the required acquisition documentation to support an Increment I Milestone C Decision in accordance with DoD 5000 requirements and an Increment II Milestone B decision in accordance with Business Capability Lifecycle (BCL) requirements. (5) Developed Increment II System Integrator solicitation			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>package to include the Performance Work Statement, Section L & M, and Independent Government Cost Estimate for award in FY14.</p> <p>FY 2013 Plans: IPPS-A will complete critical activities for an Increment I Milestone C Decision and an Increment II Milestone B decision in FY13. Activities include: (1) Build-out of the Production environment and data centers. (2) Deployment and sustainment of Increment I. (3) Develop acquisition documentation for Increment II Milestone B and award of Increment II System Integrator contract. (4) Prepare for Milestone B Decision granting authority to begin Increment II development. (5) Finalize Increment II System Integrator solicitation package and complete all source selection activities for award in FY14.</p> <p>FY 2014 Plans: IPPS-A will complete critical activities associated with Design, Development and Integration efforts for Increment II, Release 2.0. Major activities will include finalization of the required acquisition documentation and completion of critical activities associated with Capability Acceptance Testing (CAT) for Increment II Release 2.0 in FY14; 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. IPPS-A will also initiate critical activities to support an Authority to Proceed Decision for Increment II Release 3.0 in FY14.</p>			
Accomplishments/Planned Programs Subtotals	66.612	158.646	137.290

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Sustainment and Support: <i>OMA - Army Integrated Personnel and Pay System - Army (IPPS-A)</i>			11.346		11.346	25.540	26.060	27.180	27.180	Continuing	Continuing
• System Implementation/Fielding: <i>OPA - Army Integrated Personnel and Pay System - Army (IPPS-A)</i>		1.056	22.589		22.589	9.599	13.190	8.700	8.700	Continuing	Continuing

Remarks
0308610A (OMA): Funding will be used for the operations and maintenance support of IPPS-A which includes civilian salaries, program office contractor support, travel and training for program office personnel, software license renewal, and Help Desk support.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	--	--

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
0219900A (OPA): Funding will be used for initial system implementation and fielding of IPPS-A, to include New Equipment Training (NET) as well as Hardware lifecycle refresh.											

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 Q4 FY2013.

Increment II will deliver total integrated personnel and pay capabilities across four releases: SIDPERS Functionality in FY2015 (Release 2.0), Accountability and Essential Personnel Services in FY2016 (Release 3.0), Pay Services in FY2017 (Release 4.0), and remaining Personnel Services in FY2017 (Release 5.0). The Army

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	PE 0605018A: <i>Army Integ Military Human Resources Sys (A-IMRS)</i>	HR5: <i>Integrated Personnel And Pay System-Army</i>

is on-track to obtain Increment II MS B in Q4 FY2013. The Army will begin the Design, Development and Integration efforts for Increment II, Release 2.0 and plans to obtain Authority to Proceed for Release 3.0 in FY2014.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Contract Support	C/T&M	Booz Allen Hamilton INC.:Mclean, VA	2.669	2.780	May 2012	2.891	Jul 2013	2.327	Jul 2014	-		2.327	Continuing	Continuing	Continuing
Independent Verification and Validation (IV&V)	C/T&M	Capgemini Government Solutions LLC:Herndon, VA	1.962	0.672	Dec 2011	3.340	Aug 2013	2.448	Aug 2014	-		2.448	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		5.088		-		5.088	Continuing	Continuing	Continuing
Subtotal			8.380	7.276		11.219		9.863		0.000		9.863			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software Licenses - All Others	SS/FP	Various:Various	3.417	6.320	Dec 2011	13.927		3.719		-		3.719	Continuing	Continuing	Continuing
Software Licenses - IBM	SS/FFP	Immixtechnology, INC.:Mclean, VA	3.396	1.948	May 2012	2.263	Mar 2012	1.610	Mar 2014	-		1.610	Continuing	Continuing	Continuing
Software Licenses - GRC	C/FFP	Mythics:Virginia Beach, VA	4.296	0.773	May 2012	0.822	May 2013	0.836	May 2014	-		0.836	Continuing	Continuing	Continuing
Software Licenses - PeopleSoft Enterprise Licenses	SS/FFP	Oracle America, INC:Reston, VA	2.327	2.327	Dec 2011	2.327	Dec 2012	2.327	Dec 2013	-		2.327	Continuing	Continuing	Continuing
Software Licenses - CA	SS/FFP	ImmixTechnology:McLean, VA	1.193	0.800	Aug 2012	0.810	Aug 2013	0.816	Aug 2014	-		0.816	Continuing	Continuing	Continuing
Software Licenses - Actuate eReport/BIRT	SS/FFP	Actuate Corp:San Mateo, CA	0.000	1.200	Feb 2012	0.423	Aug 2013	0.465	Aug 2014	-		0.465	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	--	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Oracle Consulting Service	TBD	TBD:TBD	0.000	-		3.000	Aug 2013	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	May 2012	17.330	Jul 2013	15.000	Jul 2014	-		15.000	Continuing	Continuing	Continuing
In-house contract support of system development - Army National Guard/Army Reserve	MIPR	Various:Various	2.614	3.460		10.300		6.500		-		6.500	Continuing	Continuing	Continuing
Design, Development, and Integration - Increment I	C/CPIF	TBD:TBD	0.000	13.415	Feb 2012	3.500		-		-		-	0.000	16.915	27.849
Design, Development, and Integration of Increment II	C/CPIF	TBD:TBD	0.000	-		72.918	Sep 2013	68.000	Aug 2014	-		68.000	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	13.344	Dec 2011	15.667		19.174		-		19.174	Continuing	Continuing	Continuing
Subtotal			47.048	55.266		143.287		121.447		0.000		121.447			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Facilities/Lease/Rents	MIPR	Facilities/Lease/Rents:Various	2.720	2.030		2.060		3.000		-		3.000	Continuing	Continuing	Continuing
Equipment and Supplies, MISC	Various	Various:Various	0.200	0.200		0.200		0.400		-		0.400	Continuing	Continuing	Continuing
Subtotal			2.920	2.230		2.260		3.400		0.000		3.400			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	--	--

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total		Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost
Increment I - Government Acceptance Testing/ Operational Test and Evaluation	MIPR	Various Government Agencies:Various	0.000	0.780		1.330		-		-		-		Continuing	Continuing	Continuing
Increment I - Capability Acceptance Testing (CAT)	C/T&M	Booz Allen Hamilton INC:Mclean, VA	0.000	1.060	May 2012	0.550		-		-		-		Continuing	Continuing	Continuing
Increment II - Government Acceptance Testing/ Operational Test and Evaluation	MIPR	Various Government Agencies:Various	0.000	-		-		1.030		-		1.030		0.000	1.030	0.000
Increment II - Capability Acceptance Testing (CAT)/ DT	C/T&M	Booz Allen Hamilton INC:Mclean, VA	0.000	-		-		1.550	Jul 2014	-		1.550		0.000	1.550	0.000
Subtotal			0.000	1.840		1.880		2.580		0.000		2.580				
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total		Cost To Complete	Total Cost	Target Value of Contract
			Project Cost Totals	58.348	66.612		158.646		137.290		0.000		137.290			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	--	--

FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
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 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 - SIDPERS Functionality	██
Proceed to OT Decision - Release 2.0	██
Milestone for Deployment - Release 2.0	██
Increment II, Release 3.0 - Accountability and Essential Personnel Services	██
Authority to Proceed (ATP) - Release 3.0	██
Proceed to OT Decision - Release 3.0	██
Milestone for Deployment - Release 3.0	██
Increment II, Release 4.0 - Pay Service	██
Authority to Proceed (ATP) - Release 4.0	██
Milestone C - Release 4.0	██
Full Deployment Decision - Release 4.0	██
Audit Readiness	██
Increment II, Release 5.0 - Personnel Service	██
Authority to Proceed (ATP) - Release 5.0	██
Proceed to OT Decision - Release 5.0	██
Milestone for Deployment - Release 5.0	██

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Increment I, Release 1.0 - Trusted Database and Reports	2	2012	1	2014
Design, Development, and Integration	2	2012	3	2013
GAT/OT&E	3	2013	3	2013
Milestone C - Release 1.0	4	2013	4	2013
Full Deployment Decision (FDD) - Increment I	1	2014	1	2014
Milestone B (MS B) - Increment II	4	2013	4	2013
Increment II, Release 2.0 - SIDPERS Functionality	4	2013	3	2015
Proceed to OT Decision - Release 2.0	2	2015	2	2015
Milestone for Deployment - Release 2.0	3	2015	3	2015
Increment II, Release 3.0 - Accountability and Essential Personnel Services	3	2014	3	2016
Authority to Proceed (ATP) - Release 3.0	3	2014	3	2014
Proceed to OT Decision - Release 3.0	2	2016	2	2016
Milestone for Deployment - Release 3.0	3	2016	3	2016
Increment II, Release 4.0 - Pay Service	1	2015	1	2017
Authority to Proceed (ATP) - Release 4.0	1	2015	1	2015
Milestone C - Release 4.0	4	2016	4	2016
Full Deployment Decision - Release 4.0	1	2017	1	2017
Audit Readiness	1	2017	1	2017
Increment II, Release 5.0 - Personnel Service	1	2016	4	2017
Authority to Proceed (ATP) - Release 5.0	1	2016	1	2016
Proceed to OT Decision - Release 5.0	3	2017	3	2017
Milestone for Deployment - Release 5.0	4	2017	4	2017

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605028A: <i>Armored Multi-Purpose Vehicle (AMPV)</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	116.298	-	116.298	172.012	70.822	48.556	0.000	Continuing	Continuing
EB5: <i>Armored Multi-Purpose Vehicle (AMPV)</i>	-	0.000	0.000	116.298	-	116.298	172.012	70.822	48.556	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

The Armored Multi Purpose Vehicle Program is submitted under a new Program Element for the FY 2014 President's Budget. The previous program element was 0203735A, Project DS5, Combat Vehicle Improvement Program. The new program element is 0605028A, Project EB5, Armored Multi Purpose Vehicle (AMPV).

A. Mission Description and Budget Item Justification

The Armored Multi-Purpose Vehicle (AMPV) is a materiel solution to support the Armored Brigade Combat Team (ABCT) across the Spectrum of Conflict by replacing five mission roles currently performed by the M113 Family of Vehicles (FOV) and integrating the current M113 FOV Mission Equipment Package (MEP) to a modified existing vehicle platform.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	116.298	-	116.298
Total Adjustments	0.000	0.000	116.298	-	116.298
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	116.298	-	116.298

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605028A: <i>Armored Multi-Purpose Vehicle (AMPV)</i>	PROJECT EB5: <i>Armored Multi-Purpose Vehicle (AMPV)</i>
--	--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
EB5: <i>Armored Multi-Purpose Vehicle (AMPV)</i>	-	0.000	0.000	116.298	-	116.298	172.012	70.822	48.556	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

The previous program element was 0203735A, Project DS5, Combat Vehicle Improvement Program. The new program element is 0605028A, Project EB5, Armored Multi Purpose Vehicle (AMPV).

A. Mission Description and Budget Item Justification

The Armored Multi-Purpose Vehicle (AMPV) is a materiel solution to support the Armored Brigade Combat Team (ABCT) across the Spectrum of Conflict by replacing five mission roles currently performed by the M113 Family of Vehicles (FOV) and integrating the current M113 FOV Mission Equipment Package (MEP) to a modified existing vehicle platform.

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

	FY 2012	FY 2013	FY 2014
Title: Armored Multi-Purpose Vehicle (AMPV)	0.000	0.000	116.298
Description: The Armored Multi-Purpose Vehicle (AMPV) is a materiel solution to support the Armored Brigade Combat Team (ABCT) across the Spectrum of Conflict by replacing five mission roles currently performed by the M113 Family of Vehicles (FOV) and integrating the current M113 FOV Mission Equipment Package (MEP) to a modified existing vehicle platform.			
FY 2014 Plans: Fund Engineering and Manufacturing Development (EMD) contract award for one contractor to integrate the MEP and technologies currently in development under other existing Army programs and produce prototypes for use in Pre-Production Testing, Limited User Testing and Live Fire Testing. PM AMPV will conduct a Preliminary Design Review. PM AMPV will also continue to develop and staff Milestone Documentation.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	116.298

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605028A: <i>Armored Multi-Purpose Vehicle (AMPV)</i>	PROJECT EB5: <i>Armored Multi-Purpose Vehicle (AMPV)</i>
--	--	--

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Armored Multi Purpose Vehicle(AMPV): <i>Armored Multi Purpose Vehicle(AMPV) G80819</i>									351.400	10,425.900	10,777.300

Remarks

D. Acquisition Strategy

The Army will award an EMD contract with Low Rate Initial Production (LRIP) options for mission equipment package integration, vehicle production and contractor test support on a competitive basis using a performance specification. A formal Source Selection Evaluation Board (SSEB) will evaluate the EMD/LRIP proposals and recommend the best value solution to the Source Selection Authority (SSA). One (1) EMD contract will be awarded. The focus of this competition during EMD/LRIP is to control cost and drive down Average Unit Manufactured Cost (AUMC).

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605028A: <i>Armored Multi-Purpose Vehicle (AMPV)</i>	PROJECT EB5: <i>Armored Multi-Purpose Vehicle (AMPV)</i>
--	--	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Engineering, Manufacturing and Development	C/CPFF	Unknown:TBD	0.000	-		-		88.028	Jun 2014	-		88.028	225.780	313.808	0.000
Subtotal			0.000	0.000		0.000		88.028		0.000		88.028	225.780	313.808	0.000

Remarks
Armored Multi Purpose Vehicle Tech data and system level product development costs.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Office (PMO)	MIPR	PMO:Warren, MI	0.000	-		-		5.830	Dec 2013	-		5.830	18.130	23.960	0.000
Other Program Support	MIPR	OGA:Various Locations	0.000	-		-		22.440	Jan 2014	-		22.440	47.480	69.920	0.000
Subtotal			0.000	0.000		0.000		28.270		0.000		28.270	65.610	93.880	0.000

Remarks
Armored Multi Purpose Vehicle Support Costs

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		0.000	0.000	0.000	116.298	0.000	116.298	291.390	407.688	0.000

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605028A: <i>Armored Multi-Purpose Vehicle (AMPV)</i>	PROJECT EB5: <i>Armored Multi-Purpose Vehicle (AMPV)</i>
--	--	--

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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

Post Milestone B Decision	████████████████████
---------------------------	--

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605028A: <i>Armored Multi-Purpose Vehicle (AMPV)</i>	PROJECT EB5: <i>Armored Multi-Purpose Vehicle (AMPV)</i>
--	--	--

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Post Milestone B Decision	3	2014	3	2014

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605030A: <i>Joint Tactical Network Center (JTNC)</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	68.148	-	68.148	19.909	21.788	26.849	25.000	Continuing	Continuing
EA8: <i>Joint Tactical Network Center (JTNC)</i>	-	0.000	0.000	68.148	-	68.148	19.909	21.788	26.849	25.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

In accordance with the ADM dated 11 July 2012, the FY 2014 JTN funding previously residing in the Army PE 0604280A, the Navy PE 0604280N, and the Air Force PE 0604280F was transferred to this PE. The continuing Joint Tactical Networks (JTN) will remain under a joint budget strategy in the three Military Departments (MILDEPs) in new PEs (Army PE 0605030A, the Navy PE 0605030N, and the Air Force PE 0605030F). As part of the joint program budget strategy, each MILDEP budgets for their portion of the total program RDT&E funds. Prior to the President's Budget submission, the budget year funding is consolidated in the new Army PE.

A. Mission Description and Budget Item Justification

Joint Tactical Networks (JTN) will provide interoperable, secure Joint Tactical Networking applications capable of operating in a variety of radio solutions to maintain and sustain an affordable, government-controlled open architecture, in support of Combatant Commanders', Services' and Coalition mission network requirements. JTN is responsible for the continuous development, delivery, and maintenance of networking waveforms and modified legacy radio waveforms that are Software Communications Architecture (SCA) compliant. SCA compliant waveforms enable interoperability and support Net-Centric operational warfare at sea, in the air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the last tactical mile and to the warfighter.

The JTN team is responsible for (1) the overall management and oversight of the Waveforms contained in the JTN repository; (2) development, validation, and evolution of a common JTN SCA; (3) development and evolution of waveform software applications for tactical radios; (4) development of software cryptographic algorithms and equipment applications (Information Assurance); (5) development and evolution of the JTN networking and network management software components, Joint Enterprise Network Manager (JENM); (6) testing and certification of JTN waveforms, network services, and network management; and, (7) full lifecycle support of waveforms and networking applications in order to maintain a robust industry base of radio vendors.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605030A: <i>Joint Tactical Network Center (JTNC)</i>
--	--

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	68.148	-	68.148
Total Adjustments	0.000	0.000	68.148	-	68.148
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	68.148	-	68.148

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0605030A: <i>Joint Tactical Network Center (JTNC)</i>				PROJECT EA8: <i>Joint Tactical Network Center (JTNC)</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
EA8: <i>Joint Tactical Network Center (JTNC)</i>	-	0.000	0.000	68.148	-	68.148	19.909	21.788	26.849	25.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2012-FY 2013, the Joint Tactical Networks (JTN) funding resides in the Navy Program Element (PE) 0604280N (Joint Tactical Radio System (JTRS)), Project No. 3076 (formally known as JTRS Network Enterprise Domain (JNED)). The FY 2014 funding residing in PE 0605030A represents the total JTN Budget. FY 2015-18 PE 0605030A represents only the Army share of the JTN funding.

In accordance with the ADM dated 11 July 2012, the JTRS Program of Records (PORs) transitioned to Military Department (MILDEP) managed programs. The continuing Joint Tactical Networks (JTN) will remain under a joint budget strategy in the three MILDEPs in new PEs (Army PE 0605030A, the Navy PE 0605030N, and the Air Force PE 0605030F). As part of the joint program budget strategy, each MILDEP budgets for their portion of the total program RDT&E funds. Prior to the President's Budget submission, the budget year funding is consolidated in the new Army PE.

The Joint Tactical Networking Center (JTNC) provides the DoD centralized management, development and sustainment of joint waveform and network management applications. JTN is a component of the JTNC and the official Program of Record (PoR).

A. Mission Description and Budget Item Justification

Joint Tactical Networks (JTN) will provide interoperable, secure Joint Tactical Networking applications capable of operating in a variety of radio solutions to maintain and sustain an affordable, government-controlled open architecture, in support of Combatant Commanders', Services' and Coalition mission network requirements. JTN is responsible for the continuous development, delivery, and maintenance of networking waveforms and modified legacy radio waveforms that are Software Communications Architecture (SCA) compliant. SCA compliant waveforms enable interoperability and support Net-Centric operational warfare at sea, in the air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the last tactical mile and to the warfighter.

The JTN team is responsible for (1) the overall management and oversight of the Waveforms contained in the JTN repository; (2) development, validation, and evolution of a common JTN SCA; (3) development and evolution of waveform software applications for tactical radios; (4) development of software cryptographic algorithms and equipment applications (Information Assurance); (5) development and evolution of the JTN networking and network management software components, Joint Enterprise Network Manager (JENM); (6) testing and certification of JTN waveforms, network services, and network management; and, (7) full lifecycle support of waveforms and networking applications in order to maintain a robust industry base of radio vendors.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>		R-1 ITEM NOMENCLATURE PE 0605030A: <i>Joint Tactical Network Center (JTNC)</i>		PROJECT EA8: <i>Joint Tactical Network Center (JTNC)</i>
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
<p>Title: Wideband Networking Waveform (WNW)</p> <p>Description: Wideband Networking Waveform (WNW) is a high data rate Mobile Adhoc NETworking (MANET) waveform application that provides the mid tier tactical Internet backbone and connects tactical forces across the battle sphere. WNW will provide high throughput, dynamically adaptable connectivity for the exchange of Internet Protocol (IP) based voice, data, and video traffic. WNW will feature two signals-in-space (SiS), which are the Orthogonal Frequency Division Multiplexing (OFDM) and Anti-Jam (AJ). WNW will support network nodes on mobile, airborne, and maritime platforms. WNW includes networking services, security, High Assurance IP Equipment (HAiPE) capabilities, red black switching, and internal routing of other WNW signals. WNW is currently ported on 6 platforms with 6 different vendors.</p> <p>FY 2014 Plans: Continue Software In Service Support for the WNW waveform.</p>		0.000	0.000	9.481
<p>Title: Soldier Radio Waveform (SRW)</p> <p>Description: Soldier Radio Waveform (SRW) will operate on tactical radio sets to provide a networked battlefield communications capability for power disadvantaged users engaged in land combat operations and will support voice, data, and video communications on the immediate battlefield. These forces include vehicles, rotary wing, dismounted soldiers, munitions, sensors, and unmanned air vehicles (UAV). Functional software applications will use SRW enabled JTR sets over IP capable networks and sub-networks. SRW will be interoperable with higher throughput, IP-based network waveforms, such as WNW. As applicable, these IP-based networking waveforms will enable information exchanges through the GIG to the soldier and provide entirely new capabilities for battlefield communications and information sharing. SRW is currently ported on 16 different platforms with 9 different vendors.</p> <p>FY 2014 Plans: Continue Software In Service Support for the SRW waveform.</p>		0.000	0.000	3.601
<p>Title: Mobile User Objective System (MUOS) Waveform</p> <p>Description: Mobile User Objective System (MUOS) Waveform will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. MUOS offers secure streaming video, netted communications, and voice/data in real time to provide essential connectivity. The JTN program will modify this waveform, making it compatible and certifiable with DoD security requirements while enabling porting to tactical radio sets. MUOS is currently being ported by 5 vendors on 6 different platforms.</p> <p>FY 2014 Plans:</p>		0.000	0.000	6.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605030A: <i>Joint Tactical Network Center (JTNC)</i>	PROJECT EA8: <i>Joint Tactical Network Center (JTNC)</i>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
Continue Software In Service Support for the MUOS waveform.			
Title: JTRS Network Enterprise Services (JNES)/JTRS Enterprise Network Manager (JENM)	0.000	0.000	16.099
Description: JTRS Network Enterprise Services (JNES)/JTRS Enterprise Network Manager (JENM): Prior to FY13, JTRS Network Enterprise Services (JNES) included the development and acquisition of JTRS WNW Network Manager (JWNM), JTRS Enterprise Network Manager (JENM), Soldier Radio Waveform Network Manager (SRWNM), and Enterprise Network Services (ENS). In FY13 and out, JENM provides consolidated communications planning, network configuration, network activation, position reporting, fault management, security management, and network health and status reporting needed to establish and maintain a mobile wireless network comprised of JTN network waveforms. JENM can interface with other external network managers, mission planning systems, network planning systems, key management systems, and spectrum planning systems. JENM is considered a mission essential system. JENM is also considered a critical element within the J-TNT configuration management tool kit.			
FY 2014 Plans: Continue Software In Service Support for JENM.			
Title: Legacy Radio Waveforms/Program Management	0.000	0.000	32.967
Description: Legacy Radio Waveforms/Program Management: Includes the continued development, incremental upgrades, and software efficiencies of legacy software and other related activities to support the legacy waveform integration into hardware solutions in the field.			
FY 2014 Plans: Continue to support waveform integration, test and evaluation to include hardware and software waveform Certification Process to meet program requirements. Continue JTN program management office support. Continue Software In Service Support for Legacy waveforms.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	68.148

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• 0604280N: 0604280N: JNED, RDTE,N	147.190	59.077								0.000	206.267
• 0605030N: 0605030N: JTNC, RDTE,N						16.911	14.039	14.274	14.536	Continuing	Continuing

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605030A: <i>Joint Tactical Network Center (JTNC)</i>	PROJECT EA8: <i>Joint Tactical Network Center (JTNC)</i>
--	--	--

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0605030F: <i>0605030F: JTNC, RDTE,F</i>						20.088	22.346	22.255	22.656	Continuing	Continuing
• 0303109N: <i>0303109N: JNED, O&M,N</i>	39.508	42.264								0.000	81.772

Remarks

In FY 2012-FY 2013, the Joint Tactical Networks (JTN) funding resides in the Navy Program Element (PE) 0604280N (Joint Tactical Radio System (JTRS)), Project No. 3076 (formally known as JTRS Network Enterprise Domain (JNED)). In accordance with the ADM dated 11 July 2012, the JTRS Program of Records (PORs) transitioned to Military Department (MILDEP) managed programs. The continuing Joint Tactical Networks (JTN) will remain under a joint budget strategy in the three MILDEPs in new PEs (Army PE 0605030A, the Navy PE 0605030N, and the Air Force PE 0605030F). As part of the joint program budget strategy, each MILDEP budgets for their portion of the total program RDT&E funds. Prior to the President's Budget submission, the budget year funding is consolidated in the new Army PE.

D. Acquisition Strategy

JTN is responsible for common core activities including developing and updating the SCA compliant legacy and networking waveforms that operate on multiple hardware sets and in all operational environments that support network-centric operational warfare, as well as common networking services (interface standards, network managers, etc). Waveform developments (upgrading, developing, and maintaining) will generally be procured through full and open contract competitions. The JTN program is developing waveforms and Cryptographic Equipment Applications (CEAs) for use within the software-defined radio community.

The FY 2014 Budget supports continued development of waveforms/supporting software, testing support, and the National Security Agency (NSA) evaluation of software Information Assurance (IA) compliance.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605030A: <i>Joint Tactical Network Center (JTNC)</i>	PROJECT EA8: <i>Joint Tactical Network Center (JTNC)</i>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Support	C/Various	Various::Various	0.000	-		-		6.101	Mar 2014	-		6.101	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		6.101		0.000		6.101			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Network Enterprise Services Development	C/Various	Boeing::Huntington Beach, CA	0.000	-		-		7.423	Mar 2014	-		7.423	0.000	7.423	0.000
Post FQT / Software Sustainment	C/Various	BAE::Wayne, NJ	0.000	-		-		4.207	Mar 2014	-		4.207	Continuing	Continuing	Continuing
Post FQT / Software Sustainment	C/Various	Boeing::Huntington Beach, CA	0.000	-		-		8.676	Dec 2013	-		8.676	Continuing	Continuing	Continuing
Post FQT / Software Sustainment	C/TBD	TBD::TBD	0.000	-		-		6.000	Mar 2014	-		6.000	Continuing	Continuing	Continuing
Post FQT / Software Sustainment	C/Various	General Dynamics::Scottsdale, AZ	0.000	-		-		9.481	Oct 2013	-		9.481	Continuing	Continuing	Continuing
Post FQT / Software Sustainment	C/Various	Harris::Rochester, NY	0.000	-		-		3.601	Dec 2013	-		3.601	Continuing	Continuing	Continuing
Post FQT / Software Sustainment	WR	SSC PAC::San Diego, CA	0.000	-		-		7.630	Oct 2013	-		7.630	Continuing	Continuing	Continuing
Certification (Interim SCA Compliance Testing)	MIPR	NSA::Ft. Meade, MD	0.000	-		-		0.404	Dec 2013	-		0.404	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		47.422		0.000		47.422			

Remarks
In FY12-FY13, the Joint Tactical Networks (JTN) funding resides in the Navy Program Element (PE) 0604280N (Joint Tactical Radio System (JTRS)), Project No. 3076 (formally known as JTRS Network Enterprise Domain (JNED)). The FY14 funding residing in PE 0605030A represents the total JTN Budget.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605030A: <i>Joint Tactical Network Center (JTNC)</i>	PROJECT EA8: <i>Joint Tactical Network Center (JTNC)</i>
--	--	--

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JTN Engineering/Technical Support	C/Various	Various::Various	0.000	-		-		14.625	Mar 2014	-		14.625	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		14.625		0.000		14.625			
Project Cost Totals			0.000	0.000		0.000		68.148		0.000		68.148			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605030A: <i>Joint Tactical Network Center (JTNC)</i>	PROJECT EA8: <i>Joint Tactical Network Center (JTNC)</i>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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

Software Sustainment																												
----------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605030A: <i>Joint Tactical Network Center (JTNC)</i>	PROJECT EA8: <i>Joint Tactical Network Center (JTNC)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Software Sustainment	1	2014	4	2018

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605380A: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>
--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	33.219	-	33.219	64.574	21.415	5.100	0.000	Continuing	Continuing
EA9: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>	-	0.000	0.000	33.219	-	33.219	64.574	21.415	5.100	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014-FY 2017, Project No. EA9 represents the total Airborne Maritime/Fixed Station Joint Tactical Radio Systems (AMF JTRS) RDT&E budget for those years. In FY 2014, RDT&E funding for AMF JTRS transitions from a Navy Program Element (PE) 0604280N to Army PE 0605380A.

A. Mission Description and Budget Item Justification

The Airborne & Maritime/Fixed Station Joint Tactical Radio System (AMF JTRS) radios are software programmable, multi-band, multi-mode, mobile ad hoc networking radios, providing simultaneous voice, data, and video communications. The radios will operate in networks supporting the Common Operational Picture, situational awareness, and interoperability of Mission Command (MC) systems throughout the battlefield. AMF JTRS must ensure the Warfighter's ability to communicate both horizontally and vertically via voice and data within all mission areas and Combat Operational Environments. AMF JTRS helps close capability gaps by extending data networking to company and below echelons, enabling network services to the platform and connecting Army Aviation platforms to Army ground and Joint air network domains. Per Milestone Decision Authority (MDA) direction, the redefined AMF JTRS Program will procure radios as Non-Developmental Items (NDI).

AMF JTRS will operate networking waveforms and select waveforms that are widely deployed by Joint Forces today, enable interoperability between different types of platforms, and transport operational and MC information through the tactical network to joint network member nodes. The system will also reach back to access Global Information Grid (GIG) services, where required. The need for interoperable systems, including common waveforms, software applications, and network operations is critical to the mobile tactical network capability. AMF JTRS is relevant to the Joint Functional Concept (Net-Centric Environment), Joint Integrating Concept (Net-Centric Operational Environment), Joint Operating Concept (Major Combat Operations, Stability Operations), and JTRS Concept of Operations (Tactical Wireless Joint Networks). AMF JTRS shall support and enhance three principal Warfighter outcomes: Information Superiority, Joint Force Interoperability, and Networking.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605380A: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>
--	---

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	33.219	-	33.219
Total Adjustments	0.000	0.000	33.219	-	33.219
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	33.219	-	33.219

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605380A: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>	PROJECT EA9: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
EA9: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>	-	0.000	0.000	33.219	-	33.219	64.574	21.415	5.100	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014-FY 2017, Project No. EA9 represents the total Airborne Maritime/Fixed Station Joint Tactical Radio Systems (AMF JTRS) RDT&E budget for those years. In FY 2014, RDT&E funding for AMF JTRS transitions from a Navy Program Element (PE) 0604280N to Army PE 0605380A.

A. Mission Description and Budget Item Justification

The Airborne & Maritime/Fixed Station Joint Tactical Radio System (AMF JTRS) radios are software programmable, multi-band, multi-mode, mobile ad hoc networking radios, providing simultaneous voice, data, and video communications. The radios will operate in networks supporting the Common Operational Picture, situational awareness, and interoperability of Mission Command (MC) systems throughout the battlefield. AMF JTRS must ensure the Warfighter's ability to communicate both horizontally and vertically via voice and data within all mission areas and Combat Operational Environments. AMF JTRS helps close capability gaps by extending data networking to company and below echelons, enabling network services to the platform and connecting Army Aviation platforms to Army ground and Joint air network domains. Per Milestone Decision Authority (MDA) direction, the redefined AMF JTRS Program will procure radios as Non-Developmental Items (NDI).

AMF JTRS will operate networking waveforms and select waveforms that are widely deployed by Joint Forces today, enable interoperability between different types of platforms, and transport operational and MC information through the tactical network to joint network member nodes. The system will also reach back to access Global Information Grid (GIG) services, where required. The need for interoperable systems, including common waveforms, software applications, and network operations is critical to the mobile tactical network capability. AMF JTRS is relevant to the Joint Functional Concept (Net-Centric Environment), Joint Integrating Concept (Net-Centric Operational Environment), Joint Operating Concept (Major Combat Operations, Stability Operations), and JTRS Concept of Operations (Tactical Wireless Joint Networks). AMF JTRS shall support and enhance three principal Warfighter outcomes: Information Superiority, Joint Force Interoperability, and Networking.

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

	FY 2012	FY 2013	FY 2014
Title: In FY 2014-2017, Project No. EA9 represents the total Airborne Maritime/Fixed Station Joint Tactical Radio Systems (AMF JTRS) RDT&E budget for those years.	0.000	0.000	33.219
Description: The Airborne & Maritime/Fixed Station Joint Tactical Radio System (AMF JTRS) radios are software programmable, multi-band, multi-mode, mobile ad hoc networking radios, providing simultaneous voice, data, and video communications. The radios will operate in networks supporting the Common Operational Picture, situational awareness, and interoperability of Mission Command (MC) systems throughout the battlefield. AMF JTRS must ensure the Warfighter's ability to communicate both			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605380A: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>	PROJECT EA9: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>
--	---	---

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p>horizontally and vertically via voice and data within all mission areas and Combat Operational Environments. AMF JTRS helps close capability gaps by extending data networking to company and below echelons, enabling network services to the platform and connecting Army Aviation platforms to Army ground and Joint air network domains. Per Milestone Decision Authority (MDA) direction, the redefined AMF JTRS Program will procure radios as Non-Developmental Items (NDI).</p> <p>AMF JTRS will operate networking waveforms and select waveforms that are widely deployed by Joint Forces today, enable interoperability between different types of platforms, and transport operational and MC information through the tactical network to joint network member nodes. The system will also reach back to access Global Information Grid (GIG) services, where required. The need for interoperable systems, including common waveforms, software applications, and network operations is critical to the mobile tactical network capability. AMF JTRS is relevant to the Joint Functional Concept (Net-Centric Environment), Joint Integrating Concept (Net-Centric Operational Environment), Joint Operating Concept (Major Combat Operations, Stability Operations), and JTRS Concept of Operations (Tactical Wireless Joint Networks). AMF JTRS shall support and enhance three principal Warfighter outcomes: Information Superiority, Joint Force Interoperability, and Networking.</p> <p><i>FY 2014 Plans:</i> Conduct Source Selections for a Link 16 radio (Small Airborne Link 16 Terminal [SALT]) and a wideband networking waveform capability radio (Small Airborne Networking Radio [SANR]). Conduct Program Support Review (PSR) for the Networking Radio Integration and Test units. Award post-Milestone C contracts for the SALT radio units and SANR radio units for Integration and Test to support Operational Assessment, as well as SALT radio Low Rate Initial Production (LRIP) units. Leverage Apache Block III helicopter Follow-on Operational Test & Evaluation (FOT&E) to support Operational Assessment of SALT radio. Fund external agencies (e.g., Army Test and Evaluation Command [ATEC], Joint Interoperability Test Command [JITC], and Training and Doctrine Command [TRADOC]) to support program test & evaluation and requirements efforts.</p>			
Accomplishments/Planned Programs Subtotals	0.000	0.000	33.219

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• B90110: <i>B90110 JTRS (AMF)</i>		74.041				8.808	164.977	153.677	160.810	0.000	562.313
Remarks											

D. Acquisition Strategy
AMF JTRS underwent a program restructure in accordance with Milestone Decision Authority (MDA) direction. The program is revising its material solution strategy to leverage commercially available Non-Developmental Item (NDI) tactical radios in order to rapidly deliver AMF JTRS capabilities to the warfighter. The strategy will

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	PE 0605380A: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>	EA9: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>

support a concept in which NDI radios can be selected from the vendor base and tailored to platform needs. The current strategy is to procure two variations of NDI radios for Airborne platforms, one with Link 16 (Small Airborne Link 16 Terminal [SALT]) and another with wideband networking waveform capability (Small Airborne Networking Radio [SANR]). Maritime/Fixed Station sites will not be part of the revised procurement.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605380A: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>	PROJECT EA9: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>
--	---	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AMF Business Operations Management and Support	TBD	Various:Various	0.000	-		-		7.998	Oct 2013	-		7.998	0.000	7.998	0.000
Subtotal			0.000	0.000		0.000		7.998		0.000		7.998	0.000	7.998	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AMF JTRS - System Engineering and Requirements Validation	WR	Various:Various	0.000	-		-		3.511	Oct 2013	-		3.511	0.000	3.511	0.000
AMF JTRS - NDI Integration and Certification	TBD	Various:Various	0.000	-		-		14.420	Jul 2014	-		14.420	0.000	14.420	0.000
Subtotal			0.000	0.000		0.000		17.931		0.000		17.931	0.000	17.931	0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AMF JTRS - Integrated Logistics Support	WR	Various:Various	0.000	-		-		1.646	Oct 2013	-		1.646	0.000	1.646	0.000
Subtotal			0.000	0.000		0.000		1.646		0.000		1.646	0.000	1.646	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AMF JTRS - Test and Evaluation and Test Support	WR	Various:Various	0.000	-		-		5.644	Oct 2013	-		5.644	0.000	5.644	0.000

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605380A: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>	PROJECT EA9: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>
--	---	---

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018							
	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																																
Small Airborne Link 16 Terminal (SALT) Full Rate Production (FRP)																																
Program Support Review (Small Airborne Networking Radio [SANR] LRIP)																																
Program Support Review (SANR FRP)																																
Initial Operational Capability																																

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605380A: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>	PROJECT EA9: <i>Airborne Maritime Fixed Small Airborne (AMF-SA)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Milestone C	3	2014	3	2014
Small Airborne Link 16 Terminal (SALT) Full Rate Production (FRP)	3	2016	3	2016
Program Support Review (Small Airborne Networking Radio [SANR] LRIP)	1	2016	1	2016
Program Support Review (SANR FRP)	3	2017	3	2017
Initial Operational Capability	3	2018	3	2018

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605450A: <i>Joint Air-to-Ground Missile (JAGM)</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	123.100	10.000	15.127	-	15.127	91.571	68.793	23.784	4.953	Continuing	Continuing
JAGM: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>	-	123.100	10.000	15.127	-	15.127	91.571	68.793	23.784	4.953	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

FY14 increase supports continuation of the JAGM TD Phase.

A. Mission Description and Budget Item Justification

The Joint Air-to-Ground Missile (JAGM) System will provide an air-to-surface, precision, standoff strike capability. The JAGM system will enable war-fighters to attack critical, high value, fixed and moving/fleeting targets, day or night, in battlefield limited visibility conditions, adverse weather and against countermeasures. The purpose of the JAGM Technology Demonstration (TD) phase is to address affordability and reduce overall risk prior to entering the Engineering and Manufacturing Development (EMD) phase, by adopting an incremental strategy for development and production of the Guidance Section.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	126.895	10.000	10.000	-	10.000
Current President's Budget	123.100	10.000	15.127	-	15.127
Total Adjustments	-3.795	0.000	5.127	-	5.127
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.795	-			
• Adjustments to Budget Years	-	-	5.127	-	5.127

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
JA6: <i>JOINT AIR-TO-GROUND MISSILE (JAGM)</i>	-	123.100	10.000	15.127	-	15.127	91.571	68.793	23.784	4.953	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Not applicable for this item.

A. Mission Description and Budget Item Justification

The Joint Air-to-Ground Missile (JAGM) System will provide an air-to-surface, precision, standoff strike capability. The JAGM system will enable war-fighters to attack critical, high value, fixed and moving/fleeting targets, day or night, in battlefield limited visibility conditions, adverse weather and against countermeasures. The purpose of the JAGM Technology Demonstration (TD) phase is to address affordability and reduce overall risk prior to entering the Engineering and Manufacturing Development (EMD) phase, by adopting an incremental strategy for development and production of the Guidance Section.

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

	FY 2012	FY 2013	FY 2014
Title: Preliminary Design Review (PDR) and Component Qualification	18.465	0.000	0.000
Articles:	0		
Description: Develop design modifications on the original TD phase preliminary design for cost and risk reduction and conduct PDR.			
FY 2012 Accomplishments: Start/Complete design modifications on the original TD phase preliminary design for cost and risk reduction and conduct PDR.			
Title: Final Design and Design Verification Test	30.776	0.000	0.000
Articles:	0		
Description: Develop a detailed engineering design and conduct activities to support a Critical Design Review (CDR), and conduct design verification testing to confirm readiness to conduct CDR.			
FY 2012 Accomplishments:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Begin/complete detailed engineering design and development activities to support a CDR, and conduct design verification testing to confirm readiness to conduct CDR.				
<p>Title: Critical Design Review (CDR)</p> <p align="right">Articles:</p> <p>Description: JAGM Product Office and Prime Contractor review the final design and technical data package for compliance with Government requirements and determine readiness to begin qualification testing.</p> <p>FY 2012 Accomplishments: Initiate/complete JAGM Guidance Section Contractor review of the final design and technical data package for compliance with Government requirements and determine readiness to begin qualification testing.</p>		24.620 0	0.000	0.000
<p>Title: Component Qualification Testing</p> <p align="right">Articles:</p> <p>Description: The JAGM Guidance Section Contractor will plan and execute subsystem performance and qualification testing of the JAGM Guidance Section.</p> <p>FY 2012 Accomplishments: Initiate/complete the JAGM Guidance Section contractor plan and execute subsystem performance and qualification testing.</p>		49.239 0	0.000	0.000
<p>Title: Configuration Steering Board (CSB)</p> <p align="right">Articles:</p> <p>Description: The JAGM Product Office will review the final design and qualification results and prepare and present possible requirements changes for cost reduction to decision makers.</p> <p>FY 2013 Plans: The Product Office will interface with the contractors in the Integrated Product Teams (IPTs) to prepare and conduct the final design and qualification results and prepare and present possible requirements changes for cost reduction to decision makers. The use of an Army led CSB will be used to shape program requirements prior to EMD by focusing on technical and operational analysis as well as demonstrated component qualification results to reduce cost/schedule risk.</p>		0.000	5.000 0	0.000
<p>Title: Army System Acquisition Review Council (ASARC) & Milestone (MS) B Preparation</p> <p align="right">Articles:</p> <p>Description: The JAGM Product Office will prepare documentation for an ASARC & MS B decision.</p>		0.000	5.000 0	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>FY 2013 Plans: The JAGM Product Office will prepare documentation for an ASARC & MS B. The major Statutory and Regulatory documents required by DoDI 5000.02 include the Acquisition Strategy, System Engineering Plan (SEP), Test and Evaluation Master Plan (TEMP), Program Protection Plan (PPP), Program Environment, Safety and Occupation Health Evaluation (PESHE) and the Life Cycle Support Plan (LCSP).</p> <p>Title: All Up Round (AUR) Integration and Qualification Testing</p> <p>Description: The JAGM Product Office will integrate the JAGM Guidance Section to the legacy missile bus and perform AUR Qualification testing.</p> <p>FY 2014 Plans: The JAGM Product Office will integrate the JAGM Guidance section to the legacy missile bus and perform AUR Qualification testing. The required testing includes Environmental, Electromagnetic Environmental Effects (E3), Tower/Captive Flight Testing, and use of the Advanced Multi-spectral Simulation Test Acceptance Resource (AMSTAR) Facility, which uses a multi-spectral scene generator to develop, evaluate and enhance missile performance in every phase of the JAGM program.</p>	0.000	0.000	10.200
<p>Title: MS B Decision Preparation</p> <p>Description: The JAGM Product Office will prepare for a MS B decision.</p> <p>FY 2014 Plans: The JAGM Product Office will prepare documentation for a MS B decision. The program office must adhere to statutory requirements established under Section 813 of the Duncan Hunter National Defense Authorization Act, Section 2366b MS B.</p>	0.000	0.000	4.927
Accomplishments/Planned Programs Subtotals	123.100	10.000	15.127

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• 0605450N: <i>Navy RDTE</i>	108.395									Continuing	Continuing
• C7030200: <i>JAGM Missile Procurement</i>							5.000	52.000	72.500	Continuing	Continuing

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

D. Acquisition Strategy

The JAGM program is an ACAT-1C pre Major Defense Acquisition Program (MDAP) Army led effort to reduce risk and increase affordability through continuation of the TD phase. The JAGM system is an air-to-ground precision guided missile for use by Joint Service rotary wing and unmanned aircraft systems. The TD phase will include a PDR, developmental testing, qualification and delivery of the JAGM guidance sections to the U.S. Government. The U.S. Government will conduct AUR integration, environmental testing and conduct ground launched flight tests. The government awarded two fixed-priced contracts to two competing contractors for parallel efforts to qualify and deliver JAGM Guidance Sections.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Eng/ Project Management	C/LH	Various:Performers	22.633	7.225	Dec 2011	4.740	Dec 2012	6.053	Dec 2013	-		6.053	0.000	40.651	0.000
Subtotal			22.633	7.225		4.740		6.053		0.000		6.053	0.000	40.651	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
TD Prime Contract	C/FFP	TD:Prime Contract	271.113	100.206	Aug 2012	-		-		-		-	0.000	371.319	0.000
Rocket Motor IM Qual	C/CPFF	Defense Ordnance Technology Consortium (DOTC):Picatinny Arsenal, NJ	25.232	5.302	Sep 2012	-		-		-		-	0.000	30.534	0.000
Electro-Mechanical Control Actuator System (EMCAS)	C/CPFF	Defense Ordnance Technology Consortium (DOTC):Picatinny Arsenal, NJ	0.000	4.033	Sep 2012	-		-		-		-	0.000	4.033	0.000
Integrated Warhead	C/CPFF	Defense Ordnance Technology Consortium (DOTC):Pictanny Arsenal, NJ	0.000	2.982	Sep 2012	-		-		-		-	0.000	2.982	0.000
Development Engineering	C/LH	Various:Performers	15.135	2.509	Feb 2012	3.428	Feb 2013	1.979	Feb 2014	-		1.979	0.000	23.051	0.000
Subtotal			311.480	115.032		3.428		1.979		0.000		1.979	0.000	431.919	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Other Gov Agencies	C/LH	Various:Performers	13.063	0.843	Dec 2011	1.832	Dec 2012	7.095	Dec 2013	-		7.095	0.000	22.833	0.000

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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				■																								
PDR							■																					
Final Design and Design Verification Test							■																					
CDR											■																	
Component Qualification Testing											■																	
CSB											■																	
AUR											■																	
MS Decision Preparation							■																					
MS B Decision															■													
EMD															■													
MS C Decision																											■	

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Contract Award	4	2012	1	2013
PDR	2	2013	3	2013
Final Design and Design Verification Test	2	2013	1	2014
CDR	1	2014	2	2014
Component Qualification Testing	2	2014	4	2014
CSB	4	2014	4	2014
AUR	3	2014	3	2015
MS Decision Preparation	1	2013	2	2015
MS B Decision	3	2015	3	2015
EMD	3	2015	3	2017
MS C Decision	3	2017	3	2017

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	1.529	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S35: <i>SLAMRAAM</i>	-	1.529	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

This program has been terminated.

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.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>
--	--

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	1.529	0.000	0.000	-	0.000
Current President's Budget	1.529	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.047	-			
• Other Adjustments 1	-0.296	-	-	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>	PROJECT S35: <i>SLAMRAAM</i>
--	--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
S35: <i>SLAMRAAM</i>	-	1.529	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

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 Emergency Operational Capability (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 EOC, if required.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Title: Program Close Out.</p> <p align="right">Articles:</p> <p>Description: This element includes contractor and government cost to close out the SLAMRAAM program. The Product Manager submitted a letter to the Milestone Decision Authority on 6 July 2012 and requested the program be formally closed out.</p> <p>FY 2012 Accomplishments: Government and contractor labor and operating expenses to: - conducted final program audits - performed technical assessments of capability gap resulting from program termination</p>	1.529 0	0.000	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>	PROJECT S35: <i>SLAMRAAM</i>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
- documented mitigation options and performed final program close activities			
Accomplishments/Planned Programs Subtotals	1.529	0.000	0.000

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PE 0604869A: <i>Proj MO6, Patriot/MEADS Combined Aggregate Program (CAP)</i>	377.610	400.861								0.000	778.471
• PE 0605456A: <i>Project PA3, PAC-3/MSE Missile</i>	86.139	69.029	68.846		68.846	129.627	63.506	65.179	65.734	Continuing	Continuing
• SSN C53101: <i>MSE Missile</i>	74.953	12.850	540.401		540.401	540.520	559.623	566.757	655.184	Continuing	Continuing
• PE 0102419A: <i>Proj E55, JLENS</i>	317.382	190.422	98.450		98.450	46.600	47.450	37.830	2.600	Continuing	Continuing
• PE 0605455A: <i>Proj S35, SLAMRAAM</i>	1.186									0.000	1.186
• PE 06043305A: <i>Proj TR7, Indirect Fire Protection Capability - II</i>	8.834									0.000	8.834
• PE 0604319A: <i>Proj DU3, Indirect Fire Protection Capability Increment 2</i>		76.039	79.232		79.232	107.587	146.463	151.769	159.700	Continuing	Continuing
• PE 0605457A: <i>Proj, S40, Army Integrated Air and Missile Defense (AIAMD)</i>	262.032	262.211	364.649		364.649	382.869	221.306	141.908	79.338	Continuing	Continuing
• SSN BZ5075: <i>Army IAMD Battle Command System (IBCS)</i>			21.200		21.200	100.700	315.370	482.640	446.130	Continuing	Continuing
• PE 0604820A: <i>Proj E10, SENTINEL</i>	3.093	3.486	1.549		1.549	5.264	5.911	6.307	6.053	Continuing	Continuing
• PE 0604741A: <i>Proj 126, 146, 149: Air Defense C2I Engr Dev</i>	57.050	73.333	18.294		18.294	20.898	20.557	18.009	11.015	Continuing	Continuing

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>	PROJECT S35: <i>SLAMRAAM</i>

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 Family of Medium Tactical Vehicles (FMTV) platform. All prior SLAMRAAM activities are under Program Element (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 Emergency Operational Capability (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 EOC, 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>	PROJECT S35: <i>SLAMRAAM</i>
--	--	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Furnished Equipment (GFE)/Systems Engineering Technical Assistance (SETA)	MIPR	Multiple:Multiple	10.000	-		-		-		-		-	0.000	10.000	0.000
Contractor Hardware/ Software Development	SS/CPFF	Multiple:Multiple	1.300	-		-		-		-		-	0.000	1.300	0.000
Close-out (Contract, Facilities, Disposition of Equipment and Personnel)	SS/CPFF	Multiple:Multiple	0.000	1.529		-		-		-		-	0.000	1.529	0.000
Subtotal			11.300	1.529		0.000		0.000		0.000		0.000	0.000	12.829	0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government System Test And Evaluation	MIPR	Multiple:Multiple	12.400	-		-		-		-		-	0.000	12.400	0.000
Subtotal			12.400	0.000		0.000		0.000		0.000		0.000	0.000	12.400	0.000

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			23.700	1.529	0.000	0.000	0.000	0.000	0.000	25.229	0.000

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>	PROJECT S35: <i>SLAMRAAM</i>
--	--	--

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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

Program Close Out Review	█																											
Close Out (C/O) Ends	█																											

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605455A: <i>SLAMRAAM</i>	PROJECT S35: <i>SLAMRAAM</i>
--	--	--

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Program Close Out Review	4	2012	4	2012
Close Out (C/O) Ends	4	2012	4	2012

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>
--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	86.139	69.029	68.843	-	68.843	129.627	63.506	65.179	65.734	Continuing	Continuing
PA3: <i>PAC-3/MSE MISSILE</i>	-	86.139	69.029	68.843	-	68.843	129.627	63.506	65.179	65.734	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 enables the incremental fielding of the 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 the PATRIOT Program. It is continuously being improved via hardware and software changes to provide enhanced performance across the spectrum for system and threat intercept performance. The Missile Segment Enhancement (MSE) is the latest version of the PAC-3 Missile. It provides a more agile and lethal interceptor that increases the engagement envelop/defended area of the PATRIOT System. As software and hardware improvements are developed there is a continuing need for system level modeling, simulations, and tests. Modeling and Simulation allow for performance assessment against all threats that would not be possible in flight tests due to cost, target, and range constraints. Flight testing is periodically required for validation of the Modeling and Simulation as well as satisfying ATEC/DOTE requirements of the PAC-3 segment improvements.

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	88.909	69.029	69.175	-	69.175
Current President's Budget	86.139	69.029	68.843	-	68.843
Total Adjustments	-2.770	0.000	-0.332	-	-0.332
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-2.770	-	-0.332	-	-0.332

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
PA3: <i>PAC-3/MSE MISSILE</i>	-	86.139	69.029	68.843	-	68.843	129.627	63.506	65.179	65.734	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

Note
 From FY 2006 through FY 2010, this system was funded under the PATRIOT/MEADS Combined Aggregate Program (CAP) program element: 0604869A.

The PATRIOT Advanced Capability 3 (PAC-3) is the evolution of the phased material change improvement to the PATRIOT Program. It is continuously being improved via hardware and software changes to provide enhanced performance across the spectrum for system and threat intercept performance. The Missile Segment Enhancement (MSE) is the latest version of the PAC-3 Missile. It provides a more agile and lethal interceptor that increases the engagement envelop/defended area of the PATRIOT System. As software and hardware improvements are developed there is a continuing need for system level modeling, simulations, and tests. Modeling and Simulation allow for performance assessment against all threats that would not be possible in flight tests due to cost, target, and range constraints. Flight testing is periodically required for validation of the Modeling and Simulation as well as satisfying ATEC/DOTE requirements of the PAC-3 segment improvements.

A. Mission Description and Budget Item Justification
 Patriot is an integral part of the overall Air and Missile Defense (AMD) Architecture and enables the incremental fielding of the system capability for Army Air and Missile Defense Battalions.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: MSE PAC-3	6.000	3.998	2.090
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2012 Accomplishments: Continues MSE upgrade and qualification activities.			
FY 2013 Plans: MSE specific qualification activities to include Solid Rocket Motor (SRM), Ignition Safety Device (ISD), canister, Functional Configuration Audit (FCA).			
FY 2014 Plans:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Prime contractor support for MSE.			
Title: Program integration efforts Description: Funding is provided for the following effort FY 2012 Accomplishments: 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. 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. FY 2014 Plans: Integration of missile and ground system hardware and software.	40.009 0	24.531 0	27.617
Articles:			
Title: Testing, targets, and modeling and simulation Description: Funding is provided for the following effort FY 2012 Accomplishments: Modeling and simulation, and MSE follow-on test. FY 2013 Plans: Continues range support for Live Fire Test and Evaluation (LFTE), modeling and simulation, and MSE follow-on test. FY 2014 Plans: Procurement of targets, test missiles, flight simulator, modelling efforts and test activities to support Test and Evaluation Master Plan (TEMP).	40.130 0	40.500 0	39.136
Articles:			
Accomplishments/Planned Programs Subtotals	86.139	69.029	68.843

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u> <u>Continuing</u>	<u>Total Cost</u> <u>Continuing</u>
• PE 0604869A: <i>PE 0604869A, Proj M06, PATRIOT/MEADS</i>	377.610	400.861										

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>
--	---	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
<i>Combined Aggregate Program (CAP)</i>											
• SSN C53101: <i>SSN C53101, MSE Missile</i>	74.953	12.850	540.401		540.401	540.520	559.623	566.757	655.184	Continuing	Continuing
• PE 0102419A: <i>PE 0102419A, Proj E55, JLENS</i>	317.382	190.422	98.450		98.450	46.600	47.450	37.830	2.600	Continuing	Continuing
• PE 0605455A: <i>PE 0605455A, Proj 35 SLAMRAAM</i>	1.186									Continuing	Continuing
• PE 0604319A: <i>PE 0604319A, Proj DU3, IFPC II - Intercept</i>	8.834	76.039	79.232		79.232	107.587	146.463	151.769	159.700	Continuing	Continuing
• PE 0605457A: <i>PE 0605457A, Proj S40 Army Integrated Air and Missile Defense (AIAMD)</i>	262.032	262.211	364.649		364.649	382.869	221.306	141.908	79.338	Continuing	Continuing
• SSN BZ5075: <i>SSN BZ5075, Army IAMD Battle Command System (IBCS)</i>			21.200		21.200	100.700	315.370	482.640	446.130	Continuing	Continuing
• PE 0604820A: <i>PE 0604820A, Proj E10, SENTINEL</i>	3.093	3.486	1.549		1.549	5.264	5.911	6.307	6.053	Continuing	Continuing
• PE 654741A: <i>PE 654741A, Proj 126,146,149, Air Defense C2I Eng Dev</i>	57.050	73.333	18.294		18.294	20.898	20.557	18.009	11.015	Continuing	Continuing

Remarks

This program is an integral part of the Army Integrated Air and Missile Defense (IAMD) architecture.

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 PAC-3 MSE program evolves the PAC-3 system providing extended ranges, insensitive munitions enhancements, and greater logistical flexibility. The PAC-3 MSE will be fielded to PATRIOT units.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605456A: <i>PAC-3/MSE MISSILE</i>	PROJECT PA3: <i>PAC-3/MSE MISSILE</i>
--	---	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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	Dec 2011	1.003	Dec 2012	1.100	Dec 2013	-		1.100	Continuing	Continuing	Continuing
Subtotal			1.003	1.003		1.003		1.100		0.000		1.100			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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	Dec 2011	3.998	Dec 2012	2.100	Dec 2013	-		2.100	Continuing	Continuing	Continuing
Program Integration	Various	Various:Huntsville, AL	17.607	20.870	Dec 2011	6.443	Dec 2012	5.775	Dec 2013	-		5.775	Continuing	Continuing	Continuing
PAC-3 Product Office	Various	PO:Huntsville, Alabama	4.997	2.327	Dec 2011	2.304	Dec 2012	2.400	Dec 2013	-		2.400	Continuing	Continuing	Continuing
MSE/PAC-3 Raytheon	Various	Raytheon:Waltham, Massachusetts	3.000	18.500	Dec 2011	24.602	Dec 2012	10.900	Dec 2013	-		10.900	Continuing	Continuing	Continuing
SETA Contracts	Various	Various:Huntsville, AL	2.380	3.609	Dec 2011	3.478	Dec 2012	3.800	Dec 2013	-		3.800	Continuing	Continuing	Continuing
U.S. Other Government Agencies (OGAs)	Various	Various:Huntsville, AL	3.748	6.200	Dec 2011	6.201	Dec 2012	7.900	Dec 2013	-		7.900	Continuing	Continuing	Continuing
Subtotal			93.872	57.506		47.026		32.875		0.000		32.875			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	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	9.666	Dec 2011	1.500	Dec 2012	4.585	Dec 2013	-		4.585	Continuing	Continuing	Continuing
Modeling and simulation	Various	Various:Huntsville, AL	1.900	1.074	Dec 2011	1.000	Dec 2012	3.930	Dec 2013	-		3.930	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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) Required																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	3	2013	3	2013
MSE Production Decision	1	2014	1	2014
MSE Production Contract Award	2	2014	2	2014
PDB 8 Fielding - Radar Digital Processor (RDP) Required	3	2016	3	2016

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>
--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	262.032	277.374	364.649	-	364.649	382.869	221.306	141.908	79.338	Continuing	Continuing
DU4: <i>Advanced Electronic Protection Enhancements AEPE</i>	-	0.000	15.163	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
S40: <i>Army Integrated Air and Missile Defense</i>	-	262.032	262.211	364.649	-	364.649	382.869	221.306	141.908	79.338	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

FY14 adjustment reflects The Office of the Secretary of Defense (OSD) Cost Assessment and Program Evaluation (CAPE) Independent Cost Estimate (ICE).

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 Integrated Air and Missile Defense Fire Control System/ capability for all Army Air and Missile Defense echelons from Brigade Combat Team Air Defense Airspace Management (ADAM) cells to Army Air and Missile Defense Command (AAMDC) headquarters. 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 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 Defense Artillery (ADA) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD Program achieves this objective by establishing the 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 a common Army IAMD Battle Command System (IBCS) Engagement Operations Center (EOC) that replaces seven current weapon system unique Mission Command (MC) components. The IFCN provides fire control connectivity and enabled distributed operations. A P&F Interface kit enables 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 Army IAMD Program Restructure was approved via the Acquisition Program Baseline (APB) dated 20 November 2012. The restructured program includes integrating AIAMD capability into the following additional systems: Terminal High Altitude Area Defense (THAAD), Air Defense Artillery Brigades (ADA Bde), Army Air and Missile Defense Command (AAMDC), Indirect Fire Protection Capability (IFPC) within IFPC/Avenger Composite Battalions and ADAM cells. The restructured program consists of two Product Improvements. Product Improvement 1 includes fielding the AIAMD capability to AAMDC, ADA Bde, and ADAM cells, and placing Patriot radars directly on the Integrated Fire Control Network (IFCN) and will employ a common set of MC tools across ADA formations with a First Unit Equipped (FUE) in FY18. Product Improvement 2 will integrate THAAD on the IFCN. FY14 funding will provide for continued Modeling and Simulation, development testing, and initial development of Product Improvement 1.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605457A: <i>Army Integrated Air and Missile Defense (AIAMD)</i>
--	---

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	270.180	277.374	349.231	-	349.231
Current President's Budget	262.032	277.374	364.649	-	364.649
Total Adjustments	-8.148	0.000	15.418	-	15.418
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-8.126	-			
• Adjustments to Budget Years	-	-	15.418	-	15.418
• Other Adjustments 1	-0.022	-	-	-	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>		
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
DU4: <i>Advanced Electronic Protection Enhancements AEPE</i>	-	0.000	15.163	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

This funding provides for a new start in FY13.

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 deceptive electronic attack (EA). The assessment effort includes both radars and Radio Frequency (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 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, Article Quantities in Each)

	FY 2012	FY 2013	FY 2014
Title: Advanced Electronic Protection Enhancements	0.000	15.163	0.000
Articles:		0	
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	0.000	15.163	0.000

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

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

N/A

Remarks

Not applicable for this item.

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Other Government Agencies & Government Program Management	Various	various:various	0.000	-		2.252		-		-		-	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		2.252		0.000		0.000		0.000			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
System Integration Assessment	Various	various:various	0.000	-		1.218		-		-		-	Continuing	Continuing	Continuing
Concept Solutions	Various	various:various	0.000	-		1.531		-		-		-	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		2.749		0.000		0.000		0.000			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Component Assessments & Research and Trade Studies	Various	various:various	0.000	-		5.137		-		-		-	Continuing	Continuing	Continuing
Modeling and Simulation	Various	various:various	0.000	-		5.025		-		-		-	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		10.162		0.000		0.000		0.000			

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		0.000	0.000	15.163	0.000	0.000			

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
S40: <i>Army Integrated Air and Missile Defense</i>	-	262.032	262.211	364.649	-	364.649	382.869	221.306	141.908	79.338	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Beginning in FY11, this funding was transferred from the Army IAMD Program Element (PE) 0603327A, Project Code S34, to continue funding the Engineering and Manufacturing Development (EMD) phase of the program.

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 Integrated Air and Missile Defense Fire Control System/capability for all Army Air and Missile Defense echelons from Brigade Combat Team Air Defense Airspace Management (ADAM) cells to Army Air and Missile Defense Command (AAMDC) headquarters. 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 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 Defense Artillery (ADA) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD Program achieves this objective by establishing the 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 a common Army IAMD Battle Command System (IBCS) Engagement Operations Center (EOC) that replaces seven current weapon system unique Mission Command (MC) components. The IFCN provides fire control connectivity and enabled distributed operations. A P&F Interface kit enables 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 Army IAMD Program Restructure was approved via the Acquisition Program Baseline (APB) dated 20 November 2012. The restructured program includes integrating AIAMD capability into the following additional systems: Terminal High Altitude Area Defense (THAAD), Air Defense Artillery Brigades (ADA Bde), Army Air and Missile Defense Command (AAMDC), Indirect Fire Protection Capability (IFPC) within IFPC/Avenger Composite Battalions and ADAM cells. The restructured program consists of two Product Improvements. Product Improvement 1 includes fielding the AIAMD capability to AAMDC, ADA Bde, and ADAM cells, and placing Patriot radars directly on the Integrated Fire Control Network (IFCN) and will employ a common set of MC tools across ADA formations with a First Unit Equipped (FUE) in FY18. Product Improvement 2 will integrate THAAD on the IFCN. FY14 funding will provide for continued Modeling and Simulation, development testing, and initial development of Product Improvement 1.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2012	FY 2013	FY 2014
Title: Product Development		238.392	219.824	300.691
		Articles: 0	0	
Description: Funding is provided for the following effort				
FY 2012 Accomplishments: Continuing product development for Engagement Operations Center (EOC), the common and unique side of the Plug and Fight (P&F) kits, and the Integrated Fire Control Network (IFCN). Provides for a Post Critical Design Review (CDR) Assessment and Defense Acquisition Board In Process Review (DAB IPR), and documentation revisions in support of ADM.				
FY 2013 Plans: Continuing product development in support of Prototype Deliveries of EOCs and P&F kits. Completion of Software Build version 2.0. Risk Reduction test.				
FY 2014 Plans: Continuing product development in support of Prototype Deliveries of EOCs and P&F kits. Completion of Software Build version 3.0. Initiate development of Planned Product Improvement 1. Risk reduction test.				
Title: Government Program Management		5.385	5.642	6.521
		Articles: 0	0	
Description: Funding is provided for the following effort				
FY 2012 Accomplishments: Government Program Management in support of developing the P&F kits, IFCN, Post CDR Assessment and the DAB IPR. Other contracts and Other Government Agencies (OGAs) support of Engineering Manufacturing and Development (EMD) phase activities.				
FY 2013 Plans: Government Program Management in support of developing the P&F kits, IFCN, and Modeling and Simulation. Other contracts and OGAs support of EMD phase activities.				
FY 2014 Plans: Government Program Management in support of developing the P&F kits, IFCN, and Modeling and Simulation. Other contracts and OGAs support of the EMD phase and Planned Product Improvement 1. Risk reduction test.				
Title: Test and Evaluation		18.255	36.745	57.437
		Articles: 0	0	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	---	---

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
<p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments: Provides for Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support</p> <p>FY 2013 Plans: Provides for Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support</p> <p>FY 2014 Plans: Provides for Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support to include design testing. Risk reduction test. Range activation preparation. Target preparation.</p>			
Accomplishments/Planned Programs Subtotals	262.032	262.211	364.649

C. Other Program Funding Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• PE 0604869A, Project M06: <i>PE 0604869A, Project M06, PATRIOT/MEADS Combined Aggregate Program (CAP)</i>	377.610	400.861								0.000	778.471
• PE 0605456A, Project PA3: <i>PE 0605456A, Project PA3, PAC-3/MSE Missile</i>	86.139	69.029	68.843		68.843	129.627	63.506	65.179	65.734	Continuing	Continuing
• SSN C53101: <i>SSN C53101, MSE Missile</i>	74.953	12.850	540.401		540.401	540.520	559.623	566.757	655.184	Continuing	Continuing
• PE 0102419A, Proj E55: <i>PE 0102419A, Proj E55, JLENS</i>	317.382	190.422	98.450		98.450	46.600	47.450	37.830	2.600	0.000	740.734
• PE 0605455A, Project S35: <i>PE 0605450A, Project S35, SLAMRAAM</i>	1.186									0.000	1.186

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	---	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0604319A, Proj DU3: <i>PE 0604319A, Proj DU3, IFPC2 (FY12 PE0603305A IFPC II- Intercept)</i>	8.834	76.039	79.232		79.232	107.587	146.463	151.769	159.700	Continuing	Continuing
• BZ5075: <i>BZ5075, Army IAMD Battle Command System (IBCS)</i>			21.200		21.200	100.700	315.370	482.640	446.130	Continuing	Continuing
• PE 0604820A, Proj E10: <i>PE 0604820A, Proj E10, SENTINEL</i>	3.093	3.486	1.549		1.549	5.264	5.911	6.307	6.053	Continuing	Continuing
• PE 0604741A, Proj 126, 146, 149: <i>PE 0604741A, Proj 126, 146, 149, Counter-Rockets, Artillery and Mortar (C-RAM)</i>	57.050	73.333	18.294		18.294	20.898	20.557	18.009	11.015	Continuing	Continuing

Remarks

This program is an integral part of the Army Integrated Air and Missile Defense (AIAMD) architecture. It provides for development of a common Mission Command (MC) through an open architecture approach allowing for integration of Air Defense Artillery (ADA) components as they become available. This approach enables the AIAMD program to pursue its baseline program independent of fluctuation of other programs.

D. Acquisition Strategy

The AIAMD acquisition strategy, revised in conjunction with the 2011 Army and Office of the Secretary of Defense (OSD)-approved program restructure, is to deliver an Initial Operational Capability (IOC) in FY16 and to deliver a set of follow-on product and capability improvements with a First Unit Equipped (FUE) date in FY18. The Product Improvement capabilities are delivered through the fielding of the IAMD Battle Command System (IBCS) Engagement Operations Center (EOC)-based AIAMD architecture including the IBCS EOC, Sentinel, Patriot (through an Radar Interface Unit (RIU) interface), and Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) components connected via an Integrated Fire Control Network (IFCN), working in an integrated manner. The Product Improvement capabilities are delivered through employing the Patriot radar directly on the IFCN, eliminating the RIU from the architecture. Additional capabilities include the incorporation of IBCS functionality into Air Defense Airspace Management (ADAM) Cells, ADA Brigade Headquarters and Army Air and Missile Defense Command (AAMDC) Headquarters. Future additional capabilities include incorporation of Terminal High Altitude Area Defense (THAAD) batteries and other Army and Joint net-centric architectures to ensure compatibility.

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

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
<ul style="list-style-type: none">- 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.		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	---	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Program Management	TBD	Various:Huntsville, AL	4.632	5.385	Dec 2011	5.642		6.521		-		6.521	Continuing	Continuing	Continuing
Subtotal			4.632	5.385		5.642		6.521		0.000		6.521			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Air Space and Missile Defense (ASMD) System of Systems (SOS) Hardware-in-the- Loop Testbed	C/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	18.361	Dec 2011	16.155		18.731		-		18.731	Continuing	Continuing	Continuing
IAMD Engineering Manufacturing and Development	C/CPIF	Northrop Grumman, Raytheon and Other:Huntsville, AL and Various other locations	181.516	207.853	Dec 2011	187.212		264.688		-		264.688	Continuing	Continuing	Continuing
Government Furnished Equipment	TBD	Various:Multiple	5.705	5.215	Dec 2011	7.740		4.526		-		4.526	Continuing	Continuing	Continuing
Government Systems Engineering and Logistics	TBD	Various:Huntsville, AL	3.129	6.963	Dec 2011	8.717		12.746		-		12.746	Continuing	Continuing	Continuing
Subtotal			225.062	238.392		219.824		300.691		0.000		300.691			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Army Evaluation Center/ Developmental Test	TBD	Various:Multiple Locations	0.811	2.296	Dec 2011	0.956		2.563		-		2.563	Continuing	Continuing	Continuing

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>
--	---	---

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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 (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), EMD DT									■																			
Product Readiness Review (PRR)													■															
Milestone C (MS C)																■												
Force Development Test/Initial Op T&E/HWIL (FDT/IOT&E/HWIL)																	■											
First Unit Equipped (FUE)																	■											
Initial Operational Capability (IOC)																									■			

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Critical Design Review (CDR) (IBCS Incr 2)	3	2012	3	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	2	2017
Force Development Experimentation/Limited User Test (FDE/LUT), EMD DT	2	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)	2	2016	4	2016
First Unit Equipped (FUE)	2	2016	2	2016
Initial Operational Capability (IOC)	4	2016	4	2016

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>
--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	434.977	639.874	592.201	-	592.201	953.081	948.718	718.000	550.037	Continuing	Continuing
FC8: <i>BCT Ground Combat Vehicle</i>	-	434.977	639.874	592.201	-	592.201	953.081	948.718	718.000	550.037	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Other Adjustments 1: Changes due to revisions in GCV strategy as described in Mission Description and Budget Item justification.

A. Mission Description and Budget Item Justification

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 Ground Combat Vehicle (GCV) program was initiated on the basis of an Initial Capabilities Document (ICD) that was approved 10 December 2009. A Capabilities Development Document (CDD) is currently under review, with anticipated approval by the Joint Requirements Oversight Council (JROC) 3QFY2013. The accomplishments and funding reflected in this justification are based on these documents and on program milestone decision memoranda.

A Milestone (MS) A Defense Acquisition Board was conducted on 21 July 2011 and an Acquisition Decision Memorandum (ADM) was signed 17 August 2011. It granted the Army approval to enter a 24 month Technology Development (TD) phase. Two contracts were awarded on 18 August 2011. One contract was awarded to BAE Systems Land & Armaments, Limited Partnership(L.P). and one was awarded to General Dynamics Land Systems Inc. Following receipt of a protest, stop work orders were issued on 29 August 2011. The GAO 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.

Revisions to the GCV strategy were approved via an ADM that was signed on 16 January 2013. The Army's exploration of the capabilities trade-space and full range of alternatives prior to finalizing requirements has led to a modified set of requirements that require additional preliminary design effort. In addition, the results of the three pronged development effort were considered in revising the GCV strategy. Some relevant decisions included in the ADM were: the TD phase is to be extended by six months, a full and open competition for the Engineering and Manufacturing Development (EMD) phase will be conducted and contract award will be to a single vendor, and MS B will be conducted in late FY2014. The GCV Project Manager is currently taking steps to incorporate these decisions into the program. The following funding requirements/justifications reflect these decisions and are based on cost estimates generated by the Project Management Office.

The GCV program is using an incremental approach with the GCV IFV as the first increment (future increments have not yet been defined). Due to the aforementioned revision to the GCV strategy, the Technology Development phase (with 2 competing contractors) that effectively began 6 December 2011 will proceed for 30 months. Following Milestone B, currently planned for 3Q2014, the program is planning to award a single competitively selected 54 month contract for the Engineering and

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>
--	---

Manufacturing Development (EMD) phase. During EMD, the selected 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 1QFY2019 and will immediately be followed with award of a Low Rate Initial Production (LRIP) contract to one contractor.

NOTE: The FY2013 Accomplishments/Planned Program reflect the revised GCV strategy but, the FY2013 budget breakouts reflect the submitted FY2013 President's Budget (the FY2013 words have been updated but not the dollars).

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	449.387	639.874	1,416.884	-	1,416.884
Current President's Budget	434.977	639.874	592.201	-	592.201
Total Adjustments	-14.410	0.000	-824.683	-	-824.683
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-14.410	-			
• Other Adjustments 1	-	-	-824.683	-	-824.683

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>				PROJECT FC8: <i>BCT Ground Combat Vehicle</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
FC8: <i>BCT Ground Combat Vehicle</i>	-	434.977	639.874	592.201	-	592.201	953.081	948.718	718.000	550.037	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

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 Ground Combat Vehicle (GCV) program was initiated on the basis of an Initial Capabilities Document (ICD) that was approved 10 December 2009. A Capabilities Development Document (CDD) is currently under review, with anticipated approval by the Joint Requirements Oversight Council (JROC) 3QFY2013. The accomplishments and funding reflected in this justification are based on these documents and on program milestone decision memoranda.

A Milestone (MS) A Defense Acquisition Board was conducted on 21 July 2011 and an Acquisition Decision Memorandum (ADM) was signed 17 August 2011. It granted the Army approval to enter a 24 month Technology Development (TD) phase. Two contracts were awarded on 18 August 2011. One contract was awarded to BAE Systems Land & Armaments, Limited Partnership (L.P.) and one was awarded to General Dynamics Land Systems Inc. Following receipt of a protest, stop work orders were issued on 29 August 2011. The GAO 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.

Revisions to the GCV strategy were approved via an ADM that was signed on 16 January 2013. The Army's exploration of the capabilities trade-space and full range of alternatives prior to finalizing requirements has led to a modified set of requirements that require additional preliminary design effort. In addition, the results of the three pronged development effort were considered in revising the GCV strategy. Some relevant decisions included in the ADM were: the TD phase is to be extended by six months, a full and open competition for the Engineering and Manufacturing Development (EMD) phase will be conducted and contract award will be to a single vendor, and MS B will be conducted in late FY2014. The GCV Project Manager is currently taking steps to incorporate these decisions into the program. The following funding requirements/justifications reflect these decisions and are based on cost estimates generated by the Project Management Office.

The GCV program is using an incremental approach with the GCV IFV as the first increment (future increments have not yet been defined). Due to the aforementioned revision to the GCV strategy, the Technology Development phase (with 2 competing contractors) that effectively began 6 December 2011 will proceed for 30 months. Following Milestone B, currently planned for 3Q2014, the program is planning to award a single competitively selected 54 month contract for the Engineering and Manufacturing Development (EMD) phase. During EMD, the selected 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 1QFY2019 and will immediately be followed with award of a Low Rate Initial Production (LRIP) contract to one contractor.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>
--	---	---

NOTE: The FY2013 Accomplishments/Planned Program reflect the revised GCV strategy but, the FY2013 budget breakouts reflect the submitted FY2013 President's Budget (the FY2013 words have been updated but not the dollars).

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

	FY 2012	FY 2013	FY 2014
<p>Title: Government System Engineering & Program Management</p> <p>Articles:</p> <p>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).</p> <p>FY 2012 Accomplishments: Provided integrated program management for all development activities by executing the GCV three-pronged development effort. The Program Management Office (PMO) provided United States Code (USC) Title 10 oversight to the TD contractors. The GCV Earned Value Management (EVM) team evaluated cost and schedule performance against the established Performance Measurement Baselines (PMB) and Integrated Master Schedules (IMS) for each separate contractor. The GCV Integrated Product Teams (IPTs) oversaw the technical development efforts of each separate contractor in order to monitor and track technical progress related to the development of the various subsystems. This included review and acceptance of all formal contract deliverables for the two contractor teams. These deliverables have been used to support execution of the GCV knowledge based management plan through completion of Knowledge Points (KP) 1 and 2. The government management team also oversaw each separate contractor as they performed 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 completed the assessments of selected non-developmental vehicles. The PMO, in conjunction with TRADOC, also continued analysis related to the dynamic Analysis of Alternatives (AoA) update. All information from the three-pronged strategy has been used to begin detailed 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 Baselines (PMB) and Integrated Master Schedules (IMS) for each separate contractor. The GCV IPTs will continue to oversee the technical development efforts of each separate contractor in order to monitor and track technical progress related to the development of the various subsystems. This includes review and acceptance of all formal contract deliverables for the two contractor teams. The government management team will also continue to oversee each separate contractor as they perform systems engineering, requirements analysis, functional analysis, configuration management, risk management, interface management,</p>	<p>68.580</p> <p>0</p>	<p>96.250</p> <p>0</p>	<p>71.262</p>

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)						
<p>data management, technical reviews, trade studies, modeling and simulation, specialty engineering, software engineering, test and training. An emphasis for the Government team in FY2013 will be on supporting each contractor's Preliminary Design Review (PDR), currently planned for 1QFY2014. Approximately 35 contract deliverables are associated with each PDR and they must be reviewed and approved by the Government team prior to the reviews. Information generated from the three-pronged strategy will be used to complete an updated performance specification for inclusion in both the TD contracts and the EMD Request for Proposal (RFP), which is planned for release in 1QFY2014. The final reports for both the non developmental vehicle assessment and the Dynamic AoA Update will be completed.</p> <p>Continue preparation of approximately 40 documents to support the Milestone B. The Milestone B is currently planned for 3QFY2014, but a pre-MS B review is anticipated 1QFY2014 to support the release of the EMD request for proposal.</p> <p>FY 2014 Plans:</p> <p>Oversight of the TD contracts will continue through 3QFY2014. Preliminary Design Reviews will be held 1QFY2014. The GCV IPTs will continue to oversee the technical development efforts of each separate contractor in order to monitor and track technical progress related to the development of the various subsystems. This includes review and acceptance of all formal contract deliverables for the two contractor teams. The GCV program transitions to the EMD phase in 3Q2014, with the planned award of a competitively selected contract. An EMD Request for Proposal (RFP) will be developed and released 1QFY2014. A Source Selection Evaluation Board (SSEB) will be conducted 1-3QFY2014 to evaluate proposals. Approximately 40 documents required for the Milestone B will be completed. Following contract award, a start-of-work meeting will be held. This will be followed by Integrated Baseline Reviews (IBRs) for the prime contractor and relevant sub-contractors. These will likely be initiated 4QFY2014.</p>				FY 2012	FY 2013	FY 2014
<p>Title: Contractor Systems Engineering/Program Management</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 2012 Accomplishments:</p> <p>: Continued preliminary design of subsystems focusing on size, weight, power, and cooling requirements. System Requirement Reviews (SRRs) and System Functional Reviews (SFRs) were completed for both contractor teams 2-3QFY2012. Completed the designs for the subsystem test assets. Completed initial delivery of the integrated set of architecture artifacts. GCV Hot Benches were designed to support integration of hardware and software sub-components prior to vehicle level integration. Vehicle and modular armor mock-ups were designed and fabricated. Completed design studies to allow identification of Engineering and Manufacturing Development (EMD) long lead hardware requirements. Cost and Operational Effectiveness Analyses (COEAs) and Affordability Assessments were delivered by both contractor teams. Integrated Baseline Reviews (IBRs) were successfully</p>				285.777 0	386.269 0	266.552
				Articles:		

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012
<p>conducted, Each contractor team continued to perform program management using Earned Value Management 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 then conduct the GCV system level Preliminary Design Review (PDR) 1QFY2014. Conduct subsystem PDRs 2-4QFY2013. Following PDRs, 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>FY 2014 Plans: Contractors will perform program management using EVM and TPMs to report cost, schedule and technical status. All required contract deliverables will be prepared and delivered. Each of the current contractors will continue and complete the Technology Development phase. This includes: conducting system level Preliminary Design Reviews 1QFY2014, conducting and completing component/subsystem maturation testing by 3QFY2014, conducting hot-bench integration 1-3QFY2014, and conducting and performing assessments of initial component/subsystem reliability growth tests. A single prime contract is planned for the EMD phase of the GCV program. This will be awarded 3QFY2014. EMD design and maturation activities will commence and will be based on the approved Capability Development Document and the related GCV performance specification. Specific activities will depend on the final approved performance requirements and on which contractor is selected for the EMD phase. In FY2014, the selected contractor is expected to initiate EMD by finalizing and awarding contracts to all applicable subcontractors and suppliers. The prime contractor team will then initiate detailed design for any planned early integration assets. In addition, the contractor team will begin preliminary design of the full system prototypes that will reflect the final GCV IFV configuration. System Integration Laboratories (SILs) and/or "Hot Benches" will be designed, fabricated, facilitated, and then used to support early integration / test of selected subsystems. The prime contractor will conduct a start-of-work meeting 4QFY2014 and will then will support the Government led IBR at the prime contractor's location. The prime contractor will lead IBRs at all applicable subcontractor locations. The IBRs will commence 4QFY2014.</p>				FY 2013
				FY 2014
<p>Title: Contractor Prototypes</p> <p align="right">Articles:</p> <p>Description: Provides for procurement and fabrication of subsystem test assets required by the Technology Development (TD) contract and for system level prototypes planned in the EMD phase. Does not include material consumed in support of component level engineering efforts.</p> <p>FY 2012 Accomplishments:</p>				4.298
				99.860
				141.103
				0
				0

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>Initiated 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).</p> <p>FY 2013 Plans: 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). Following modification of the current TD contracts, additional risk mitigation assets will be fabricated and delivered. The specific risk mitigation assets have not yet been defined, but may include automotive test rigs and selected electronic components.</p> <p>FY 2014 Plans: The selected EMD contractor will procure hardware to support early integration assets to support his development strategy. Fabrication and assembly of any such early integration assets will be completed by 3QFY2015. Long lead material for the full system prototypes (12) will be placed on contract beginning 4QFY2014. As required, fabrication for hull structures will be initiated for the full system prototypes.</p>				
<p>Title: Government Tests</p> <p align="right">Articles:</p> <p>Description: Provides for costs incurred by the government to perform and validate system-related test activities. This element also includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing. The actual test articles (i.e., functionally configured systems) are excluded from this element as they are included in the prototype manufacturing section.</p> <p>FY 2012 Accomplishments: Completed detailed test planning, coordination and safety requirements development and coordination efforts in support of the Subsystem Prototype testing. In addition, initiated 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. A draft of the TEMP will be completed to support a pre-Milestone B review 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</p>		6.690 0	15.527 0	59.620

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
and Manufacturing Development (EMD) phase. Army Test and Evaluation Command will also be funded to develop the System Evaluation Plan. FY 2014 Plans: The additional TD phase risk mitigation assets will be tested at Government test facilities 1-2QFY2014. In addition, re-test of the existing subsystem test assets will be performed after updates that reflect the revised performance specification. The TEMP will be finalized to support the Milestone B 3QFY2014. The Army Test and Evaluation Command will support the GCV Operational Test Agency Milestone B Assessment Report. Detailed test planning will continue for the Engineering and Manufacturing Development (EMD) phase, to include planning associated with the testing in support of the Live Fire Test and Evaluation Strategy. As required, test threats and test ammunition that has a long lead time will be procured.				
Title: Contractor Software		39.925	41.968	53.664
	Articles:	0	0	
Description: Provides for contractor software development efforts for the GCV prime contracts. This includes all software related to the various subsystems, training, logistics, vehicle management, and battle command integration. FY 2012 Accomplishments: Continued the development of initial software builds in support of testing of the subsystem test assets. Defined and established software development and integration environments. Initiated work on development of Software Requirements Specification, interface requirements specification, and software architecture definition/description. Formulated software build plan to align with system and subsystem requirements development, and began software development and integration. Created vehicle model and selected subsystem models (e.g. mobility, survivability, etc.). 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. FY 2014 Plans: TD Contractors refine Software Architecture Design Documents (SADDs) and all architectural significant use case and software requirement specifications. After award of the EMD contract, the selected contractor will initiate software builds to support full up				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
prototype integration. These software builds will be completed in an incremental fashion and then tested in System Integration Laboratories (SILs) prior to integration on the vehicle assets. The EMD software build plans will be developed 4QFY2014.			
Title: Assessment of Selected Non-developmental Vehicles (ASNV) 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. FY 2012 Accomplishments: FY 2012 Description: Continued technical and operational assessments. Leveraged the most cost effective means of gathering data, to include physical vehicle assessments and simulation / modeling. Provided data for each ASNV excursion to the GCV Integrated Concept Team (ICT) to support the GCV Capability Development Document (CDD) and Milestone B scheduled for 3QFY2014.	29.707 0 Articles:	0.000	0.000
Accomplishments/Planned Programs Subtotals	434.977	639.874	592.201

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• Ground Combat Vehicle (GCV): <i>Ground Combat Vehicle (GCV)</i>									287.649	Continuing	Continuing

Remarks

D. Acquisition Strategy

An Acquisition Decision Memorandum (ADM) was signed 17 August 2011. It granted the Project Management Office approval to enter a 24 month Technology Development (TD) phase. Two contracts were 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. Due to 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.

For the ongoing TD phase, the Army has been maturing its requirements by using key program imperatives to shape trade space and to ensure convergence on an affordable and achievable set of requirements. The TD phase contracts have allowed 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 has conducted assessments of selected non-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>
--	---	---

developmental vehicles and supported a dynamic update to the Analysis of Alternatives (AoA). This "three pronged effort" (TD contracts, vehicle assessments, and dynamic AoA update) is generating data that will ensure a well informed Milestone B.

Revisions to the GCV strategy were recently approved via an Acquisition Decision Memorandum signed on 16 January 2013. It recognized that the Army's exploration of the capabilities trade-space and full range of alternatives prior to finalizing requirements MS B decision, has led to a modified set of requirements that require additional preliminary design effort. It likewise acknowledged that the results of the three pronged development effort were considered in revising the GCV strategy. Decisions included in the ADM were: 1) The TD phase is to be extended by six months, 2) A full and open competition for the Engineering and Manufacturing Development (EMD) phase will be conducted and contract award will be to a single vendor, 3) Planned procurement of long lead items for EMD prototypes is not authorized, 4) The Milestone C decision shall be planned for FY2019, and 5) Milestone B will be conducted in late FY2014, following a pre-EMD Defense Acquisition Board first quarter FY2014 (which must occur prior to releasing the EMD Request for Proposal). The GCV Project Manager is currently taking steps to incorporate these decisions into the program.

The GCV program is using an incremental approach with the GCV IFV as the first increment (future increments have not yet been defined). Due to the aforementioned revision to the GCV strategy, the Technology Development phase competitive development contracts that effectively began 6 December 2011 will proceed for 30 months. Following Milestone B, currently planned for 3Q2014, the program is planning to award a single competitively selected 54 month contract for the EMD phase. During EMD, the selected 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 1QFY2019 and will immediately be followed with award of a Low Rate Initial Production (LRIP) contract to one contractor.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>
--	---	---

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor System Engineering and Prog. Mgt	PO	TD Phase - BAE / GDLS, Sterling Heights, MI:EMD Phase TBD	274.947	285.777	Aug 2011	386.269	Nov 2012	266.552	Jun 2014	-		266.552	Continuing	Continuing	Continuing
Contractor Prototypes	PO	TD Phase - BAE / GDLS, Sterling Heights, MI:EMD Phase TBD	2.582	4.298	Aug 2011	99.860	Nov 2012	141.103	Jun 2014	-		141.103	Continuing	Continuing	Continuing
Contractor Software	PO	TD Phase - BAE / GDLS, Sterling Heights, MI:EMD Phase TBD	4.677	39.925	Aug 2011	41.968	Nov 2012	53.664	Jun 2014	-		53.664	Continuing	Continuing	Continuing
Subtotal			282.206	330.000		528.097		461.319		0.000		461.319			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government System Engineering and Prog. Mgt	Various	PM Ground Combat Vehicle:Warren, MI	92.378	68.580	Dec 2011	96.250	Mar 2013	71.262	Dec 2013	-		71.262	Continuing	Continuing	Continuing
Assessment of Selected Non-developmental Vehicles (ASNV)	Various	Various Locations:Various Locations	8.597	29.707	Jun 2012	-		-		-		-	0.000	38.304	0.000
Subtotal			100.975	98.287		96.250		71.262		0.000		71.262			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Government Tests & Modeling & Simulation	Various	PM Ground Combat Vehicle:Warren, MI	7.093	6.690	Dec 2011	15.527	Mar 2013	59.620	Dec 2013	-		59.620	Continuing	Continuing	Continuing
Subtotal			7.093	6.690		15.527		59.620		0.000		59.620			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army							DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>			PROJECT FC8: <i>BCT Ground Combat Vehicle</i>				
	All Prior Years	FY 2012		FY 2013		FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	390.274	434.977		639.874		592.201	0.000	592.201			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605625A: <i>Manned Ground Vehicle</i>	PROJECT FC8: <i>BCT Ground Combat Vehicle</i>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Prototype Subsystem Testing																												
Preliminary Design Review																												
Milestone B																												
EMD Contract Award																												
Engineering / Manufacturing Development																												
Critical Design Review																												
1ST Full-up Prototype Vehicle																												
Production Qualification Test (PQT)																												
Limited User Test																												
Production Readiness Review (PRR)																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
Prototype Subsystem Testing	2	2013	4	2013
Preliminary Design Review	1	2014	1	2014
Milestone B	3	2014	3	2014
EMD Contract Award	3	2014	3	2014
Engineering / Manufacturing Development	3	2014	4	2018
Critical Design Review	1	2016	1	2016
1ST Full-up Prototype Vehicle	1	2017	1	2017
Production Qualification Test (PQT)	1	2017	4	2018
Limited User Test	1	2018	3	2018
Production Readiness Review (PRR)	4	2018	4	2018

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605626A: <i>Aerial Common Sensor - SDD</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	31.435	47.426	10.382	-	10.382	36.102	23.244	0.133	0.135	Continuing	Continuing
AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>	-	31.435	47.426	10.382	-	10.382	36.102	23.244	0.133	0.135	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

FY14 - Budget Year Adjustment of \$10.258 million additional

FY15 - ARL funding has been placed in the EMARSS RDTE line in the amount of \$28.225 million until new RDTE line can be established.

FY16 - ARL funding has been placed in the EMARSS RDTE line in the amount of \$17.946 million until new RDTE line can be established.

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 Distributed Common Ground System - Army (DCGS-A) capability, improved satellite communications, improved aircraft performance, and life cycle logistics sustainment capability.

EMARSS will consist of a commercial derivative aircraft equipped with an Electro-optical/Infrared (EO/IR) sensor with Full Motion Video (FMV), a Communications Intelligence (COMINT) collection system, an Aerial Precision Geolocation (APG) system, tactical line-of-site (LOS) and beyond line-of-site (BLOS) communications suite, two DCGS-A enabled operator workstations and a self-protection suite. EMARSS is 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, integrating elements of the DCGS-A, will provide efficient response to Combat Forces with Intelligence, Surveillance and Reconnaissance (ISR) tasking. EMARSS' flexibility, endurance, sensor capability, communications architecture, and Processing, Exploitation & Dissemination (PED) support is relevant to the entire Find, Fix, Finish, Exploit, Analyze, and Disseminate (F3EAD) cycle.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605626A: <i>Aerial Common Sensor - SDD</i>
--	--

FY14 Base funding in the amount of \$10.382 million funds final Engineering and Manufacturing Development (EMD) activities to include delta testing and corrective actions resulting from Limited User Test (LUT). These funds also provide partial funding for an Interim Contractor Logistics Support (ICLS) capability. Results will support a Milestone C decision.

B. Program Change Summary (\$ in Millions)	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	31.435	47.426	0.124	-	0.124
Current President's Budget	31.435	47.426	10.382	-	10.382
Total Adjustments	0.000	0.000	10.258	-	10.258
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	10.258	-	10.258

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
AC5: <i>Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)</i>	-	31.435	47.426	10.382	-	10.382	36.102	23.244	0.133	0.135	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

FY15-FY16 - As Airborne Reconnaissance Low (ARL) does not have an RDTE line, funding has been placed in the EMARSS RDTE line in FY15 (\$28.225 million) and FY16 (\$17.946 million) until a new RDTE line can be established.

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 Distributed Common Ground System - Army (DCGS-A) capability, improved satellite communications, improved aircraft performance, and life cycle logistics sustainment capability.

EMARSS will consist of a commercial derivative aircraft equipped with an Electro-optical/Infrared (EO/IR) sensor with Full Motion Video (FMV), a Communications Intelligence (COMINT) collection system, an Aerial Precision Geolocation (APG) system, tactical line-of-site (LOS) and beyond line-of-site (BLOS) communications suite, two DCGS-A enabled operator workstations and a self-protection suite. EMARSS is 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, integrating elements of the DCGS-A, will provide efficient response to Combat Forces with Intelligence, Surveillance and Reconnaissance (ISR) tasking. EMARSS' flexibility, endurance, sensor capability, communications architecture, and Processing, Exploitation & Dissemination (PED) support is relevant to the entire Find, Fix, Finish, Exploit, Analyze, and Disseminate (F3EAD) cycle.

FY14 Base funding in the amount of \$10.382 million funds final Engineering and Manufacturing Development (EMD) activities to include delta testing and corrective actions resulting from Limited User Test (LUT). These funds also provide partial funding for an Interim Contractor Logistics Support (ICLS) capability. Results will support a Milestone C decision.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Title: Product Development		21.729	17.426	7.182
		Articles: 0	0	
Description: Funding is provided for the following efforts:				
FY 2012 Accomplishments: Funded integration of prime mission equipment, software integration, and risk mitigation effort.				
FY 2013 Plans: Continues integration of prime mission equipment, software integration, and risk mitigation effort.				
FY 2014 Plans: Finalizes integration of prime mission equipment, software integration, and risk mitigation efforts. Partially funds an ICLS capability to support testing.				
Title: Support Costs		2.231	4.800	0.400
		Articles: 0	0	
Description: Support costs for matrix government, matrix contractor and PM Fixed Wing.				
FY 2012 Accomplishments: Funded 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.				
FY 2014 Plans: Support costs for matrix government, matrix contractor and PM Fixed Wing.				
Title: Test and Evaluation		5.335	19.300	2.170
		Articles: 0	0	
Description: Funding is provided for the following effort:				
FY 2012 Accomplishments: Funded Government DT/OT, LUT, Test Flight Ranges, and Joint Test Integration Facility (JTIF).				
FY 2013 Plans: Government DT/OT, LUT, FOA, Reliability Growth Testing (RGT), and JTIF.				
FY 2014 Plans:				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Delta testing and corrective actions resulting from LUT.			
Title: Program Management Support	2.140	5.900	0.630
Articles:	0	0	
Description: Funding is provided for the following effort:			
FY 2012 Accomplishments: Funded Program Management Office (PMO) support and travel, Systems Engineering and Technical Assistance (SETA) and MITRE support.			
FY 2013 Plans: Continues Program Management Office (PMO) support and travel, Systems Engineering and Technical Assistance (SETA) and MITRE support.			
FY 2014 Plans: Continues Program Management Office (PMO) support and travel, Systems Engineering and Technical Assistance (SETA) and MITRE support.			
Accomplishments/Planned Programs Subtotals	31.435	47.426	10.382

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• Aerial Common Sensor (ACS): A02005			142.050		142.050	103.780	5.000	5.000	5.000	0.000	260.830
Remarks	ACS - A02005 - FY14 Base procurement dollars in the amount of \$142.050 million supports purchasing four (4) Low Rate Initial Production (LRIP) systems including Government Furnished Equipment (GFE), training support, and initial spares. In addition, it brings four (4) EMARSS Engineering & Manufacturing Development (EMD) systems and a EMARSS Maintenance Vehicle (EMV) to production configuration.										

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 completed System Design Review in 1QFY12 and begun modification and integration of the aircraft in 2QFY12. Following a Contractor Test / Development Test and Limited User Test, the Army will be positioned to inform a Milestone C Decision. A Forward Operational Assessment may be conducted if necessary to demonstrate the system against real world threats.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

The schedule slip is due to a cost overrun indentified by Boeing on 1 Oct 12. The government negotiated a cost share agreement, signed on 26 Oct 12, that allows the program to synchronize the MS C decision with procurement funding in FY14.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PMO	Various	PM ARES:Aberdeen Proving Ground, MD	5.220	1.518		3.300		0.230		-		0.230	0.000	10.268	0.000
SETA Support	C/CPFF	PM ARES:Aberdeen Proving Ground, MD	3.045	0.415		1.600		0.200		-		0.200	0.000	5.260	0.000
MITRE	C/CPFF	PM ARES:Aberdeen Proving Ground, MD	2.326	0.207		1.000		0.200		-		0.200	0.000	3.733	0.000
Subtotal			10.591	2.140		5.900		0.630		0.000		0.630	0.000	19.261	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
EMARSS EMD	C/CPIF	Boeing Company:Ridley Park, PA	42.989	12.749		-		-		-		-	0.000	55.738	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	0.440		-		-		-		-	0.000	3.903	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/CPFF	Boeing Company:Ridley Park, PA	0.000	8.000		5.535		7.182		-		7.182	0.000	20.717	0.000
Engineering Change Proposals (ECP)	C/CPIF	Boeing Company:Ridley Park, PA	0.000	-		11.891		-		-		-	0.000	11.891	0.000
DCGS-A & Orion S/W processing on board	Various	Various:Various	6.200	0.540		-		-		-		-	0.000	6.740	0.000
ARL RDTE Placeholder	C/TBD	TBD:TBD	0.000	-		-		-		-		-	28.225	28.225	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT							
2040: Research, Development, Test & Evaluation, Army BA 5: System Development & Demonstration (SDD)				PE 0605626A: Aerial Common Sensor - SDD				AC5: Enhanced Medium Alt Recon Surv Sys (EMARSS) (MIP)							
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			59.737	21.729		17.426		7.182		0.000		7.182	28.225	134.299	0.000
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Government	MIPR	Various:Various	9.405	2.103		3.679		0.200		-		0.200	0.000	15.387	0.000
Matrix Contractor Support	Various	Various:Various	1.864	0.128		1.121		0.200		-		0.200	0.000	3.313	0.000
Subtotal			11.269	2.231		4.800		0.400		0.000		0.400	0.000	18.700	0.000
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government DT/OT, LUT	Various	Various:Various	6.383	1.207		-		2.170		-		2.170	0.000	9.760	0.000
Test Flight Ranges	Various	Various:Various	6.391	1.126		-		-		-		-	0.000	7.517	0.000
Live Fire Test & Evaluation (LFTE)	MIPR	Various:Various	0.000	-		5.000		-		-		-	0.000	5.000	0.000
Forward Operational Assessment (FOA)	MIPR	Various:Various	0.000	0.124		7.000		-		-		-	0.000	7.124	0.000
Initial Operational Test and Evaluation (IOT&E)	MIPR	Various:Various	0.000	-		1.000		-		-		-	0.000	1.000	0.000
Reliability Growth Testing (RGT)	MIPR	Various:Various	0.000	-		3.500		-		-		-	0.000	3.500	0.000
Joint Test & Integration Facility (JTIF)	Various	Various:various	6.800	2.878		2.800		-		-		-	0.000	12.478	0.000
Subtotal			19.574	5.335		19.300		2.170		0.000		2.170	0.000	46.379	0.000

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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
CT/DT																												
LUT / FOA																												
MS C																												
LRIP																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
CT/DT	4	2013	1	2014
LUT / FOA	2	2014	3	2014
MS C	3	2014	3	2014
LRIP	3	2014	1	2017

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605766A: <i>National Integration To Tactical Systems (MIP)</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	21.143	-	21.143	15.472	8.772	1.434	1.950	Continuing	Continuing
DX9: <i>National Integration To Tactical Systems(MIP)</i>	-	0.000	0.000	21.143	-	21.143	15.472	8.772	1.434	1.950	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

A portion of the FY 2014 funding was realigned from Program Element (PE) 0603766A - 'Tactical Electronic Surveillance System - Adv Dev' (BA 6.4) into PE 0605766A, 'National Integration To Tactical Systems (MIP) - System Development and Demonstration' (BA 6.5) to properly capture and fund the TENCAP advanced technologies through their integration into Army Programs of Record (PORs).

A. Mission Description and Budget Item Justification

National Integration To Tactical Systems provides for centralized monitoring and synchronization of the transition and integration of proven advanced technologies, prototypes and standards developed by the National Intelligence Community into Army systems and Programs of Record; enables efficient use and oversight of system development funds for final stage integration, development and testing of successful technologies and prototypes to advance, or make compliant, Army systems and Programs of Record that have or use National capabilities.

B. Program Change Summary (\$ in Millions)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	21.143	-	21.143
Total Adjustments	0.000	0.000	21.143	-	21.143
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	21.143	-	21.143

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605766A: <i>National Integration To Tactical Systems (MIP)</i>	PROJECT DX9: <i>National Integration To Tactical Systems(MIP)</i>
--	--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
DX9: <i>National Integration To Tactical Systems(MIP)</i>	-	0.000	0.000	21.143	-	21.143	15.472	8.772	1.434	1.950	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Conducts National Capabilities Integration to transition and incorporate selected Intelligence Community (IC) emerging technologies and advanced capabilities into Army systems and Programs of Record. Provides Army the ability to deliver services and capabilities successfully demonstrated through advanced development and prototype activities determined technologically ready by the Army Tactical Exploitation of National Capabilities (TENCAP) program. Facilitates testing and program office ability to accept and integrate National capabilities and standards into Program of Record acquisition systems and baselines.

A portion of the FY14 funding was realigned from Program Element (PE) 0603766A - 'Tactical Electronic Surveillance System - Adv Dev' (BA 6.4) into PE 0605766A, 'National Integration To Tactical Systems (MIP) - System Development and Demonstration' (BA 6.5) to properly capture and fund the TENCAP advanced technologies through their integration into Army Programs of Record (PORs).

A. Mission Description and Budget Item Justification

National Integration To Tactical Systems provides for centralized monitoring and synchronization of the transition and integration of new, updated, and emerging National Intelligence Community technologies, capabilities, and standards into Programs of Record across the Army to (1) to maintain operational relevance of Army programs and address changes in technology and the threat, (2) to ensure Army programs maintain interoperability with and access to the National community architecture and systems , and (3) to advance Army ability to conduct analysis and Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) of intelligence data.

FY14 Base funding in the amount of \$21.143 million provides for the engineering and integration of the National standard for Airborne Overhead Cooperative Operations/Theater Net-Centric Geolocation (TNG) into Programs of Record in compliance to Joint Requirement (JROCM 101-10), and for the integration of advanced sensor developments into the Army Air Vigilance (AV) Program of Record.

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

	FY 2012	FY 2013	FY 2014
Title: Airborne Overhead Cooperative Operations/Theater Net-centric Geolocation (TNG)	0.000	0.000	13.100
Description: National Intelligence Community standard for interoperability and use of specific intelligence networked capability			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605766A: <i>National Integration To Tactical Systems (MIP)</i>	PROJECT DX9: <i>National Integration To Tactical Systems(MIP)</i>
--	--	---

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
<p><i>FY 2014 Plans:</i> Provides funds to specified Army Programs of Records for software development/changes and integration, ensuring compliance to the requirement and standard, and interoperability with this National Intelligence Community networked capability for tactical use and improved Army battlefield awareness.</p> <p><i>Title:</i> Advanced Air Vigilance (AV) capabilities</p> <p><i>Description:</i> Advance development, modifications, and changes to the Air Vigilance system software</p> <p><i>FY 2014 Plans:</i> Provides for software development and integration of advances and/or changes to ensure continued system interoperability and viability.</p>	0.000	0.000	8.043
Accomplishments/Planned Programs Subtotals	0.000	0.000	21.143

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev (MIP), PE 0603776A</i>	5.757	8.660	6.894		6.894	9.102	8.989	8.623	11.862	Continuing	Continuing
• W60001: <i>Enemy UAS, OPA2 (W60001)</i>			2.800		2.800	5.000	6.000			Continuing	Continuing

Remarks
A portion of the FY14 funding was realigned from Program Element (PE) 0603766A - 'Tactical Electronic Surveillance System - Adv Dev' (BA 6.4) into PE 0605766A, 'National Integration To Tactical Systems (MIP) - System Development and Demonstration' (BA 6.5) to properly capture and fund the TENCAP advanced technologies through their integration into Army Programs of Record (PORs).

D. Acquisition Strategy
The 'National Integration To Tactical Systems (Military Intelligence Program -MIP)' funds provide for transition and integration of National Intelligence Community advanced technologies and prototypes leveraged by the Army's 'Tactical Exploitation of National Capabilities' (TENCAP) program office. The Army TENCAP acquisition strategy is driven by an annual TENCAP General Officer Steering Group (TGOSG), co-chaired by the Army G2; Army G8; and the Military Deputy to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology [ASA(ALT)]; and includes representatives from the Army G3; Army G6; Army Training and Doctrine Command (TRADOC); and the Program Executive Office for Intelligence, Electronic Warfare and Sensors (PEO IEW&S). The TGOSG reviews, validates, prioritizes, and guides Army TENCAP efforts, according to Army and Defense strategy. Based on this TGOSG guidance, Army TENCAP invests BA 6.4

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	PE 0605766A: <i>National Integration To Tactical Systems (MIP)</i>	DX9: <i>National Integration To Tactical Systems(MIP)</i>

RDTE in Intelligence Community developments during the more cost-effective advanced development phase to ensure Army requirements are met with minimal redundancy. Army TENCAP then uses BA 6.5 RDTE to manage the transition of these advanced development efforts through system development and integration into Army Programs of Record (PORs). This strategy ensures these leveraged investments remain viable through multiple budget cycles, significantly increasing successful transition to recipient Army PORs. With acquisition discipline and oversight provided by PEO IEW&S, Army TENCAP executes the TGOSG approved efforts through use of multiple contracts and agreements with the military, National agencies, Labs, Industry Partners and Academia for the full duration required to complete development and transition these National capabilities into enduring Army 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605766A: <i>National Integration To Tactical Systems (MIP)</i>	PROJECT DX9: <i>National Integration To Tactical Systems(MIP)</i>
--	--	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Matrix Gov Engineers	MIPR	AGC:Alexandria, VA	0.000	-		-		0.195	Dec 2013	-		0.195	Continuing	Continuing	0.000
Military Intelligence Engineers	C/FFP	TASC, Inc.:Chantilly, VA	0.000	-		-		0.675	Dec 2013	-		0.675	Continuing	Continuing	0.000
Subtotal			0.000	0.000		0.000		0.870		0.000		0.870			0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Air Vigilance software updates and ehancement integration	MIPR	Classified:MIPR	0.000	-		-		5.400	Dec 2013	-		5.400	Continuing	Continuing	0.000
TNG compliancy/ interoperability in multiple Army PORs	MIPR	Multiple:Multiple	0.000	-		-		13.100	Feb 2014	-		13.100	Continuing	Continuing	0.000
Subtotal			0.000	0.000		0.000		18.500		0.000		18.500			0.000

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
PM Dir Gov, travel, facilities, etc.	Allot	Army TENCAP:Alexandria, VA	0.000	-		-		1.273	Oct 2013	-		1.273	Continuing	Continuing	0.000
Subtotal			0.000	0.000		0.000		1.273		0.000		1.273			0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605766A: <i>National Integration To Tactical Systems (MIP)</i>	PROJECT DX9: <i>National Integration To Tactical Systems(MIP)</i>
--	--	---

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integration, interoperability testing	MIPR	Multiple:Multiple	0.000	-		-		0.500	Jan 2014	-		0.500	Continuing	Continuing	0.000
Subtotal			0.000	0.000		0.000		0.500		0.000		0.500			0.000

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		0.000	0.000	0.000	21.143	0.000			0.000

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605766A: <i>National Integration To Tactical Systems (MIP)</i>	PROJECT DX9: <i>National Integration To Tactical Systems(MIP)</i>
--	--	---

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Air Vigilance Acquisition Program of Record Transition Date																																
Air Vigilance (AV) Capability Drop 1.1																																
Air Vigilance (AV) Capability Drop 1.2																																

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605766A: <i>National Integration To Tactical Systems (MIP)</i>	PROJECT DX9: <i>National Integration To Tactical Systems(MIP)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Air Vigilance Acquisition Program of Record Transition Date	4	2013	4	2013
Air Vigilance (AV) Capability Drop 1.1	2	2014	2	2014
Air Vigilance (AV) Capability Drop 1.2	2	2015	2	2015

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605812A: <i>Joint Light Tactical Vehicle - ED</i>
--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	0.000	72.295	84.230	-	84.230	34.700	33.224	26.123	3.281	Continuing	Continuing
VU9: <i>Joint Light Tactical Vehicle - ED</i>	-	0.000	72.295	84.230	-	84.230	34.700	33.224	26.123	3.281	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 joint program between the U.S. Army and the Marine Corps. 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 throughout the lifecycle. 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 2014, major budget activities include continuation of three Engineering and Manufacturing Development contracts; Performance testing, Reliability, Availability and Maintainability (RAM) testing, Ballistic and Automatic Fire Extinguishing System (AFES), and Limited User testing, analysis of reports in preparation of Milestone C, and program management support.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army	DATE: April 2013
---	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0605812A: <i>Joint Light Tactical Vehicle - ED</i>
--	---

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	0.000	72.295	76.163	-	76.163
Current President's Budget	0.000	72.295	84.230	-	84.230
Total Adjustments	0.000	0.000	8.067	-	8.067
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	8.067	-	8.067

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
VU9: <i>Joint Light Tactical Vehicle - ED</i>	-	0.000	72.295	84.230	-	84.230	34.700	33.224	26.123	3.281	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012
^{##} The FY 2014 OCO Request will be submitted at a later date

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 U.S. Army and the U.S. Marine Corps. 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 2014, major budget activities include continuation of three Engineering and Manufacturing Development (EMD) contracts; Performance testing, Reliability, Availability and Maintainability (RAM) testing, Ballistic and Automatic Fire Extinguishing System (AFES), and Limited User Testing (LUT), and analysis of reports in preparation of Milestone C, and program management support.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Title: Engineering and Manufacturing Development (EMD) prototype contract and support for development and fabrication. <div style="text-align: right;">Articles:</div>	0.000	40.525 0	32.329
Description: Funding is provided for EMD prototype contract award for development and fabrication. FY 2013 Plans: Funding is provided for continued EMD prototype Joint Light Tactical Vehicles development and fabrication. FY 2014 Plans:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2012	FY 2013	FY 2014
Funding is provided for continued EMD prototype Joint Light Tactical Vehicles development and fabrication.			
Title: Joint Light Tactical Vehicles (JLTV) program management support Description: Funding is provided for the support of program management government operations. FY 2013 Plans: Various costs to provide effort during the Engineering and Manufacturing Development (EMD) phase FY 2014 Plans: Various costs to provide effort during the EMD phase to include program management, level of effort reports, test evaluation analyses, integrated logistics support, government furnished equipment management, Training Aids, Devices, Simulators, and Simulations (TADSS), building maintenance, building utilities, and vehicle leases.	0.000	11.652 0	13.580
Articles:			
Title: Engineering and Manufacturing Development Test and Evaluations. Description: Funding is provided for continuation of Engineering and Manufacturing Development (EMD) performance testing, Reliability, Availability and Maintainability (RAM) testing, Test Readiness Reviews (TRR), Coupon Testing, Operational Test and Readiness Review (OTRR), Ballistic & Automatic Fire Extinguishing System (AFES) Testing, and Limited User Testing (LUT). FY 2013 Plans: Engineering and Manufacturing Development Test support. FY 2014 Plans: Engineering and Manufacturing Development Test support.	0.000	20.118 0	38.321
Articles:			
Accomplishments/Planned Programs Subtotals	0.000	72.295	84.230

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u> <u>Continuing</u>
• PM JLTV PROJECT L50: <i>Joint Light Tactical Vehicles (JLTV), 0604804A, Army RDTE Project L50</i>	84.500										

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

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

<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u> <u>Base</u>	<u>FY 2014</u> <u>OCO</u>	<u>FY 2014</u> <u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PM JLTV PRODUCTION D15603: <i>Joint Light Tactical Vehicles (JLTV), D15603, Army OPA 1</i>						178.305	312.866	606.299	846.919	Continuing	Continuing
• PM JLTV PROJECT 3209 0603635M: <i>Marine Corps Ground Combat/Support Systems, RDTE Project 3209 0603635M</i>	45.945									Continuing	Continuing
• PM JLTV PROJECT 3209 0605812M: <i>Marine Corps Ground Combat/Support Systems, RDTE Project 3209 0605812M</i>		44.500	50.362		50.362	16.606	33.058	23.938	2.372	Continuing	Continuing
• PM JLTV PRODUCTION 5095: <i>Marine Corps Ground Combat/Support Systems, Production 5095</i>						30.521	99.536	143.062	520.468	Continuing	Continuing

Remarks

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 approved on 9 August 2012.

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 22 vehicles which will represent 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 Warfighter Information Network - Tactical (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.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>

Through a full and open competition, the program awarded three firm-fixed price contracts for the EMD phase on 22 August 2012. 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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JLTV Contract Service Support	SS/CPFF	Booz-Allen Hamilton,;McLean, VA	0.000	-		2.422	Mar 2013	6.325	Dec 2013	-		6.325	Continuing	Continuing	Continuing
JLTV Contract Service Support	SS/CPFF	Camber Corporation,;Huntsville, AL	0.000	-		0.200	Apr 2013	0.260	Sep 2014	-		0.260	Continuing	Continuing	Continuing
JLTV Contract Service Support	SS/CPFF	US Army Combined Arms Support Commands - CASCOM,;Ft. Lee, VA	0.000	-		0.200	Apr 2013	0.225	Apr 2014	-		0.225	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		2.822		6.810		0.000		6.810			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Joint Light Tactical Vehicles (JLTV) Engineering and Manufacturing Development Contract	C/FFP	Oshkosh Corporation,;Oshkosh, WI	0.000	-		-		3.475	Dec 2013	-		3.475	3.475	6.950	55.878
JLTV Engineering and Manufacturing Development Contract	C/FFP	Lockheed Martin Corporation,;Grand Prairie, TX	0.000	-		-		3.772	Dec 2013	-		3.772	3.772	7.544	65.000
JLTV Engineering and Manufacturing Development Contract	C/FFP	AM General,;South Bend, IN	0.000	-		-		3.789	Dec 2013	-		3.789	3.789	7.578	63.880
JLTV Engineering and Manufacturing Development Contract	C/FFP	TBD:TBD	0.000	-		31.609	Dec 2012	-		-		-	0.000	31.609	31.609
Subtotal			0.000	0.000		31.609		11.036		0.000		11.036	11.036	53.681	216.367

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
 Joint Light Tactical Vehicles (JLTV) is a Joint Services Program with the U.S. Army and U.S. Marine Corps as the two main components. Total value of contract is shared between the U.S. Army and the U.S. Marine Corps. Contract awards were funded in FY 2012, U.S. Army under PE 0604804A Project L50 and U.S. Marine Corps under PE 0603635M Project 3209.

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JLTV Program Management Support	Various	TACOM Life Cycle Management Command (LCMC), Harrison Township, MI	0.000	-		11.652	Sep 2013	13.580	Sep 2014	-		13.580	Continuing	Continuing	Continuing
GFE Management / Logistics / Training Aids, Devices, Simulators and Simulations (TADSS) / Analysis	MIPR	Various:TBD	0.000	-		-		3.325	Jan 2014	-		3.325	Continuing	Continuing	Continuing
Research and development level of effort studies.	C/FFPLOE	TBD:TBD	0.000	-		-		3.500	Jan 2014	-		3.500	0.000	3.500	3.500
JLTV Program Prototype for Engineering, Manufacturing, and Development Phase	MIPR	Tank-Automotive Research, Development, and Engineering Center - TARDEC:Warren, MI	0.000	-		3.985	Mar 2013	4.709	Mar 2014	-		4.709	Continuing	Continuing	Continuing
JLTV Prototype EMD Phase - Cost and Systems, Legal, Budget, Safety, Security, Contracting, Logistics	MIPR	TACOM Life Cycle Management Command (LCMC), Warren, MI	0.000	-		2.109	Mar 2013	2.949	Mar 2014	-		2.949	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		17.746		28.063		0.000		28.063			

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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>
--	---	---

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
JLTV EMD Test - Performance, RAM, Ballistic, and LUT	Various	TBD:Various	0.000	-		20.118	Jul 2013	38.321	Oct 2013	-		38.321	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		20.118		38.321		0.000		38.321			
Project Cost Totals			0.000	0.000		72.295		84.230		0.000		84.230			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
MS B																												
Engineering and Manufacturing Development (EMD) Contract Award																												
EMD Contract																												
EMD Test and Validation / Reports																												
Milestone C Preparation																												
MS C																												
Low-Rate Initial Production (LRIP) Contract Award																												
LRIP Contract																												
Full-Rate Production (FRP) Decision																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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
MS B	4	2012	4	2012
Engineering and Manufacturing Development (EMD) Contract Award	4	2012	4	2012
EMD Contract	4	2012	1	2015
EMD Test and Validation / Reports	1	2013	2	2015
Milestone C Preparation	1	2015	3	2015
MS C	3	2015	3	2015
Low-Rate Initial Production (LRIP) Contract Award	4	2015	4	2015
LRIP Contract	4	2015	4	2018
Full-Rate Production (FRP) Decision	2	2018	2	2018

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>
--	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	3.914	4.232	3.465	-	3.465	4.204	5.137	4.570	4.570	Continuing	Continuing
RH5: <i>TROJAN - RH12 - MIP</i>	-	3.914	4.232	3.465	-	3.465	4.204	5.137	4.570	4.570	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>
--	---

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	3.916	4.232	4.386	-	4.386
Current President's Budget	3.914	4.232	3.465	-	3.465
Total Adjustments	-0.002	0.000	-0.921	-	-0.921
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-0.002	-	-0.921	-	-0.921

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>	PROJECT RH5: <i>TROJAN - RH12 - MIP</i>
--	---	---

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
RH5: <i>TROJAN - RH12 - MIP</i>	-	3.914	4.232	3.465	-	3.465	4.204	5.137	4.570	4.570	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 2012	FY 2013	FY 2014
Title: Integrate and test specialized hardware/software	0.410	0.862	0.705
Articles:	0	0	
Description: Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GL Application Interface for Virtual Environments (GLAIVE) software. Integrated several new National Security Agency (NSA) SW packages.			
FY 2012 Accomplishments:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p>Integrated and tested 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.</p> <p>FY 2013 Plans: 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.</p> <p>FY 2014 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.</p>				
<p>Title: Multi-bandwidth compression algorithms</p> <p align="right">Articles:</p> <p>Description: Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.</p> <p>FY 2012 Accomplishments: Acquired and applied multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.</p> <p>FY 2013 Plans: Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.</p> <p>FY 2014 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.</p>		0.358 0	0.375 0	0.307
<p>Title: Develop prototype quick reaction capability receiver</p> <p align="right">Articles:</p> <p>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.</p> <p>FY 2012 Accomplishments:</p>		0.400 0	0.300 0	0.245

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Developed prototype quick reaction capability receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGAs. FY 2013 Plans: Develop prototype quick reaction capability receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using DSP and FPGAs. FY 2014 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 2012 Accomplishments: Integrated Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups. FY 2013 Plans: Integrate Direction Finding (DF) and geolocation technologies into TROJAN Remote Receiving Groups. FY 2014 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).		Articles: 0.390 0	0.950 0	0.778
Title: Develop hardware/software interface Description: Develop hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system FY 2012 Accomplishments: Completed development of hardware/software interface for TCXXI system and NexGEN to ONEROOF storage system		Articles: 0.445 0	0.000	0.000
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.		Articles: 0.285 0	0.300 0	0.246

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<p><i>FY 2012 Accomplishments:</i> Developed 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> 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 2014 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 2012 Accomplishments:</i> Developed 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> 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 2014 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>		0.780 0	0.500 0	0.409
<p><i>Title:</i> Labor cost software (SW) engineers</p> <p align="right"><i>Articles:</i></p>		0.846 0	0.945 0	0.775

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army	DATE: April 2013
--	-------------------------

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<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 2012 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 2013 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 2014 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	3.914	4.232	3.465

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• BA0326: <i>TROJAN (MIP)</i>	93.807	21.483	24.598		24.598	17.506	12.520	14.710	14.716	Continuing	Continuing

Remarks

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.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>	PROJECT RH5: <i>TROJAN - RH12 - MIP</i>
--	---	---

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Labor Costs Software (SW) Engineers	Various	NSA:MD	0.000	0.844	Jun 2012	0.945	Jun 2013	0.775	Jun 2014	-		0.775	0.000	2.564	0.000
Subtotal			0.000	0.844		0.945		0.775		0.000		0.775	0.000	2.564	0.000

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Multi-Band Compression Algorithms	Various	APG:MD	0.000	0.358	Jun 2012	0.375	Jun 2013	0.307	Jun 2014	-		0.307	Continuing	Continuing	0.000
Develop Prototype Quick Reaction Capability Receiver	Various	APG:MD	0.000	0.400	Jun 2012	0.300	Jun 2013	0.245	Jun 2014	-		0.245	Continuing	Continuing	0.000
Integrate Direction Finding	Various	APG:MD	0.000	0.390	Jun 2012	0.950	Jun 2013	0.778	Jun 2014	-		0.778	Continuing	Continuing	0.000
Specialized Software Enhancements	Various	APG:MD	0.000	0.285	Jun 2012	0.300	Jun 2013	0.246	Jun 2014	-		0.246	Continuing	Continuing	0.000
Develop Satellite Communications (SATCOM) Dishes and Receivers	Various	APG:MD	0.000	0.780	Jun 2012	0.500	Jun 2013	0.409	Jun 2014	-		0.409	Continuing	Continuing	0.000
Develop Hardware/Software Interface	Various	APG:MD	0.000	0.445	Jun 2012	-		-		-		-	0.000	0.445	0.000
Subtotal			0.000	2.658		2.425		1.985		0.000		1.985			0.000

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integration and Testing of Hardware/Software	Various	APG:MD	0.000	0.412	Jun 2012	0.862	Jun 2013	0.705	Jun 2014	-		0.705	0.000	1.979	0.000
Subtotal			0.000	0.412		0.862		0.705		0.000		0.705	0.000	1.979	0.000

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>	PROJECT RH5: <i>TROJAN - RH12 - MIP</i>
--	---	---

FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Hardware, Software and Systems Development	
--	--

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0303032A: <i>TROJAN - RH12 - MIP</i>	PROJECT RH5: <i>TROJAN - RH12 - MIP</i>
--	---	---

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Hardware, Software and Systems Development	1	2014	4	2015

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>
--	--

COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	13.807	13.942	10.806	-	10.806	16.989	16.333	15.018	15.274	Continuing	Continuing
EW5: <i>Electronic Warfare Development - MIP</i>	-	10.422	10.441	6.082	-	6.082	11.571	10.965	9.559	9.722	Continuing	Continuing
EW6: <i>ARAT-TSS - MIP</i>	-	3.385	3.501	4.724	-	4.724	5.418	5.368	5.459	5.552	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

FY 2014 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. Prophet Enhanced (PE) is the current system under the Prophet Ground acquisition program. 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. PE provides a modular, scalable, open architecture-based system solution optimized for ease of use in a variety of configurations (Stationary-Fixed, Mobile and Manpack). 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)

	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	13.807	13.942	13.820	-	13.820
Current President's Budget	13.807	13.942	10.806	-	10.806
Total Adjustments	0.000	0.000	-3.014	-	-3.014
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	-	-	-3.014	-	-3.014

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
EW5: <i>Electronic Warfare Development - MIP</i>	-	10.422	10.441	6.082	-	6.082	11.571	10.965	9.559	9.722	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

Prophet Enhanced (PE) is the current system under the Prophet Ground acquisition program. Funds provide for Pre-Planned Product Improvement (P3I) upgrades for Next Generation Signals to increase the capabilities of the PE and maintain operational relevance; and develop Multipath/Co-Site Mitigation. The 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. PE provides a modular, scalable, open architecture-based system solution optimized for ease of use in a variety of configurations (Stationary-Fixed, Mobile and Manpack). It also incorporates the ability for rapid integration of Technical Insertions and P3I to ensure operational relevance.

Justification:

FY2014 Base dollars in the amount of \$6.082 million supports the following activities: develops product upgrades for Next Generation Signals to increase the capabilities of the PE and maintain operational relevance; and develop Multipath/Co-Site Mitigation.

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

	FY 2012	FY 2013	FY 2014
Title: Next Generation Signals (TOS)	1.232	0.000	0.000
Articles:	0		
Description: Develop next generation signals (TOS)			
FY 2012 Accomplishments: Develop next generation signals (TOS)			
Title: Precision Geo-Location	4.312	0.000	0.000
Articles:	0		
Description: Develop Geo-location capability for the Prophet Enhanced system under P3I requirements.			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
<i>FY 2012 Accomplishments:</i> Develop Geo-location capability for the Prophet Enhanced system under P3I requirements.				
<i>Title:</i> Real-time Signal Processing architectural framework (software defined capabilities) <i>Description:</i> Develop Real-time Signal Processing architectural framework (software defined capabilities).		3.378 0	4.707 0	0.000
<i>Articles:</i>				
<i>FY 2012 Accomplishments:</i> Develop Real-time Signal Processing architectural framework (software defined capabilities).				
<i>FY 2013 Plans:</i> Develop Real-time Signal Processing architectural framework (software defined capabilities).				
<i>Title:</i> System Integration Lab (SIL) <i>Description:</i> Stand Up SIL		1.500 0	1.000 0	0.000
<i>Articles:</i>				
<i>FY 2012 Accomplishments:</i> Stand Up SIL				
<i>FY 2013 Plans:</i> System Integration Lab				
<i>Title:</i> Next Generation Signals <i>Description:</i> Prophet P3I effort		0.000	4.734 0	3.011
<i>Articles:</i>				
<i>FY 2013 Plans:</i> Prophet P31 effort				
<i>FY 2014 Plans:</i> Prophet P3I effort				
<i>Title:</i> Multipath/Co-Site Mitigation <i>Description:</i> Prophet P3I effort.		0.000	0.000	3.071
<i>Articles:</i>				
<i>FY 2014 Plans:</i>				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Prophet P3I effort.			
Accomplishments/Planned Programs Subtotals	10.422	10.441	6.082

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

Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• SSN BZ7326: <i>Prophet Ground (OPA) - BZ7326</i>	72.041	48.797	59.198		59.198	53.259	52.778	18.050	15.384	Continuing	Continuing
• SSN 9751: <i>Special Purpose Systems (MIP OPA) (Prophet Only) - BZ9751</i>	9.163	2.412				1.231	1.153	2.152	2.189	Continuing	Continuing
• PE 305288G: <i>Defense Cryptological Program for Prophet (MIP) (RDT&E)</i>	3.864	0.754	1.316		1.316					Continuing	Continuing

Remarks

D. Acquisition Strategy

PE entered production in 2QFY09 via Full and Open competition. The Prophet R&D Acquisition Strategy is structured to maintain operational relevancy of PE systems in a dynamic threat environment while reducing risk and streamlining business and engineering processes. The PE Pre-Planned Product Improvement (P3I) contract supports R&D and other developmental work, it also provides production and sustainment under the Indefinite-Delivery Indefinite-Quantity Contract.

E. Performance Metrics

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

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>	PROJECT EW5: <i>Electronic Warfare Development - MIP</i>
--	--	--

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management	Various	PM Electronic Warfare:APG, MD	0.000	0.181	Dec 2011	0.181		0.200	Jan 2014	-		0.200	Continuing	Continuing	Continuing
Subtotal			0.000	0.181		0.181		0.200		0.000		0.200			

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Software SIL	C/CPIF	GD C4 Systems:Scottsdale, AZ	0.889	-		-		-		-		-	0.000	0.889	0.000
Radio/Receiver Inegration (integrate software defined receiver)	C/CPIF	GD C4 Systems:Scottsdale, AZ	4.037	-		-		-		-		-	Continuing	Continuing	Continuing
Integrate Electronic Warfare Systems	C/CPIF	TBD:TBD	4.900	-		-		-		-		-	Continuing	Continuing	Continuing
Next Generation Signals (TOS)	C/CPIF	GD C4 Systems:Scottsdale, AZ	0.000	1.200		-		-		-		-	Continuing	Continuing	Continuing
Precision Geo-Location	C/CPIF	GD C4 Systems:Scottsdale, AZ	0.000	4.200		-		-		-		-	Continuing	Continuing	Continuing
Real-time Signal Processing architectural framework (software defined capabilities)	C/CPIF	GD C4 Systems:Scottsdale, AZ	0.000	3.291	Feb 2012	3.412		-		-		-	Continuing	Continuing	Continuing
Next Generation Signals	C/CPIF	GD C4 Systems:Scottsdale, AZ	0.000	-		3.400		2.768	Feb 2014	-		2.768	Continuing	Continuing	Continuing
Multipath/Co-Site Mitigation	C/CPIF	GD C4 Systems:Scottsdale, AZ	0.000	-		-		2.814	Feb 2014	-		2.814	Continuing	Continuing	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Army **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>	PROJECT EW5: <i>Electronic Warfare Development - MIP</i>
--	--	--

Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Sensor Hardware Upgrade	C/CPIF	GD C4 Systems:Scottsdale, AZ	0.000	-		-		-		-		-	Continuing	Continuing	0.000
Subtotal			9.826	8.691		6.812		5.582		0.000		5.582			

Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Matrix Support	Various	I2WD:APG, MD	0.264	0.050	Dec 2011	0.448		0.300	Dec 2013	-		0.300	Continuing	Continuing	Continuing
System Integration Lab	Various	I2WD:APG, MD	0.000	1.500		1.000		-		-		-	Continuing	Continuing	Continuing
Subtotal			0.264	1.550		1.448		0.300		0.000		0.300			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Prepare and Conduct Delta Testing	MIPR	EPG/AEC:Huachuca, AZ	0.000	-		2.000		-		-		-	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		2.000		0.000		0.000		0.000			

	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		10.090	10.422	10.441	6.082	6.082			

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>	PROJECT EW5: <i>Electronic Warfare Development - MIP</i>

	FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				FY 2018			
	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 Testing - P3I (2013)																												
Delta Testing - P3I (2015)																												
Delta Testing (2017)																												

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>	PROJECT EW5: <i>Electronic Warfare Development - MIP</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Delta Testing - P3I (2013)	2	2013	2	2013
Delta Testing - P3I (2015)	2	2015	2	2015
Delta Testing (2017)	2	2017	2	2017

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>				PROJECT EW6: <i>ARAT-TSS - MIP</i>			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013[#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
EW6: <i>ARAT-TSS - MIP</i>	-	3.385	3.501	4.724	-	4.724	5.418	5.368	5.459	5.552	Continuing	Continuing
Quantity of RDT&E Articles												

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

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 Electronic Warfare (EW) systems, 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 EW threats, and the ARAT reprogramming infrastructure supports the tactical Commander by providing timely rapid-reprogramming of mission software and information dissemination for Army supported, Joint, allied service, EW integrated reprogramming of target acquisition, target engagement, vehicle survivability, and Aircraft Survivability Equipment (ASE). 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 EW, 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 EW, 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 EW, FPS and TSS, and supports Service and JCS Reprogramming Exercises in all theaters. ARAT Research and Development enables continuous 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 Aviation Mission Data Sets (MDS) and Ground loadsets, 3) tools and technology to minimize the time required to test and validate MDSs and loadsets, 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 in the field.

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

	FY 2012	FY 2013	FY 2014
Title: Keeping Pace with the Enemy and Technology	2.013	2.206	3.423
Articles:	0	0	
Description: Funding is provided for the following effort			
FY 2012 Accomplishments:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)						
<p>This effort: 1) studied the intelligence data requirements to support MDS development for Electro Optics, Ultra Violet, and Infra Red, (EO/UV/IR) spectrums and other multi-spectral sensors for aviation and non-aviation EW systems, 2) Developed government organic knowledge and application-base enabling reprogramming of future systems, 3) Performed requirements analysis and concept development for the reprogramming of multi-spectral EW systems.</p> <p>FY 2013 Plans: This effort: 1) studies the intelligence data requirements to support MDS development for EO/UV/IR spectrums and other multi-spectral sensors for aviation and non-aviation EW systems, 2) Develops government organic knowledge and application-base enabling reprogramming of future systems, 3) Performs requirements analysis and concept development for the reprogramming of multi-spectral EW systems.</p> <p>FY 2014 Plans: This effort will: 1) study the intelligence data requirements to support MDS development for EO/UV/IR spectrums 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, 3) Perform requirements analysis and concept development for the reprogramming of multi-spectral EW systems.</p>				FY 2012	FY 2013	FY 2014
<p>Title: Infrastructure Improvements Multispectral</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments: Infrastructure improvements for Operational Flight Program (OFP) sustainment environment to enable the USG to develop and deploy OFP environment for Missile Warning Systems (MWS). Determined data and analysis requirements for MANPADS characterization and established an organic government analysis and sustainment process to support OFPs and subsequently adapt MWSs to new threats. No government organic capability existed, increasing the risk that systems could not be readily adapted to changing threats.</p> <p>FY 2013 Plans: Infrastructure improvements for OFP sustainment environment to enable the USG to develop and deploy OFP environment for MWS. Determine data and analysis requirements for MANPADS characterization and establish an organic government 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 cannot be readily adapted to changing threats.</p> <p>FY 2014 Plans:</p>				0.605 0	0.607 0	0.646

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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 2012	FY 2013	FY 2014
Infrastructure improvements for OFP sustainment environment to enable the USG to develop and deploy OFP environment for MWS. Will determine data and analysis requirements for MANPADS characterization and establish an organic government analysis and sustainment process to support OFPs and subsequently adapt MWSs to new threats. Will establish initial government organic capability, decreasing the risk that systems cannot be readily adapted to changing threats.				
<p>Title: Infrastructure Improvement Radio Frequency General</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments: Infrastructure improvements (general) - Enhanced the ARAT communications architecture to facilitate the rapid secure transmission of mission software changes to EWS, FPS and TSS users, with emphasis on remote user and highly mobile Soldier connectivity. Developed and implemented an integrated ASE development and test environment to ensure MDS and threat counter-measure (CM) Integration on the respective airborne platform.</p> <p>FY 2013 Plans: Infrastructure improvements (general) - Enhance the ARAT communications architecture to facilitate the rapid secure transmission of mission software changes to EWS, FPS and TSS users, with emphasis on remote user and highly mobile Soldier connectivity. Develop and implement an integrated ASE development and test environment to ensure MDS and threat CM Integration on the respective airborne platform.</p> <p>FY 2014 Plans: Infrastructure improvements (general)-Will enhance the ARAT communications architecture to facilitate the rapid secure transmission of mission software changes to EWS, FPS and TSS users, with emphasis on remote user and highly mobile Soldier connectivity. Will develop and implement an integrated ASE development and test environment to ensure MDS and threat CM Integration on the respective airborne platform.</p>		0.540 0	0.478 0	0.463
<p>Title: Threat Flagging and Mission Data Set Reprogramming Tool Development</p> <p align="right">Articles:</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2012 Accomplishments: Threat Flagging and MDS Reprogramming Tool Development - Developed applications for ARAT internal system-specific threat flagging, threat analysis, MDS generation, and MDS testing processes. Enhanced 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 the EW, FPS and TSS. Created MDS development,</p>		0.227 0	0.210 0	0.192

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System 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)				
<p>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 reduced the engineering involvement/workload associated with the manually intensive analysis and MDS development processes. Defined requirements and developed tools to migrate to a data support infrastructure that employed Next Generation EWIR System (NGES) when the NGES was deployed and the current EWIR system was 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 processes. 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 the EW, 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 NGES when the NGES is deployed and the current EWIR system is decommissioned.</p> <p>FY 2014 Plans: Threat Flagging and MDS Reprogramming Tool Development-Will develop applications for ARAT internal system-specific threat flagging, threat analysis, MDS generation, and MDS testing processes. Will 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 the EW, FPS and TSS. Will 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. Will define requirements and develop tools to migrate to a data support infrastructure that employs NGES when the NGES is deployed and the current EWIR system is decommissioned.</p>				
Accomplishments/Planned Programs Subtotals				3.385
				3.501
				4.724
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Army		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test & Evaluation, Army</i> BA 5: <i>System Development & Demonstration (SDD)</i>	R-1 ITEM NOMENCLATURE PE 0304270A: <i>Electronic Warfare Development</i>	PROJECT EW6: <i>ARAT-TSS - MIP</i>

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.

